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Board Gender Diversity: Evidence From Indonesia

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Abstract

Board gender diversity continues to gain global attention, alongside a growing percentage of female board members in public companies. While board gender quotas have played a role in this increase, countries without such mandates have also experienced similar growth. This raises an important question: *What drives companies to appoint women to corporate boards in the absence of compulsory regulations?* Primarily, this paper examines the relationship between foreign institutional investors and female board members in supervisory and management boards within Indonesian public firms. This study analyzes data from 147 companies between 2019 and 2022 using OLS regression with lead and control variables. In contrast to the belief, the findings show that foreign institutional investors have a relatively low to no influence in shaping board gender diversity on each board. This lack of influence suggests that other factors may significantly affect companies' decisions to hire women on boards, highlighting the necessity to investigate these additional factors.

Keywords: board gender diversity; corporate boards; foreign investors

1. Introduction

In the last two decades, there has been a notable increase in the representation of women on corporate boards across the world. Since the introduction of the female board quota in Norway in 2003, many countries have followed suit by setting mandatory quotas, driving the growth in the percentage of women on boards (Matanda et al., 2023). Moreover, this increase could also be associated with the general discussions on the benefits of adding women onto boards, which have potentially attracted companies to increase the proportion of female board members. Previous studies have discussed that the presence of women on boards helps to improve the governance of companies, leading to better firm performance (Adams & Ferreira, 2009; Adams & Funk, 2012). Nevertheless, this increasing trend is not limited to countries with mandatory regulations. Countries with either voluntary or no mandates on board gender diversity have similarly witnessed a rise in female board members (Matanda et al., 2023), suggesting the possibility of other underlying factors that influence such growth beyond mandatory regulations. Arguably, this trend raises an intriguing inquiry into the mechanisms behind such increases. Therefore, in this study, I explore the underlying drivers influencing board gender diversity.

Specifically, I raise the question of what drives companies to appoint women to corporate boards in the absence of compulsory regulations. The answers to this question deepen the understanding of the factors contributing to the growing rate of female board members. This knowledge is valuable, particularly for stakeholders, informing them of plausible channels to enhance board gender diversity, especially in companies where female representation is notably low. Further, the answers provide deeper insights to encourage policymakers to support these drivers, potentially through more directive legislation.

Albeit limited, previous research has explored the determinants of board gender diversity, both in environments with and without formal mandates. A study by Kirsch (2018) re-

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veals that macro-level country characteristics such as high gender equality and access to work-family balance, as well as pressure from shareholders and formal institutional bodies, contribute to a high level of board gender diversity. Further, this study indicates that industry characteristics, firm performance, and social connections are associated with the presence of female board members. Another study suggests that laws and the cultural and religious beliefs of the society tend to be correlated with board gender diversity in many Asian countries (Shams, 2019). In addition, research conducted by Fauver et al. (2022) discusses the association between a high representation of female board members and the presence of foreign institutional shareholders among public companies in various countries, particularly after the enforcement of board gender diversity reforms.

Shifting from multi-setting research to a more specific setting, Abdullah (2014) highlights the positive link between board size and a higher proportion of female directors among Malaysian companies listed in 2007. However, this study also suggests that companies with poor financial performance tend to have more female directors than those with strong financial performance. Furthermore, a previous study by Rastad and Dobson (2022) highlights the effectiveness of shareholder pressure in increasing the percentage of female directors among US public companies.

Although prior studies have explored various drivers, they have neither engaged in nor adequately discussed the drivers of board gender diversity in Indonesia, a country known for having a vast female labor force but a low representation of women on boards (Deloitte Global, 2022). Over the last decade, the country reports a proportion of female directors between 3% and 12% (Matanda et al., 2023) and a proportion of female commissioners between 11% and 18% (Darmadi, 2011; Fauziah et al., 2022).[1] Interestingly, despite the low proportions, this literature reveals that Indonesia has experienced a growing trend in the percentage of female board members. This insight offers a suitable setting to address the research question introduced earlier, considering the absence of formal mandates on board gender diversity in Indonesia.

Further, there appears to be an absence of previous studies discussing the association between foreign institutional investors and the presence of women on boards in the Indonesian context. Shareholders possess the power to shape board gender diversity through their voting rights when electing board members. Additionally, prior literature indicates that shareholders successfully push companies to increase the female proportion on boards through various channels such as private negotiations, proposals, and public media. However, in many cases, there is a time lag between the initial requests to increase board gender diversity and the actual implementation (Bauer et al., 2015; Gormley et al., 2023; Rastad & Dobson, 2022). Further, previous studies also emphasize that, among other types of investors, foreign institutional investors are more likely to influence companies to increase female representation on boards, especially those from countries with higher levels of board gender diversity (Fauver et al., 2022; Tang & Zhang, 2021).

To further investigate this association, I employ OLS and Linear Probability Regression models. After conducting the analyses, I find that foreign institutional investors are not associated with the presence of female commissioners on boards but are associated with the presence of female directors. This implies that companies appoint at least one female director potentially due to the presence of foreign institutional investors. However, this finding no longer holds after controlling for within-firm and over-time variations. Furthermore, I find that board and firm size contribute to the level of board gender diversity among Indonesian companies. Additionally, my data highlight the consistently low proportion of female board members in Indonesian public companies.

As implied in the earlier discussion, my study contributes to the literature by focusing on Indonesia, a previously underexplored setting, and by extending the limited research on the drivers of board gender diversity in both global and Indonesian academic studies. Further, my study underscores the need for greater attention to increasing female representation on boards among Indonesian public companies, potentially through the initiation of internal strategies within firms and the enforcement of legislation by the authorities.

2. Conceptual Framework

2.1. Board Gender Diversity

Board gender diversity, arguably, emerges as a potential rationale for understanding what contributes to board effectiveness while simultaneously serving as a strategy to reduce the glass ceiling in the workplace (Adams, 2016). For years, there has been a prevailing belief that gender-diverse boards contribute significantly to improved governance, particularly in corporate decision-making processes. Previous studies reveal that women bring unique perspectives and approaches to both financial and non-financial aspects of business, enriching the pool of information available to the board (Adams & Ferreira, 2009; Adams & Funk, 2012). This wide range of information pool enhances alternatives for strategic decision-making, leading to better governance. In addition, the idea of increasing female representation on boards has also been circulating among policymakers, leading to the establishment of female board members quotas and public campaigns on board gender diversity.

The first legislation for board gender quota was introduced in 1999 in Israel, requiring state-owned companies to have at least one female director on board. However, it was not until the mid-2000s that this issue gained significant interest worldwide (Kirsch, 2018). In 2003, the government of Norway introduced legislation on female board quotas for public companies, which was enforced in 2008. After

[1] Indonesia adopts two-tier board system with a supervisory board known as the Board of Commissioners (the BOC) and an executive board known as the Board of Directors (the BOD). These boards are detailed further in the second chapter of this study.

this successful example, many countries, such as Germany, France, and Belgium, followed the same path and introduced their national regulations on female board members, particularly for listed companies (Fauver et al., 2022).

Within the scope of reforms and regulations, some countries enforce mandatory quotas for female board representation, while others prefer softer policies. Currently, around 17 countries have set compulsory quotas for public companies, aiming for female participation rates between 25% and 40% (Matanda et al., 2023). Within these quotas, some countries enacted penalties in cases of non-compliance. For instance, in Norway, a company is prohibited from registering if it fails to satisfy the mandatory 40% quota for female board members, and consistent non-compliance after several warnings may lead to the company being dissolved (Storvik & Teigen, 2010). Meanwhile, around 13 countries impose voluntary measures to enhance female representation on boards. These soft-law strategies may include mandatory disclosures about board gender composition, internal approaches to increase the number of women on boards, self-determined company quotas, or combinations of these strategies (Terjesen et al., 2015).

These reforms have led to a notable global increase in the proportion of female board members. Figure 1 reveals that from 2018 to 2022, countries with mandatory quotas have experienced a consistent increase in female board representation, with percentages rising from 21% in 2018 to almost 30% by 2022. In addition, this figure also illustrates a high level of commitment from companies in countries with softer regulations, as the trend and percentages closely resemble those in countries with mandatory quotas. Meanwhile, countries without reforms have a lower rate of female board participation despite having a similar increasing trend. Notably, these countries have approximately six to ten percent lower rates of female directors than the others over these five years. Essentially, the trend indicates that the role of board gender diversity reforms in the growth of female board members by serving as an additional external pressure.

While these legislative efforts have been largely effective, they are subject to ongoing debate. Critics have voiced concerns that mandatory quotas may limit an owner's right to select board members, potentially leading to biased choices (Fauver et al., 2022). Further, enforcing penalties for non-compliance is often associated with the success of these quotas (Storvik & Teigen, 2010). Additionally, in the case of non-mandatory regulations, the increase in the proportion of female board members could be linked to the desire of companies to maintain their public image (Abdullah, 2014; Perrault, 2015). Notably, as depicted in the figure note of Figure 1, the countries that have implemented these reforms are primarily developed, with fewer developing countries. This pattern suggests that the success of such reforms may depend on the unique institutional characteristics and labor market conditions that are more typical of developed nations.

Ultimately, board gender diversity is an essential aspect of corporate governance. Although some debates exist regarding this concept, the efficacy of female board members in enhancing company governance cannot be overlooked. Exploring the drivers behind board gender diversity and its importance for companies might be further underscored. As previously discussed, government reforms have been associated with an increase in the proportion of women on boards, yet the same upward trend is observed in countries without such regulations. This insight suggests the presence of additional factors driving this progress, which I will further explore in the subsequent sub-chapters.

2.2. Literature Review on Determinants of Board Gender Diversity

One previous study discusses the drivers of board gender diversity from several perspectives across the macro, meso, and micro levels (Kirsch, 2018). This research analyzed 310 articles, published in 135 journals worldwide between 1981 and 2016, on board gender diversity, including, but not limited to, mechanisms that drive board gender diversity. The study reveals that at the macro level, board gender diversity is likely to be driven by gender equality and regulations alleviating women's access to balance work and family commitments. Additionally, this study discusses the influence of key agents of change, including shareholders, executive search firms, stock exchanges, and the media, in disseminating board gender diversity. At the meso level, the study emphasizes industry characteristics and firm performance as drivers for appointing female members to the board, particularly when the effects of having women on the board benefit the firms. At the micro level, this study considers social networks and demographic characteristics, where the presence of women on the board tends to be linked to the presence of women in the nomination committees. However, given the scope of this literature review, which encompasses a wide variety of research settings, the conclusions drawn may be overly generalized and may not directly apply to one particular country's setting.

Research on the drivers of board gender diversity in a more specific setting is conducted by Shams (2019). This study examines the factors influencing female participation on boards in 13 different Asian countries in a single year from 2014 to 2016 based on the data availability of each country.[2] Utilizing quantitative and qualitative methods, this research analyzes the influence on female board participation in 5,054 firms, comprised of firms listed on major stock exchanges of each country. This study shows that in formal settings, the likelihood of using civil law rather than common law increases female board representation by 0.068, which might be attributed to labor welfare regulations facilitating work-family balance. Further, it highlights the positive effects of female education and literacy rates on board gender

[2] The data for Bhutan, India, Pakistan, Philippines, Singapore, and Vietnam are collected for the year 2015, while the data for Bangladesh, Indonesia, Malaysia, Sri Lanka, and Thailand are collected for the year 2014. Lastly, the data for Nepal and Maldives are collected for the year 2016. Additionally, this study uses Tobit regression and Fuzzy set Qualitative Comparative Analysis (fsQCA) to examine the factors shaping female representatives in the boardroom.

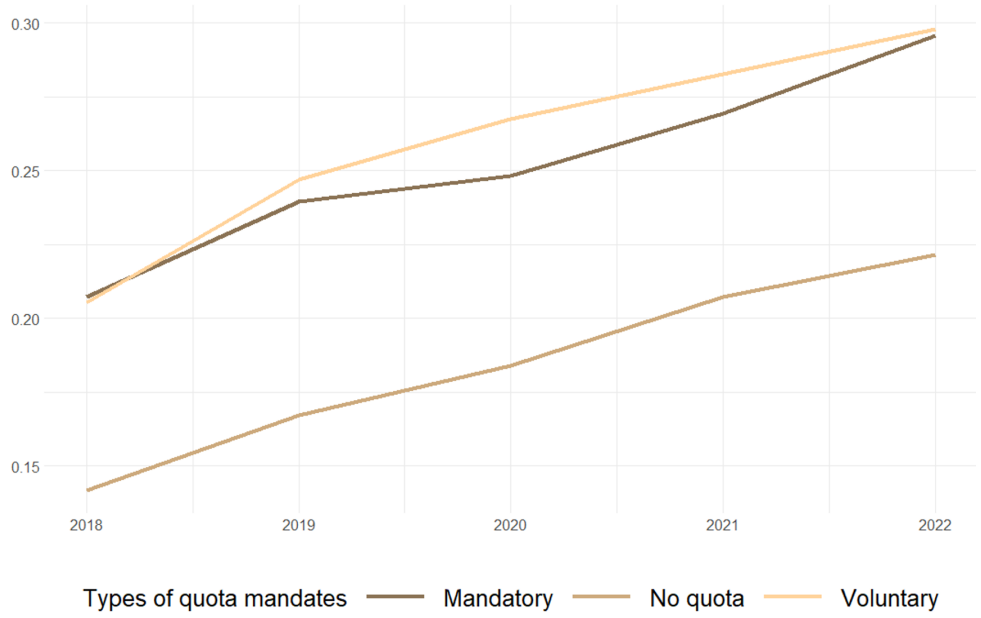


Figure 1: Proportion of Female Directors on Board Worldwide by Types of Quota Mandates

This graph categorizes countries into: (1) Mandatory quotas, legally binding board gender requirements, comprising 14 developed and 3 developing countries; (2) Voluntary quotas, non-binding guidelines or narrative disclosure on women's board/executive roles, comprising 12 developed and 1 developing countries; and (3) No quotas, no formal rules, comprising 7 developed and 9 developing countries. Source: Statistics from Deloitte Global (2022) and Matanda et al. (2023).

diversity, especially in Vietnam, the Philippines, and Thailand. In informal settings, the study reveals that the cultural and religious attitudes of the citizens play a role in driving female board representation. Countries viewing women as elite members of society tend to have higher female board members. Meanwhile, countries where more than 50% of the population practices a religion are more likely to have fewer female directors by 0.144 percentage points. Nevertheless, despite focusing on a more specific context, this study generalizes factors influencing board gender diversity without differentiating the drivers among each Asian country. Each country has its unique institutional features that might not be suitable for direct comparisons.

Abdullah (2014) studies factors shaping board gender compositions among large public firms in Malaysia. It highlights that among non-financial companies listed on the Malaysian stock exchange in 2007, firms are more likely to have at least one female director if the companies have a large board size. However, the study reports no observable association between the likelihood of selecting female directors and firm size, age, ethnic diversity, or leverage. Conversely, the study shows a negative association between board gender diversity and firm performance. Interestingly, the study reveals that appointing females to boards serves as a token gesture to comply with shareholders' interests in gender diversity. The data show that a significant number of female directors are connected to controlling shareholders or other board members and are prevalent in family-owned or government-owned firms. However, similar to the study conducted by Shams (2019), this study focuses only on a single period, which may overlook the timing of the factors in driving board gender diversity. Perhaps the significance and impact of these drivers might vary across different periods.

Rastad and Dobson (2022) conduct a longitudinal analysis, providing a more comprehensive understanding of the drivers of board gender diversity across different periods. They find that board gender diversity among US public companies is influenced by both internal and external pressures exerted by shareholders. They explain that internal pressure arises from private negotiations between the management and shareholders of the companies. In contrast, external pressure stems from proposals submitted by the shareholders to be voted on at the general meeting of shareholders. Upon studying diversity-related proposals between 1997 and 2013, they report that these pressures have significant effects, leading to a greater proportion of female board members. However, sometimes, these effects have a lag between the time of submission and implementation of the proposal. A similar finding is reported in a study conducted by Fauver et al. (2022), which highlights the role of foreign institutional investors in driving board gender diversity. Using a difference-in-differences design on companies from 43 countries between 2000 and 2017, they find that foreign institutional investors (lag) are associated with the increase in the proportion of female directorships, especially in countries with high social equity norms. However, these increases are becoming prominent only after the enforcement of board gender diversity reforms, emphasizing the significance of formal regulations in board gender diversity.

Among the potential drivers of board gender diversity discussed earlier, I specifically focus on the influence of shareholders in appointing women to boards. In the absence of mandatory regulations, companies might still face pressure to improve board gender diversity by non-enforceable mechanisms such as international expectations or social norms. While social norms offer valuable insights into shaping board gender diversity, researching them might be time-consuming and arduous.[3] In contrast, analyzing internal and external shareholder pressure provides a more structured and measurable understanding of how companies respond to diversity demands. Shareholders have the power to shape the gender composition of company boards through their voting rights. Although voting mechanisms and regulations may vary across countries, shareholders in most jurisdictions are capable of electing board members from a pool of candidates during the general meeting of shareholders (ISS, n.d.). While previous studies have provided an essential foundation for understanding the dynamics between shareholder actions and the appointment of women to boards, they also highlight the need for further exploration, particularly in different settings and time frames. Consequently, I facilitate this calling and explore the association between shareholders and board gender diversity in a different setting and different time frames, as detailed in the subsequent sections.

2.3. Underlying Theory: Shareholder Activism

Shareholders possess the power to influence the gender composition of corporate boards not only through their voting rights but also via the mechanism of shareholder activism. The framework of shareholder activism is derived from the voice vs. exit strategy by Albert O. Hirschman (Goodman et al., 2014). Hirschman defines "voice" as a political response to address inefficiencies in a company's performance, while "exit" represents an economic response where dissatisfaction leads shareholders to sell their shares. In shareholder activism, "voice" is the strategy shareholders use to drive change when they see potential for improvement. Otherwise, they may opt to exit by divesting their shares.

Various methods exist for activist shareholders, i.e., those who express their opinions to management, to employ the voice strategy. Engaging in dialogue with management is often viewed as the first strategic step in initiating change (Ryan & Schneider, 2002). This approach enables activist shareholders and management to reach a mutual understanding, taking into account the needs and interests of both parties. While this method is relatively straightforward, it might not always yield effective results, prompting shareholders to seek other methods.

The second preferred method is submitting shareholder proposals during the general meeting of shareholders. These proposals outline activist shareholders' concerns regarding the company's financial and non-financial performance. Typically, they include discussions of the specific issues, their importance and rationale, timelines for implementation, and how these concerns align with shareholders' broader interests, considering the company's resources (PRI, 2023). These proposals are either voted on during the meetings or withdrawn beforehand through mutual agreement between the proposers and management.

Moving beyond direct interactions, public confrontation and the strategic use of media could also be powerful tools for advocating change. A study revealed an interview with a board member suggesting that companies are highly responsive to news and social media, particularly on sensitive issues (Perrault, 2015). However, using public confrontation might put activist shareholders and companies in a difficult position, especially when using negative connotations. Therefore, this method is typically preferred if the two previous methods fail (Ryan & Schneider, 2002).

Last but not least, if the voice strategy proves unsuccessful, activist shareholders could adopt two additional methods. According to Admati and Pfleiderer (2009), shareholders might either sell their shares, a strategy known as the "Wall Street Walk," or threaten to sell their shares. However, the first method often requires solid insider information, which can be challenging to obtain and verify. Therefore, the latter method is generally more advantageous, especially when divestments are costly. Large shareholders frequently employ this type of threat to pressure companies into addressing their concerns and enacting changes.

2.4. Shareholders on Board Gender Diversity

To enhance the monitoring of top executives and reduce agency costs, shareholders appoint board members who can best protect their interests. Increasing gender diversity on traditionally male-dominated corporate boards may strengthen shareholders' influence over the board. The presence of women directors often fosters a culture of critical inquiry, reducing the likelihood of management decisions being approved without thorough scrutiny (Selby, 2000). Moreover, including women in the board's talent pool can contribute to better information flow and innovation, thereby improving the board's strategic decision-making (Adams & Ferreira, 2009; Adams & Funk, 2012).

Public opinion and media attention play a role in driving shareholders' interest in board gender diversity, with frequent press coverage highlighting its benefits. It is not surprising that shareholders respond positively to companies with gender-diverse boards, as their reactions reflect the broader public opinion that emphasizes the value of gender diversity in corporate governance (Kang et al., 2010). For instance, The Business Times (Singapore) published an article highlighting the advantages of men and women collaborating in the boardroom to enhance organizational performance (Quek, 2024).

Shareholders often employ the voice strategy to improve gender composition on boards. Initially, they engage in private negotiations with companies, requesting a more gender-

[3] Researching social norms might require, at the minimum, doing surveys or field studies. While such research could provide detailed insights and uncover interesting findings, it could also present challenges, particularly in terms of geographic scope and data collection.

diverse board (Perrault, 2015). Should these efforts not yield the desired outcomes, they file board gender diversity proposals with requests such as a clear diversity policy and implementation timeline (Rastad & Dobson, 2022). These proposals are later submitted at general shareholder meetings for voting or withdrawn beforehand. Most of them, however, are either voted down or withdrawn before the meeting (Bauer et al., 2015; Rojas et al., 2009).

While these proposals rarely receive immediate favorable results, studies show that rejections or withdrawals don't necessarily indicate failed attempts to increase the proportion of women on boards (Bauer et al., 2015; Rastad & Dobson, 2022).[4] They have a lag effect, where the implementation takes place around a year after the submission. Alternatively, shareholders initiate public campaigns to disseminate awareness of board gender diversity and increase female representation on corporate boards.[5]

However, the level of commitment to improving board gender diversity varies, particularly between foreign and local shareholders, and it depends on the country of origin. Board gender diversity tends to resonate more in developed countries, where there is greater awareness of gender equality.[6] This difference in commitment often leads foreign shareholders from developed countries to be more proactive in advocating for gender diversity, bringing standards closer to those in their home countries.

In response, firms are keen to align with the interests of these foreign shareholders, especially when they play a significant role in the company's ownership structure. Aligning with these expectations not only helps companies enhance their reputation and performance in international markets but also enables them to adopt more sophisticated governance practices. For instance, embracing board gender diversity can be seen as a strategic move to meet the global standards that foreign shareholders advocate, thereby increasing the firm's position in the worldwide market.

The proactive efforts of foreign shareholders often lead to tangible improvements in board gender diversity. A study analyzing board gender diversity across 25 countries, including both developed and developing nations, found that foreign shareholders from countries with higher gender equality scores exert more pressure on companies in those countries to increase the proportion of female board members (Fauver et al., 2022). Similarly, research on Chinese firms shows that the growing presence of foreign affiliates has been associated with a significant rise in the number of women in managerial roles. This trend underscores the broader impact of foreign involvement—whether through shareholders or affiliates—on promoting gender diversity within corporate leadership (Tang & Zhang, 2021).

On the other hand, while possessing a richer set of information about local companies, domestic shareholders might be more focused on short-term financial returns or traditional practices. Their familiarity with local norms might sometimes result in a limited perspective regarding gender diversity, which they might perceive as less critical within the business environment. A previous study highlights that, even when facing pressure from board gender quotas, domestic shareholders tend to remain indifferent to board gender diversity and have limited influence in fostering a more gender-diverse board (Fauver et al., 2022). However, a significant number of foreign shareholders might drive a shift in this stance. As mentioned earlier, foreign shareholders often bring a broader perspective and higher gender equality standards, which could prompt domestic shareholders to update their beliefs.

Existing literature supports this dynamic, indicating that under the framework of cultural spillover, local firms are likely to adjust their views and practices when exposed to differing perspectives from foreign shareholders (Tang & Zhang, 2021).[7] Nevertheless, foreign shareholders still need the local expertise of domestic shareholders to grasp the unique aspects of the local business context. By combining local insights with their broader perspectives, companies might create a more comprehensive strategy for addressing gender diversity issues and handle the challenges of doing business in that specific location more effectively.

Foreign shareholders from developed countries, particularly those from the US, are accustomed to shareholder activism and often submit proposals to advocate for more female representation in the boardroom.[8] However, while this trend is prevalent, the impact of such activism can differ significantly depending on the type of shareholder involved. For

[4] Withdrawn proposals, in particular, often imply that the management accept the requests of the proposing shareholders (Bauer et al., 2015). Additionally, Rastad and Dobson (2022) highlight that the impact on board gender diversity is stronger for withdrawn proposals among public companies in the US. Around 40% of these proposals are implemented within a year, while approximately 25% of rejected proposals are put into practice in the following year.

[5] One notable example is the "Fearless Girl" campaign advocated by State Street Global Advisors in March 2017. Alongside other asset managers like Blackrock and Vanguard, this campaign not only increased the percentage of female board members in US public companies but also prompted companies to appoint their first female directors in instances where none had served previously (Gormley et al., 2023).

[6] As shown in Figure 1, developed countries such as Australia, Denmark, Germany, Norway, and Singapore tend to have a higher proportion of female board members compared to developing countries such as Brazil, China, Indonesia, Poland, and Turkey. Developed countries tend to have a higher awareness of gender equality, which leads to the establishment of female board mandates among these countries.

[7] They argue that the presence of foreign-invested enterprises (FIEs) in the same market as local firms might gradually influence domestic firms' beliefs by creating competitive pressures and offering new strategies to imitate. This competitive advantage includes both the cost pressures FIEs introduce and the potential for domestic firms to learn and adopt more effective practices. For instance, if many FIEs hold less biased views about female workers, domestic firms might reduce their biases and employ more women. However, the overall impact on domestic firms depends on the nature of the FIEs' beliefs and the number of FIEs in the market.

[8] The three largest asset management firms publicly disclose their voting policies aimed at increasing female representation on corporate boards, extending these efforts beyond the United States to countries such as the United Kingdom, Singapore, Malaysia, India, Japan, and South Korea. By leveraging their influence as foreign shareholders, they seek to promote greater gender diversity in boardrooms on a global scale (Csonka & Milhomem, 2023).

instance, the influence of individual shareholders in promoting board gender diversity is generally less effective than institutional shareholders. Although individual shareholders may actively submit proposals and pursue private negotiations with company management, their efforts frequently fail to achieve meaningful outcomes.

Research indicates that negotiations initiated by individual shareholders rarely lead to favourable agreements. Bauer et al. (2015) highlight the low rate of proposal withdrawals as evidence that individual shareholders often struggle to reach favourable resolutions.[9] This is primarily because individual shareholders lack the same level of access to information and expertise as institutional investors, which puts them at a disadvantage. Furthermore, another previous study argues that individual shareholders do not have the negotiation leverage or bargaining power that institutional investors possess, which further diminishes their ability to influence corporate decision-making (Rastad & Dobson, 2022). Without financial resources, insider knowledge, and voting power, proposals from individual shareholders often lack the credibility needed to be taken seriously by management.

Considering the preceding discussion, it is plausible to acknowledge the role of foreign institutional shareholders as a driver for board gender diversity. Therefore, I formulate the hypothesis as follows:

The presence of foreign institutional shareholders is expected to be positively associated with companies' decision to hire women on board.

In the upcoming section, I will discuss corporate governance, board gender diversity, and foreign ownership in an institutional setting with no mandatory regulations or quotas on female board members. As discussed in the earlier section, I will focus on Indonesia, a country known for its substantial number of women in the workforce yet low representation of women on boards. These characteristics create a unique context for analyzing the association in drivers that influence board member composition.

2.5. Institutional Setting

Before discussing board gender diversity in Indonesia, it is essential to understand the corporate governance in Indonesia. According to laws and regulations, Indonesia adopts a two-tier board structure: a supervisory board known as the Board of Commissioners (*Dewan Komisaris*), hereinafter referred to as "the BOC" and a management board known as the Board of Directors (*Dewan Direksi*), hereinafter referred to as "the BOD".[10] Public companies should have at least two board members within the BOC and the BOD. Among these members, one is designated as the president of the board. Additionally, the BOC shall have at least one or 30% independent members relative to the total member. Public companies are not required to appoint independent directors. Commercial banks have slightly different requirements regarding the composition of the boards. Commercial banks should have more than three board members on both boards, with at least 50% of the total BOC members serving as independent commissioners. In addition, Sharia banks and financial institutions adhering to Islamic law, known as Sharia Law, must have a Sharia Supervisory Board that monitors the company's product and activities under the Sharia Law.

All board members are appointed or dismissed by shareholders in the general meeting of shareholders (Rapat Umum Pemegang Saham). Before this meeting, with assistance from a Nominations and Remuneration Committee, the BOC provides recommendations, including but not limited to nominees for board members and compositions. Generally, board members shall serve the companies for a maximum of five years or until the annual general meeting of shareholders at the end of the fifth year. In addition, regulations prevent board members from holding dual roles within the same company. However, serving on boards across different companies, including those of controlling shareholders or parent companies, is permitted under laws and regulations except stated otherwise.[11]

To date, Indonesia lacks regulations addressing board gender diversity. As a result, public companies are still allowed not to have female board members on both boards. However, some public companies establish self-board diversity policies that align with their companies' values. For example, a large commercial bank has stipulated a female quota of two board members in the BOC, with one serving as an independent member and three board members in the BOD, with one serving as a president director.[12] In addition, the Indonesian Stock Exchange (IDX) has consistently shown commitment to promoting gender equality and board gender diversity.[13]

Nevertheless, despite the lack of specific regulations or mandates for female board members, Indonesia has witnessed increased representation of women on board over the past four years. As shown in Figure 2, the country had a representation of female directors below 5% before 2019 but rose to approximately 9% to 12% in the following years. Additionally, Graph B of Figure 3 highlights that in 2023, there is a slightly higher proportion of women in skilled roles, which include managerial positions, compared to men. Based on

[9] According to this study, individual shareholders' proposals have a withdrawal rate of around three to eight percents, while the proposals from institutional investors, coordinated activists, or labor unions have a withdrawal rate from 10 to 40 percents.

[10] As regulated in (i) Law No. 40 Year 2007 on Limited Liability Company, and/or (ii) Financial Services Authority Regulation No. 33 Year 2014 (POJK 33 2014) on the Board of Directors and the Board of Commissioners of Public Companies, and/or (iii) Financial Services Authority Regulation No. 55 Year 2016 (POJK 55 2016) on the Governance Implementation for Commercial Banks.

[11] See footnote 10. However, board members in commercial banks are prohibited from holding dual roles in other companies, except when serving as board members in non-financial subsidiaries controlled by the banks.

[12] As stated in the annual report of PT Bank CIMB Niaga Tbk.

[13] As an active member of the Sustainable Stock Exchanges (SSE), the IDX has consistently demonstrated its commitment, notably through its annual hosting of the "Ring the Bell for Gender Equality" conference since 2019.

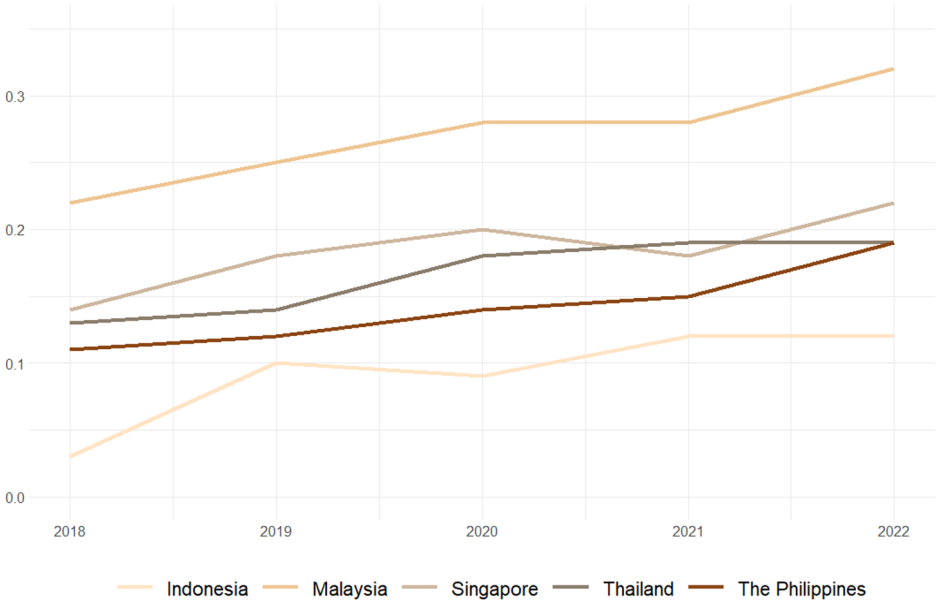


Figure 2: Proportion of Female Directors in Selected SEA Countries from 2018 to 2022

Annual averages of female directors based on data from public company boards. Source: Matanda et al. (2023).

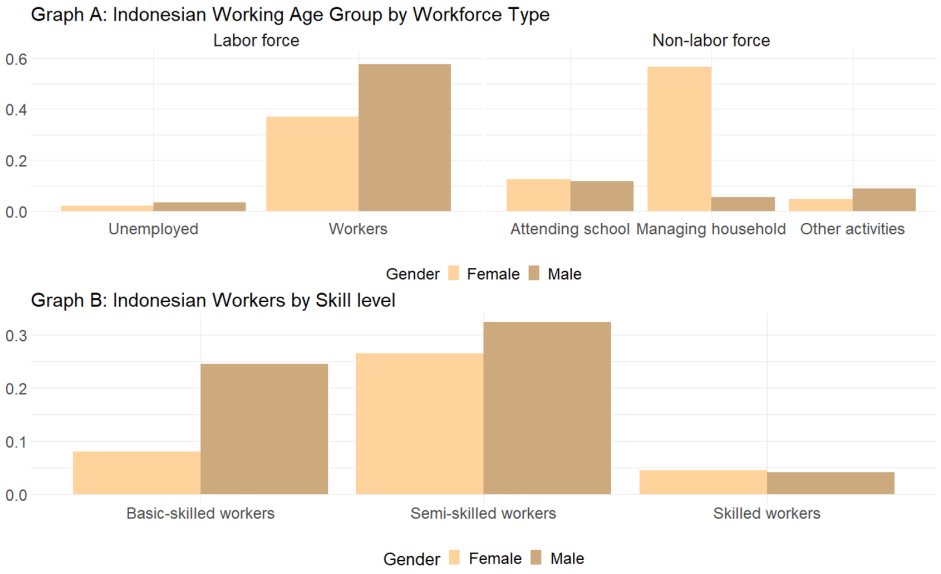


Figure 3: Gender Distribution in Indonesian Working Age Group by Workforce Type and Skill Level

Graph A shows the gender distribution among the working-age population engaged in the labor force and the non-labor force. Graph B shows the gender distribution by skill: skilled (professional, technical, managerial), semi-skilled (clerical, sales, service, agriculture, fishing), and basic-skilled (production, transport, labor). Classifications follow Indonesian Ministry of Labor guidelines. Source: BPS-Statistics Indonesia (2023) and The Indonesian Ministry of Labor (2023).

this evidence, it is plausible to infer that factors beyond legal regulations influence female leadership and representation in the boardrooms of Indonesian companies. However, the current representation of women on boards remains significantly low despite Indonesia's massive labor force of 148 million out of a 213 million working-age population.

Several factors may contribute to the underrepresentation of women in board positions in Indonesia. According to The Indonesian Ministry of Women Empowerment and Child Protection (2022), societal expectations often put women to manage the household rather than full-time employment, which is also reflected in Graph A of Figure 3. This graph reveals that only 36% of the labor force is female, and a majority of the non-labor force comprises women managing household duties. Moreover, there appears to be a bottleneck hindering Indonesian workers, including women, from attaining

executive roles. Graph B of Figure 3 illustrates that a large segment of the Indonesian workforce is concentrated in basic and semi-skilled jobs, which may limit the pool of female candidates for board positions.

Indonesia also falls behind neighboring countries in the context of board gender diversity. Figure 2 illustrates that the proportion of female executives in Indonesia is lower than in neighboring countries despite having the highest number of female workers. Further, some neighboring countries, such as Malaysia and Singapore, have implemented female board regulations for their public companies. Meanwhile, Thailand and the Philippines, even without board gender diversity mandates, still have a higher proportion of female board members than Indonesia.

In addition, Indonesia is not only falling behind in regulatory measures and female board representation but also in the academic literature on board gender diversity. The limited research predominantly examines the relationship between board gender diversity and corporate performance, yielding mixed results. A prior study highlights a positive link between women in executive roles and the performance of Indonesian financial firms and institutions (Tjondro et al., 2020). Similarly, another previous study reports a positive correlation between female board representation and gas emission disclosures among Indonesian public companies (Daromes & Djie, 2019). In contrast, a study identifies a negative correlation between female board membership and firm performance within 169 IDX-listed Indonesian firms in 2007 (Darmadi, 2011). Moreover, a previous study finds no association between female board presence and ESG performance in Indonesian public firms (Brown et al., 2023). Additionally, there seems to be a shortage of studies investigating drivers of board gender diversity in Indonesia.

While Indonesia faces challenges in board gender diversity, its economy stands out as one of the world's strongest economies. The country ranks as the largest economy in Southeast Asia (SEA) and the 16th largest economy in the world, with an estimated GDP of 19.5 trillion rupiah, which translates to 1.3 billion US dollars (IMF, 2023). Further, the country attracts substantial foreign direct investment due to its vast consumer market driven by a population of 275 million. Indonesia notably has received an inflow of more than one billion USD for foreign investments from Singapore, China, Japan, Hong Kong, The Netherlands, Malaysia, South Korea, and the US (NSWI, 2023).

Likewise, Indonesia has attracted a significant deal of foreign investment within its capital market. Notably, from 2010 to 2019, the country recorded an average annual net foreign investment of 89.83 trillion rupiah (Deloitte Indonesia, 2021). Further, the Financial Services Authority highlighted a continued interest in the Indonesian stock market, with foreign investors contributing a net inflow of 2.72 trillion rupiah as of July 2023 (Financial Services Authority, 2023). This evidence highlights the consistent presence of foreign shareholders in Indonesia's financial markets, suggesting their potential influence on corporate decisions, including board gender composition. Therefore, it is important to explore the relationship between foreign shareholders and board gender diversity among companies in Indonesia.

3. Data and Methodology

3.1. Sampling Method and Distribution

To empirically answer the research question, I will focus on female representation among Indonesian companies' boards between 2019 and 2022. As discussed in the previous section, the percentage of female board members was substantially low before 2019. Further, advocacy for board gender diversity in Indonesia was relatively scarce before 2019.

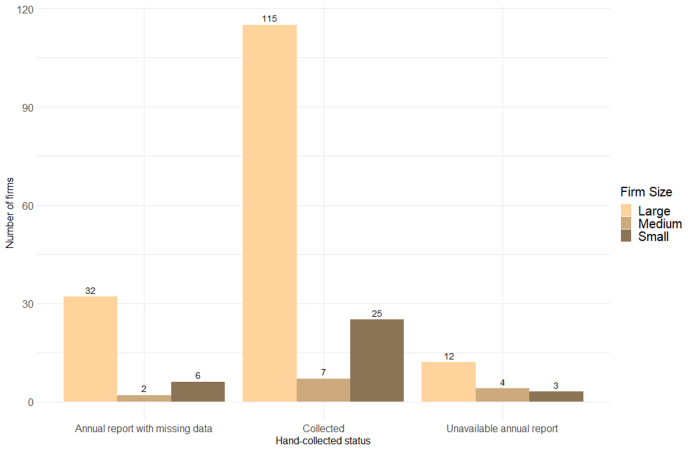
I define the study population as public companies listed in the IDX. I retrieve the data for Indonesian public companies from the Refinitiv Worldscope database, which contains detailed financial information and company profiles of public companies from around the world. Subsequently, I identify 902 companies listed on the IDX using their ISIN codes and exclude 257 companies as they are listed after 2019, thus not fulfilling the sample period coverage that I have set previously. Therefore, the sample pool comprises 645 Indonesian public companies.

To obtain the sample, I employ a stratified random sampling method. This method requires grouping the data with similar characteristics, known as the strata. These strata are then randomly sampled using a different probability sampling method. I categorize the strata according to the 11 industry sectors from the Global Industry Classification Standard (GICS), then set a sample size of 20 companies for each stratum. The sample size reflects consideration of the time constraints while ensuring the representativeness of the population within the sample. However, one industry sector has only six companies within the sample period. Thus, I exclude this sector from the sampling pool and included all six companies as the sample. Consequently, this process generates a final sample of 206 Indonesian public companies.

As shown in Figure 4, the outcome of the stratified random sampling process is primarily concentrated in large firms, directly reflecting the majority of Indonesian public companies categorized as large firms. Meanwhile, medium and small firms comprise 16% and 6% of the sample. However, during the manual data collection process, as outlined in this figure and Table 1, the data for some of these firms are uncollectible. A notable issue is the absence of publicly disclosed shareholder classifications by domestic or foreign status, which is necessary for measuring foreign institutional investors. This issue suggests that some public companies are not complying with the regulations. Another issue is the lack of accessible annual reports on the company's and IDX's websites. This challenge is especially notable among companies in the Communication Services, Health Care, Industrials, Information Technology, and Real Estate sectors, as shown in Table 1. It also affects large entities, with data for many large firms being uncollectible. As a result, the number of sample firms is reduced from 206 to 147.

Figure 4: Sample Distribution by Firm Size and Hand-Collected Data Status

Firm Size	Population Firms	Initial Sample Firms
Large	639	159
Medium	130	13
Small	121	34
Unavailable firm-size data	12	0
Total	**902**	**206**



The table shows the distribution of initial sample firms (2019–2022) by size, classified as small, medium, or large based on total assets in the 2022 annual report. Source: (Refinitiv, 2022); see Table 2 for definitions of firm size. The bar plot shows the same firms by size and hand-collected data status: Collected (annual reports with usable data), Annual report with missing data (no shareholder classification: foreign/domestic), and Unavailable annual report (no online report for the period).

Table 1: Sample Distribution by Industries and Hand-Collected Data Status

GICS Sector Name	Population	Initial Sample Firms	Hand-collected data status		
			Collected (Final Sample Firms)	Annual report with missing data	Unavailable annual report
(1)	(2)	(3)	(4)	(5)	(6)
Energy	56	20	16	4	0
Materials	99	20	17	2	1
Industrials	145	20	11	5	4
Consumer Discretionary	117	20	16	3	1
Consumer Staples	116	20	16	3	1
Health Care	32	20	13	6	1
Financials	109	20	16	3	1
Information Technology	38	20	10	3	7
Communication Services	48	20	13	7	0
Utilities	8	6	5	1	0
Real Estate	91	20	14	3	3
Unavailable GICS code data	43	0	0	0	0
Total	**902**	**206**	**147**	**40**	**19**

This table classifies Indonesian public firms by GICS industry sector, plus one group for firms without a GICS code. Column (2) lists the population of public firms listed in the Indonesian Stock Exchange (IDX) as of December 2023. Column (3) shows the initial stratified random sample by sector. Columns (4)-(6) report firms with data successfully gathered from annual reports, firms whose reports lacked shareholder classification (foreign/domestic), and firms with no available annual reports, reducing the final sample to 147 firms.

Table 2: Variable Definitions

	Variable name	Description	Source
Dependent variables	% FC	Percentage of female members in the Board of Commissioners.	Annual report
	Dummy FC	A dummy variable that is equal to 1 if a firm has at least one female commissioner and 0 otherwise.	
	% FD	Percentage of female members in the Board of Directors.	
	Dummy FD	A dummy variable that is equal to 1 if a firm has at least one female director and 0 otherwise.	
Independent variable	% FII	Percentage of foreign institutional investors.	
Control variables	BOC Size	The size of the Board of Commissioners is defined as the total number of board members. For public companies, the minimum board size is two members, with one member serving as President and at least 30% serving as independent commissioners. For commercial banks, the minimum is three members, with at least 50% serving as independent commissioners.	
	BOD Size	The size of the Board of Directors is defined as the total number of board members. The minimum required size is two members for public companies and three for commercial banks, where one member acts as President. Independent directors are not required in either public companies or commercial banks.	
	%LII	Percentage of local institutional investors.	
	Firm Size (ln)	Defined as the natural logarithm (ln) of the book value of assets. According to Financial Services Authority Regulation No. 53 Year 2017 (POJK 53 2017) on Initial Public Offering for Small and Medium Enterprises, small firms have total assets of not more than IDR 50 billion, medium firms have total assets between IDR 50-250 billion, and large firms have total assets of more than IDR 250 billion.	Refinitiv Eikon

3.2. Research design and descriptive statistics

I define the dependent variable as the presence of women on boards and the independent variable as foreign institutional investors. I hand-collect the data from the annual reports due to the unavailability of accessible information on secondary databases. Furthermore, I introduce additional control variables to mitigate potential endogeneity arising from omitted unobservable factors, which could otherwise result in spurious correlations. The control variables are board size, firm size, and local institutional shareholders. I will retrieve the data for these variables from the annual reports and Refinitiv Eikon. Previous studies on board gender diversity have frequently utilized board size and firm size as control variables, suggesting that the size of the board and the firm may affect the likelihood of including women on the board (Adams & Ferreira, 2009; Fauver et al., 2022; Rastad & Dobson, 2022). In addition, I will use a two-way fixed effects model in the analysis to control for time-variant and time-invariant unobserved variables that might occur in the data.

To examine the hypothesis, exploring the association between the presence of women on boards and foreign institutional shareholders while controlling for endogeneity, I define the regression model as follows:

$$\begin{aligned}\text{Women on boards}_{it} = \\ \beta_0 + \beta_1 \text{Foreign institutional investors}_{it} \\ + \beta_2 \text{Board size}_{it} + \beta_3 \text{Firm size}_{it} \\ + \beta_3 \text{Local institutional investors}_{it} + \alpha_i + \gamma_t + \epsilon_{it}\end{aligned}$$

This study aims to examine how the influence of foreign shareholders on board gender diversity differs in companies with a two-tier board structure, where supervisory (BOC) and management (BOD) functions are separated, and

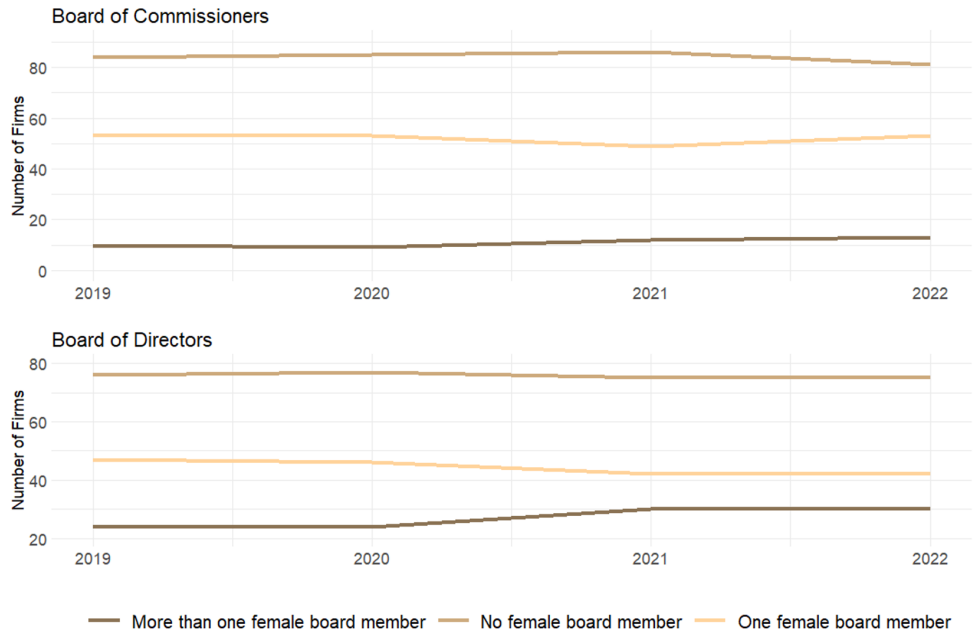


Figure 5: Female Compositions on Board from 2019 to 2022

This figure shows the number of firms with no female board members, those with one female board member, and those with more than one female board member for each year, respectively. The top graph displays these compositions within the Board of Commissioners across the observed period, while the bottom graph depicts the same for the Board of Directors.

whether foreign investors exert the same level of influence on both boards within this governance model. While much of the existing literature focuses on foreign shareholders' impact on gender diversity in single-board systems, the unique dynamics of a two-tier structure require further exploration. To address this, I measure the presence of women on both the BOC and BOD by calculating the percentage of female board members on each board. Additionally, I introduce two dummy variables for the dependent variable—one for the BOC and another for the BOD—where each variable is assigned a value of 1 for firms with at least one female member on the respective board and 0 otherwise.

The primary independent variable, foreign institutional shareholders, is measured by the percentage of foreign institutional investors in the firm. To control for other factors that might influence board composition, I include board size, defined as the total number of members on each board; firm size, defined as the logarithm of the book value of assets; and local institutional shareholders, defined as the percentage of local institutional investors in the firm. Given the different units of value in the dependent variables, I employ an OLS regression model for the percentage of female board members and a probability linear model for the dummy variables. These models allow me to explore whether foreign shareholders exert a differential impact on gender diversity in the supervisory and management boards, addressing the gaps identified in the previous literature.

Figure 5 presents the board gender composition of the BOC and the BOD among the sample firms from 2019 to 2022. This figure shows that firms without female representation on both boards outnumber those that include female members. Further, year-over-year trends reveal a relatively stable presence of all-male boards, with a slight reduction in such boards within the BOC towards the end of the period. Meanwhile, firms with at least one female board member show slight fluctuations, particularly in the last two years. A notable observation is the decrease in firms with exactly one female director in 2021. However, this trend can be linked to the increase in firms with more than one female director, suggesting a growing presence of women in the BOD.

Similarly, firms with one female commissioner show a slight decline from 2020 to 2021 but rebound in 2022, while firms with more than one female member in the BOC show a subtle yet consistent growing trend. Further, although the data suggest that the board gender composition among the sampled firms has not notably changed, a modest gap persists between firms with no female board members and those with at least one. Approximately 41% to 49% of the firms consistently included at least one female board member throughout the sample period, reflecting moderate awareness and implementation of gender diversity within Indonesian companies.

Figure 6 demonstrates the proportion of sample firms with at least one female board member, segmented by firm size. It shows that, between 2019 and 2022, 51% to 55% of large firms have at least one female director, while approximately 43% to 47% have at least one female member in the BOC. This trend aligns with previous studies that suggest large firms tend to have more female board members (Hillman et al., 2007; Rastad & Dobson, 2022; Shams, 2019). Large firms are the most visible to the public and have more

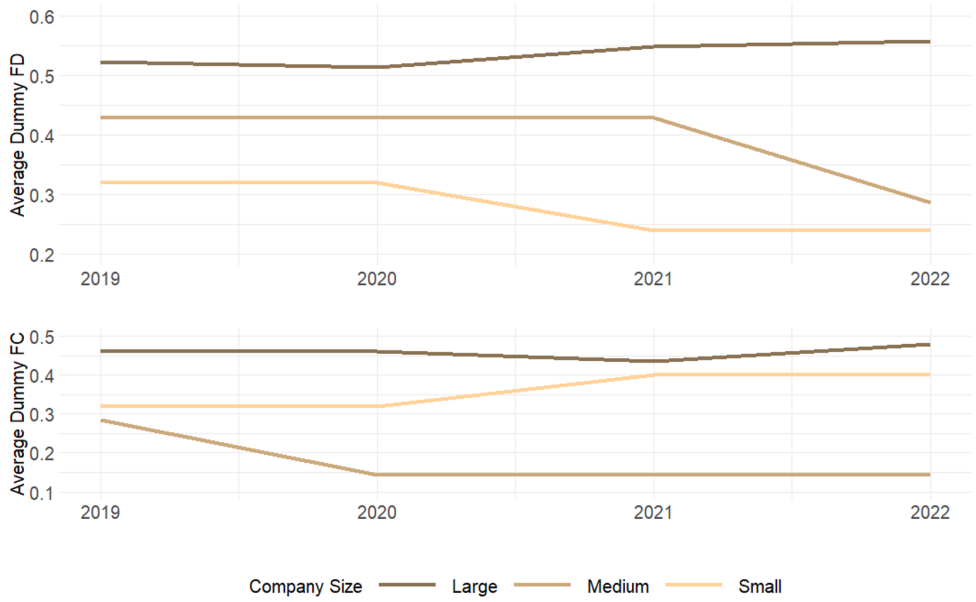


Figure 6: Average Firms with Dummy Female Board Members by Firm Size

This figure presents the annual percentages of firms with at least one female member (dummy = 1) and firms without (dummy = 0), categorized by firm size and board type.

pressure to increase female representation on boards (Hillman et al., 2007). Moreover, they are usually associated with a larger board size, which indicates a potential capacity to include more diverse members, although this does not automatically guarantee such diversity. Despite this, the trend from 2019 to 2022 shows slight fluctuations, corroborating a lack of significant change in board gender diversity, as observed in Figure 5.

Interestingly, the trend for medium and small firms varies between the BOC and the BOD. Small firms show a higher percentage of female commissioners than medium firms, while medium firms tend to have female directors than small firms. This distinction might suggest that small firms prioritize enhancing their governance practices by utilizing women's strong monitoring abilities, particularly on a supervisory board. According to a study by Adams and Ferreira (2009), women are often appointed to boards for their monitoring capabilities, and firms with weaker governance practices might benefit more from having women on the board. Therefore, the strategic emphasis on governance improvement may drive the appointment of female commissioners in small firms. Meanwhile, medium firms might focus on operational or strategic roles, as reflected by the higher presence of female directors.

Interestingly, the data point out that there are more women on the BOD than on the BOC throughout the sample period, as illustrated in Figure 7. This insight is further emphasized in Table 3, where the average proportion of female directors is higher than that of female commissioners. However, while the overall female representation is higher on the BOD, women more frequently occupy the highest position on the board, i.e., president, in the BOC from 2019 to 2022. Despite this representation, only 13% of BOC presidents and 9% of BOD presidents are women within the 588 firm-year observations. This proportion indicates the scarcity of female members in this leading role, which could be associated with the limited number of women within the candidate pool. In addition, Figure 7 reveals another insight regarding women's role in other board positions. It shows that over 30% of women in the BOC serve as independent members. Similarly, a prior study by Abdullah (2014) finds that approximately 25% of women are independent members.[14] As discussed earlier, women have stricter monitoring capabilities, which may influence their selection as independent members within boards (Adams & Ferreira, 2009).

Table 3 details the descriptive statistics of all the variables, accounting for 588 firm-year observations. The data suggest positive skewness, as indicated by the means exceeding the medians, in the dependent and independent variables. This skewness occurs due to a large number of the sample firms having little to no female representation on each board or foreign institutional investors, which is depicted further in the scatter plots in Figure 8. Consequently, the proportion of female board members and foreign institutional investors often falls below the first percentile for these variables, resulting in positive skewness. Considering these ratio variables inherently exhibit limited variation, and given the

[14] As discussed in the previous chapter, the appointment of independent directors is not mandatory, resulting in a significantly low presence of such role among the sample firms. Consequently, including this role in the analysis is unlikely to yield meaningful insights and thus, I exclude it from the analysis.

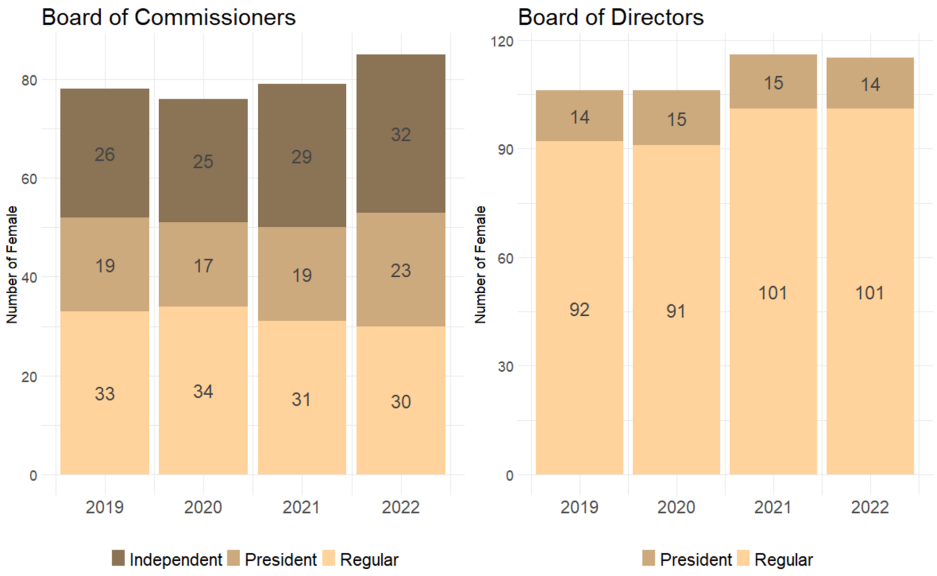


Figure 7: Female Board Members by Position between 2019 and 2022

This figure presents the annual count of female board members by position across 147 sample firms. Each stacked bar shows the number of female members per position, summing to the total female board count each year. Unlike the Board of Commissioners, the Board of Directors is not required to have independent members but must appoint a president. Note that the y-axis scales differ to accommodate data range variations.

Table 3: Descriptive statistics

Variable	N	Mean	Std. dev.	Min.	Q1	Median	Q3	Max.
%FC	588	0.136	0.183	0	0	0	0.250	1
Dummy FC	588	0.429	0.495	0	0	0	1	1
%FD	588	0.168	0.212	0	0	0	0.333	1
Dummy FD	588	0.485	0.500	0	0	0	1	1
%FII	588	0.250	0.283	0	0.023	0.141	0.349	0.997
BOC Size	588	4.04	1.99	2	3	3	5	16
BOD Size	588	4.49	1.92	2	3	4	5	11
Firm Size (IDR Million)	588	13,210,801	41,204,153	62	275,599	1,940,098	7,611,470	413,297,000
Firm Size (ln)	588	27.402	3.512	17.935	26.342	28.294	29.661	33.655
%LII	588	0.527	0.307	0.000	0.270	0.588	0.790	0.999

This table provides the summary statistics of the variables for 147 firms, encompassing 588 observations from 2019 to 2022. Within the firm-year observations, the BOC is comprised of 2,375 members, while the BOD includes 2,638 members. For details on variables' definitions, see Table 2.

reasons for the observed skewness, I do not address the skewness to preserve the natural variability of the data. However, due to significant variability within the range of value of firm size, I address the skewness in this variable using natural logarithm.

The data reveals that, among the 2,375 members serving on the BOC, females constitute an average of 13.6%, with a standard deviation of 18.3%. In comparison, within the BOD, females represent an average of 16.8% of the 2,638 members, with a standard deviation of 21.2%. These statistics suggest a modest level of female representation on the boards of the sampled firms. Additionally, the data show an average presence of foreign institutional investors at 25%, with a standard deviation of 28.3%, indicating that foreign investors have a lower presence compared to domestic investors, who account for an average of around 52% among the sample firms. However, it's important to approach these results with caution due to the unique characteristics of each firm. This implies that a generalized average value might not fully capture meaningful trends in board gender diversity and

Table 4: Correlation Coefficients

Panel A: Correlation coefficients (Female Commissioners)

	% FC	Dummy FC	% FII	BOC Size	Firm Size (ln)	% LII
% FC	1		0.026	0.044	0.127***	-0.011**
Dummy FC		1	0.065	0.188***	0.166***	-0.09**
% FII	0.001	0.056	1	0.265***	0.104**	-0.60***
BOC Size	-0.025	0.198***	0.203*	1	0.360***	-0.03
Firm Size (ln)	0.106**	0.129***	-0.057	0.202***	1	0.11***
%LII	-0.124***	-0.09**	-0.650***	-0.039	0.146***	1

Panel B: Correlation coefficients (Female Directors)

	% FD	Dummy FD	% FII	BOD Size	Firm Size (ln)	% LII
% FD	1		0.031	0.073*	0.163***	0.02
Dummy FD		1	0.083**	0.209***	0.189***	0.00
% FII	0.035	0.123***	1	0.343***	0.104*	-0.60***
BOD Size	-0.005	0.228***	0.314***	1	0.464***	-0.04
Firm Size (ln)	0.167***	0.200***	-0.057	0.341***	1	0.11***
%LII	0.051	-0.021	-0.650***	-0.094**	0.146***	1

This table presents Pearson (below diagonal) and Spearman (above diagonal) correlation coefficients. Panel A uses female commissioners (FC) as the dependent variable, while Panel B uses female directors (FD). Each variable is measured by two proxies: percentage and a dummy (1 if firm has at least one female board member, 0 otherwise). The main independent variable is the percentage of foreign institutional investors (% FII). Control variables include board size, natural logarithm of firm size, and percentage of local institutional investors (% LII). For simplicity, the p-values are not reported but indicated by the significance levels as (***) $p < 0.01$, (**) $p < 0.05$, (*) $p < 0.1$.

foreign institutional investor involvement. Therefore, I will discuss the association between these variables in greater detail following a series of more robust analyses.

Table 4 presents scatter plots and correlation coefficients for all variables, calculated using both Pearson and Spearman methods. These correlations help to explore the general correlation between foreign and local institutional investors and board gender diversity, allowing us to understand the pattern of the data to elicit the association between the two variables.

Panel A reveals a weak and non-significant correlation between the percentage of female commissioners and foreign institutional investors, as indicated by both Pearson and Spearman's methods. It is probable that foreign investors might not have a strong influence on increasing the percentage of women on the BOC. Additionally, Panel A of Figure 8 shows no clear linear association between these variables, with scattered data points and no apparent trend. This supports the earlier finding of a potential lack of influence from foreign institutional investors on board gender diversity in BOC. On the other hand, as shown in Table 4, local institutional investors exhibit a significant but weak negative correlation with both the percentage of female commissioners and the dummy variable for female commissioners. This negative correlation supports the earlier notion that domestic local investors might be less supportive of board gender diversity, possibly due to a lack of awareness and limited perspective on this matter.

The coefficients between firm size and female commissioners show a positive and significant correlation in both Pearson and Spearman methods, indicating that larger firms are more likely to have female commissioners. However, while board size is positively correlated with the likelihood of having at least one female commissioner, this does not extend to the overall percentage of female representation in the BOC. These trends are visually depicted in Panel A of Figure 8, where the fitted regression lines show different relationships between board size and the dummy versus percentage variables.

Panel B of Table 4 reveals positive and significant correlations between foreign institutional investors and the dummy variable for female directors (12.3% for Pearson and 8.3% for Spearman). This indicates that foreign institutional investors are associated with a higher likelihood of having at least one female director on the board of directors (BOD). The upward trend of the fitted regression line in Panel B of Figure 8 further supports this association. However, this positive correlation does not extend to the overall percentage of female directors, suggesting that foreign investors may focus on ensuring minimal female representation rather than

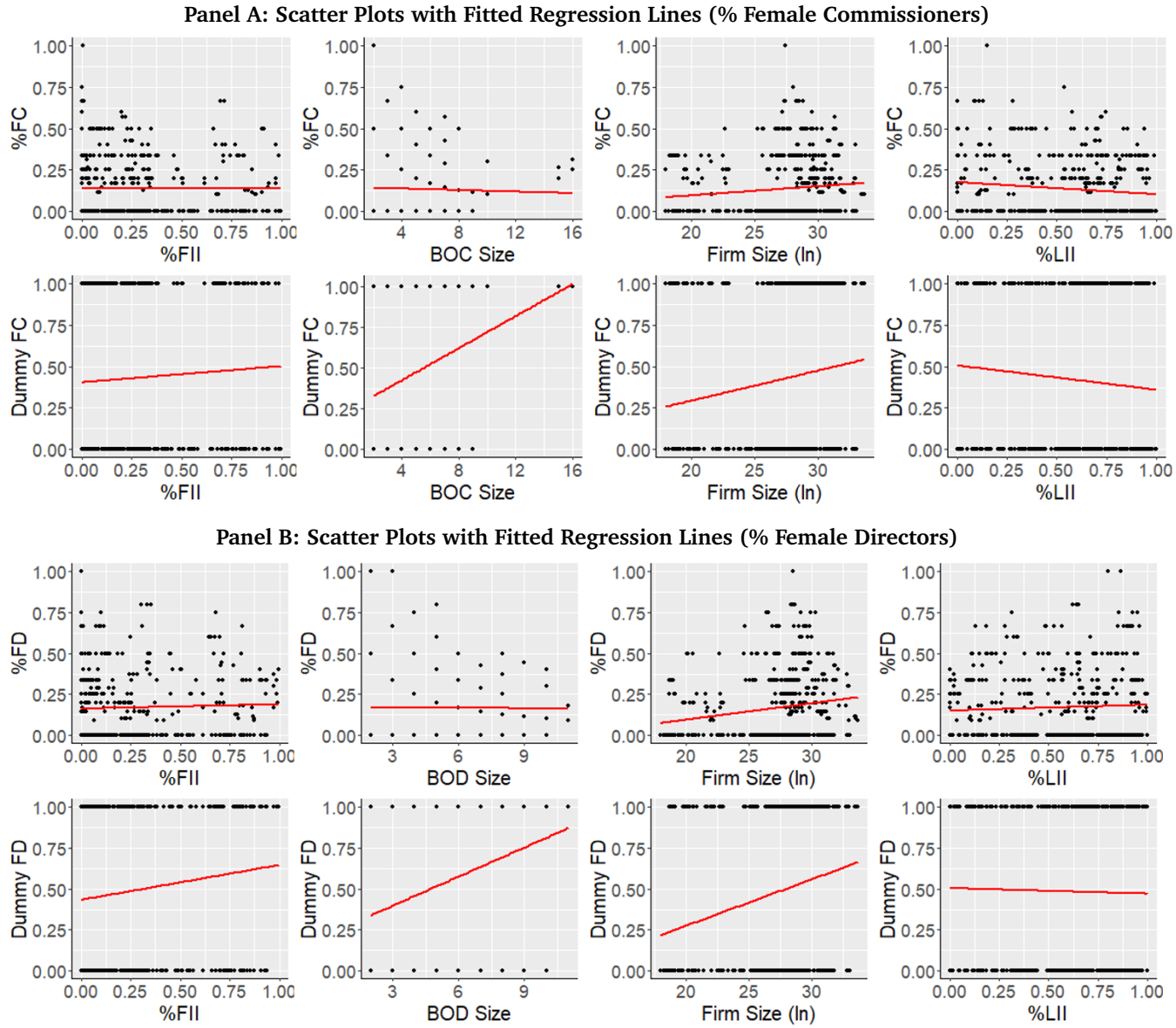


Figure 8: Scatter Plots

Panel A shows scatter plots between key variables using female commissioners (FC) as the dependent variable, while Panel B using female directors (FD). Each variable is measured by two proxies: percentage and a dummy (1 if the firm has at least one female board member, 0 otherwise). The main independent variable is the percentage of foreign institutional investors (% FII). Control variables include board size, the natural logarithm of firm size, and the percentage of local institutional investors (% LII).

a proportional increase in gender diversity. Interestingly, unlike in Panel A, no significant correlation is found between the percentage of local institutional investors and the likelihood of having a female director or the overall rate of female directors. This finding suggests that, unlike foreign institutional investors, local institutional investors are less likely to influence the presence of female directors on the board.

In general, these findings highlight nuanced differences in how foreign and local institutional investors influence board gender diversity. Foreign investors show some association with the presence of female directors, while local investors may exhibit more resistance. However, these results are based on simplified relationships between the dependent and independent variables, offering limited information on potential causal inferences. To gain deeper insights and address these limitations, it is crucial to apply a more robust analysis, such as regression modeling, to understand better the underlying dynamics and control for potential confounding factors.

The comprehensive trend analysis, as illustrated in Table 5, shows annual variations among the observations for the key dependent and independent variables. Panel A indicates noticeable cross-sectional variability, with standard deviations ranging from 17% to 29%. This suggests that firm-

Table 5: Comprehensive Trend Analysis of Female Board Composition and Foreign Institutional Shareholders from 2019 to 2022

Panel A: Annual Descriptive Statistics Across All Sample Firms for Each Year

	%FC		%FD		%FII	
Year	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**
2019	0.136	0.179	0.160	0.202	0.259	0.292
2020	0.133	0.177	0.163	0.208	0.246	0.280
2021	0.132	0.184	0.174	0.221	0.242	0.278
2022	0.144	0.191	0.176	0.219	0.252	0.283

Panel B: Year-Over-Year Trends in %FC, %FD, and %FII for Firms from 2019 to 2022

%FC \ %FH	Decrease	Increase	No change	**Total**
Decrease	8	12	9	**29**
Increase	21	20	4	**45**
No change	167	107	93	**367**
Total	**196**	**139**	**106**	**441**

%FD \ %FH	Decrease	Increase	No change	**Total**
Decrease	15	14	6	**35**
Increase	25	12	14	**51**
No change	156	113	86	**355**
Total	**196**	**139**	**106**	**441**

This table examines the dynamics of female board composition and foreign institutional investors across 147 firms from 2019 to 2022. Panel A presents cross-sectional annual means and standard deviations, showing year-by-year distributions. Panel B provides a panel data analysis comparing changes in female commissioners (%FC) or directors (%FD) with foreign institutional investor percentage (%FII).

specific characteristics, such as firm performance as well as governance quality, influence the representation of female board members. Further, this panel also provides insight into the annual trend of the key-dependent and independent variables. While the mean percentage of female commissioners and directors shows a modest upward trend, foreign institutional investors demonstrate a marginal decline. Such temporal fluctuations may be attributable to factors that are consistent across firms but vary over time, such as changes in regulations or economic conditions. Nonetheless, the presence of both cross-sectional and time variations underscores the potential for unobserved heterogeneity that could impact the estimated relationships in the regression model, which should be addressed to mitigate endogeneity. This consideration is consistent with the earlier assumption of the regression model and highlights the importance of including firm-year fixed effects in the regression model.

Panel B of Table 5 illustrates the relationship between the aggregate changes in the key-dependent and independent variables across the firm-year observations. The association between them appears to be obscure, indicating that variations in the percentage of foreign institutional investors are not consistently associated with shifts in the percentage of female commissioners and directors. This aligns with the weak and non-linear correlations previously identified in Table 7 and Figure 8. Moreover, the data in this table reinforce the patterns observed in Figure 5, which suggests a persistent trend of all-male board compositions. This trend is reflected in the minimal number of firms showing increases or decreases in the percentage of female commissioners and female directors.

Interestingly, Panel B also indicates that the sample firms more frequently experience a decrease rather than an increase in foreign institutional investor composition. As shown in Panel A, there are slight decreases in the percentage of foreign investors in 2020 and 2021, which potentially correlates with the COVID-19 pandemic that hinders global investors from investing in foreign countries. This implica-

tion is also highlighted by Deloitte Indonesia (2021), which reports a notable withdrawal of foreign investments in Indonesia's capital market, amounting to 135 trillion rupiah in 2020.

Overall, Panel B reveals no discernible association between female board members and foreign institutional investors. However, I will further investigate this relationship through regression analyses, offering a more comprehensive exploration of the association.

4. Results and Discussions

4.1. Regression Results and Discussions

Table 6 details the regression results, showing the association between institutional investors and female representation on the Board of Commissioners (BOC) and Board of Directors (BOD), both with and without two-way fixed effects. Robust standard errors adjusted for heteroscedasticity, enhancing the reliability of the estimates.

The analysis indicates a significantly positive association between foreign institutional ownership and female representation on the BOD, as shown in columns (5) and (7). Specifically, a higher percentage of foreign investors correlates with a greater likelihood of having at least one female director and a higher overall proportion of female directors. This supports the hypothesis that foreign institutional investors value gender diversity, particularly in management roles. However, this positive relationship does not extend to the BOC, where an increased proportion of foreign investors is associated with a decrease in female commissioner representation (column 1). This suggests that foreign investors prioritize gender diversity in executive roles over supervisory roles, potentially viewing female directors as more critical for strategic decision-making and governance, as previously highlighted by Adams and Ferreira (2009).

However, the significance of these associations weakens after incorporating firm-year fixed effects, indicating that unobserved time-invariant factors may significantly influence board composition beyond the impact of foreign ownership alone. This is consistent with the relatively small proportion of foreign institutional investors (25%) compared to local counterparts (52.7%) in the sample firms, as indicated in Table 6. This indicates that foreign institutional investors may have a limited impact on board gender diversity. In contrast, local institutional investors could exert a more significant influence due to their familiarity with local business practices. It is reasonable to assume that local institutional investors might prioritize factors such as enhancing financial performance over promoting board gender diversity, especially given the relatively low awareness of this issue. Additionally, although one coefficient remains significant, the association turns negative. This finding indicates that a higher proportion of foreign institutional investors is associated with a reduced likelihood of firms appointing female directors, contrasting the original hypothesis. Further, this finding contrasts with the results of Fauver et al. (2022), who discovered that foreign institutional investors continue to promote board gender diversity, even when accounting for two-way fixed effects.[15]

Turning to local institutional investors, the results show mixed associations with female representation on the BOC and BOD, as shown in Columns (1) and (3). A one percentage point increase in local institutional investors is associated with a decrease of −0.139 percentage points in the percentage of female commissioners and a decrease of −0.234 percentage points in the likelihood of having at least one female commissioner. This suggests local institutional investors might prioritize other agendas over board gender diversity in commissioner roles. Conversely, a positive association is observed between local institutional investors and the proportion of female directors, indicating their role in promoting female representation at the director level. This complexity highlights that promoting gender diversity may require efforts from both foreign and local investors. However, after including two-way fixed effects, these associations largely diminish, indicating that the observed positive relationships may have been influenced by unobserved factors rather than direct actions by local investors.

Column (5) shows a weak but significant negative relationship between BOD size and the proportion of female directors, indicating that an increase in BOD size is associated with a decrease of 0.013 percentage points. In contrast, columns (3) and (7) reveal a positive relationship between board size and the likelihood of having at least one female member on the BOC and BOD. This finding is consistent with the results reported, which aligns with previous results by Abdullah (2014), Fauver et al. (2022), and Shams (2019). After controlling for firm-year fixed effects, the positive association for BOD size remains significant, indicating that larger BODs are still more likely to have female representation, even though the overall proportion of female directors may not necessarily increase. In other words, perhaps the inclusion of females in the BOD within the sample firms is merely a gesture of aligning public interests on board gender diversity, consistent with Figure 5, where most sample firms have none to one female directors.

Additionally, the coefficient results reveal that firm size is positively associated with the proportion of female members and the likelihood of having at least one female member on the BOC and BOD. Although these associations are weak, they suggest that larger firms tend to have a higher representation of female members. However, none of these associations persist after incorporating two-way fixed effects, which may indicate that other unobserved factors could influence the observed relationships. This finding underscores the need for further investigation into the factors that drive female representation on boards.

The regression analysis reveals nuanced insights into the relationship between foreign institutional investors and female board representation on the Board of Commissioners (BOC) and the Board of Directors (BOD). While the initial

[15] This discrepancy might arise from their focus on lagged foreign institutional ownership, which may capture different dynamics.

Table 6: Regression Results

	Dependent Variables: Female Commissioners				Dependent Variables: Female Directors			
	%FC		Dummy FC		%FD		Dummy FD	
Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
%FII	-0.089**	-0.065	-0.124	-0.014	0.117***	-0.046	0.198**	-0.270*
	(0.041)	(0.29)	(0.097)	(0.289)	(0.039)	(0.039)	(0.098)	(0.143)
BOC Size	-0.003	0.002	0.045***	0.101				
	(0.003)	(0.013)	(0.009)	(0.033)				
BOD Size					-0.013***	0.001	0.038***	0.093***
					(0.004)	(0.008)	(0.012)	(0.024)
Firm Size (ln)	0.007***	0.005	0.015***	-0.016	0.012***	-0.006	0.021***	-0.019
	(0.002)	(0.007)	(0.006)	(0.012)	(0.003)	(0.005)	(0.006)	(0.014)
%LII	-0.139***	0.030	-0.234***	0.034	0.078**	-0.100**	0.072	-0.034**
	(0.038)	(0.061)	(0.091)	(0.220)	(0.038)	(0.040)	(0.090)	(0.0142)
N Observations	588	588	588	588	588	588	588	588
R-squared	0.04	0.8693	0.060	0.8418	0.045	0.91	0.075	0.88
Adjusted R2	0.04	0.8232	0.054	0.7861	0.0387	0.89	0.070	0.845
Two-way Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes

This table presents linear regression results with two-way fixed effects for a sample of 147 firms from 2019 to 2022 (588 observations). Columns are grouped by dependent variable: (1)-(2) percentage of female commissioners (%FC), (3)-(4) dummy for female commissioners, (5)-(6) percentage of female directors (%FD), and (7)-(8) dummy for female directors. Dummy variables equal 1 if a firm has at least one female board member, 0 otherwise. All variables use an OLS regression model, except for models with dummy dependent variables, which use a linear probability model. The main independent variable is the percentage of foreign institutional investors (%FII), with controls for percentage of local institutional investors (%LII), board size, and firm size. Coefficients are shown with robust standard errors in brackets. Significance levels: (***) p<0.01, (**) p<0.05, (*) p<0.10.

hypothesis predicted a positive association between foreign ownership and female board representation, the results reveal a more complex relationship, with positive effects on the BOD but negative effects on the BOC. However, these associations largely dissipate after controlling for two-way fixed effects, suggesting that foreign and local institutional investors may not be the primary drivers of gender board diversity among the sample firms and that other factors may exert more influence.

4.2. Endogeneity Test: Regression with Lead Model Specification

The earlier analyses controlled for endogeneity by utilizing control variables and two-way fixed effects. However, endogeneity may also occur if the assumed direction between dependent and independent variables is reversed, also known as reverse causality. Failing to account for reverse causality can lead to biased estimates in the regression models (Adams, 2016).

One method to control for reverse causality is to use a lead model specification. This approach assumes that the current value of the independent variable affects future values of the dependent variable rather than the reverse. By including future values of the dependent variable (leads) in the model, we aim to control for the possibility that the dependent variable might influence the independent variable, thus mitigating concerns about reverse causality. This method has been applied in previous research on board gender diversity (Brodmann et al., 2022; Fu et al., 2023). Incorporating future values of the dependent variable enhances the assessment of the causal relationship between the variables and strengthens the validity of the findings. Consequently, the earlier regression model is extended to include these lead values as follows:

$$\begin{aligned}\text{Women on boards}_{it+1} = \\ \beta_0 + \beta_1 \text{Foreign institutional ownership}_{it} \\ + \beta_2 \text{Board size}_{it} + \beta_3 \text{Firm size}_{it} \\ + \beta_3 \text{Local institutional ownership}_{it} \\ + \alpha_i + \gamma_t + \epsilon_{it}\end{aligned}$$

As shown in Table 7, most of the regression coefficients are consistent with the results of the regression model without lead specifications. Using the lead model specification helps mitigate the potential for reverse causality by demon-

Table 7: Regression Results with Lead Model Specification

	Dependent Variables: Female Commissioners				Dependent Variables: Female Directors			
	$\%FC_{(t+1)}$		Dummy $FC_{(t+1)}$		$\%FD_{(t+1)}$		Dummy $FD_{(t+1)}$	
Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\%FII_{(t)}$	-0.103**	0.069	-0.119	0.232	0.113**	-0.035	0.241**	-0.128
	(0.049)	(0.064)	(0.113)	(0.197)	(0.044)	(0.029)	(0.114)	(0.097)
BOC $Size_{(t)}$	-0.002	-0.016	0.046***	-0.031				
	(0.004)	(0.015)	(0.010)	(0.036)				
BOD $Size_{(t)}$					-0.013**	0.003	0.032**	0.027
					(0.005)	(0.008)	(0.013)	(0.025)
Firm Size $(ln)_{(t)}$	0.008***	-0.003	0.016**	-0.028	0.013***	0.016	0.026***	0.029
	(0.002)	(0.003)	(0.007)	(0.019)	(0.002)	(0.02)	(0.007)	(0.35)
$\%LII_{(t)}$	-0.163***	0.026	-0.272***	0.094	0.086**	-0.019	0.108	-0.083
	(0.046)	(0.047)	(0.105)	(0.120)	(0.043)	(0.031)	(0.107)	(0.0104)
N Observations	441	441	441	441	441	441	441	441
R-squared	0.04	0.903	0.07	0.867	0.051	0.942	0.083	0.889
Adjusted R2	0.05	0.852	0.06	0.796	0.042	0.911	0.074	0.831
Two-way Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes

This table presents regression results with robust standard errors using a one-period lead of the dependent variable, covering 441 observations. Columns are grouped by dependent variable: (1)-(2) percentage of female commissioners (%FC), (3)-(4) dummy for female commissioners, (5)-6) percentage of female directors (%FD), and (7)-(8) dummy for female directors. Dummy variables equal 1 if a firm has at least one female board member, 0 otherwise. All variables use an OLS regression model, except for models with dummy dependent variables, which use a linear probability model. The main independent variable is the percentage of foreign institutional investors (%FII), with controls for percentage of local institutional investors (%LII), board size, and firm size. Coefficients are shown with robust standard errors in brackets. Significance levels: (***) p<0.01, (**) p<0.05, (*) p<0.10.

strating that the current level of foreign and local institutional ownership influences future board gender diversity outcomes. After controlling for reverse causality, the results indicate that while institutional investors may drive changes in female directorships in subsequent years, the effects on female commissioners (BOC) are less pronounced. Columns (1) and (5) of Table 7 show that both types of investors are positively associated with female directors in the following year but negatively associated with female commissioners in the following year. This reinforces the idea that institutional investors, especially foreign ones, tend to focus more on increasing female representation in decision-making roles (the BOD) rather than monitoring positions (the BOC). However, these associations lose their significance when controlling for firm-specific and time-invariant factors.

In addition, board size and firm size are significantly associated with female member compositions in the following year. Of all the model specifications, only one negative association is observed between the BOD size and the proportion of female directors. Suggesting that a higher BOD size correlates with a lower percentage of female directors in the upcoming year. Meanwhile, other model specifications show that a larger board or firm size is positively linked to an increase in female member composition in the following year. Nevertheless, these associations are not robust to within-firm characteristics and temporal trends, as their significance diminishes when using two-way fixed effects.

Ultimately, using lead model specifications controls the possibility of reverse causality between the dependent and independent variables. By incorporating future values of the dependent variable, the lead model strengthens the validity of these findings and supports the argument that institutional investors contribute to shaping board gender diversity over time rather than simply responding to existing gender compositions. However, the robustness of these findings remains sensitive to firm-specific and temporal factors.

5. Conclusions

5.1. Research Conclusions

Board gender diversity is a critical aspect of corporate governance, with many stakeholders advocating for increased female representation in the boardroom. However, despite a global push for gender diversity, progress among Indonesian companies has been slow. This study reveals that

female representation in both the BOC and the BOD of Indonesian firms has rarely increased over time. While nearly half of the sample firms have at least one female board member, the proportion of women on boards has remained modest, staying below 20% from 2019 to 2022. Notably, female commissioners (BOC) are more likely to serve as the board's president than female directors (BOD), even though there are generally more female directors. Despite this, women remain underrepresented in key leadership roles, likely due to the limited pool of female candidates available.

My study emphasizes the ongoing underrepresentation of women in Indonesian boardrooms. After employing OLS and Linear Probability Regression models, foreign institutional investors have limited influence on driving board gender diversity in Indonesian public companies. Initially, foreign investors appeared to be positively associated with the number of female board members within the BOD, but this effect diminished upon closer examination using two-way fixed effects. Foreign institutional investors are negatively associated with the proportion of female directors, and similar negative associations were found between foreign investors and female representation in the BOC. These findings remain robust after addressing potential endogeneity concerns through lead model specifications.

As expected, local institutional investors show a consistent negative association with board gender diversity, suggesting that higher local ownership decreases the likelihood of a gender-diverse board. In contrast, board size and firm size are positively linked to the possibility of having at least one woman in both the BOC and BOD.

This research suggests that factors beyond those examined in this study may also influence female board representation in Indonesia. Future research could explore additional drivers, such as those identified by Abdullah (2014) and Shams (2019), who studied board gender diversity in Malaysia and other countries with similar characteristics. Variables such as firm ownership types, labor welfare regulations, and cultural factors may offer further insights into the underlying causes of female underrepresentation on boards in Indonesia.

5.2. Research Contributions and Limitations

The findings of my study contribute significantly to the academic literature on the drivers of board gender diversity, particularly in environments without formal mandates. Specifically, my research addresses key gaps in previous studies by exploring an under-researched context, focusing on Indonesia. This setting has rarely been examined in academic literature on board gender diversity. This approach provides valuable insights into an emerging market with unique governance structures, enriching the global understanding of the issue. Additionally, my research utilizes panel data incorporating Indonesian companies across multiple industry sectors, filling a gap in the existing literature, which often lacks a comprehensive view of board gender diversity in Indonesia. Furthermore, the study introduces a previously unexamined factor, foreign institutional ownership, into the analysis of board gender diversity, providing novel perspectives on potential drivers of change in Indonesian boardrooms. These contributions advance the literature and underscore the call for increased female representation in leadership positions within Indonesian public companies, particularly in the BOC and BOD. Ultimately, the study highlights the need for more direct approaches or policies to enhance gender diversity in the boardroom.

Despite these contributions, my study faces several limitations. First, the reliance on manually collected data has limited the sample size. Although efforts were made to ensure the representativeness of the sample, a larger sample could offer deeper insights into the influence of foreign ownership on board gender diversity. Expanding the dataset would provide a more nuanced analysis and more substantial conclusions. Second, while appropriate for this study's scope, using a reduced regression framework may not capture all complexities of the relationships between variables. This could lead to omitted variable bias, which may affect the internal validity of the results. Future research could address this by incorporating more complex models to examine broader factors influencing board gender diversity. Third, the geographic focus on Indonesian companies means that the findings may not be directly applicable to other contexts, limiting the external validity of the results. Comparative studies across different regions could help generalize the findings and provide a more comprehensive understanding of board gender diversity in varying contexts. Lastly, my analysis is confined to a specific period from 2019 to 2022, which may not fully capture evolving trends in board gender diversity. Future research could extend this timeframe to explore the long-term dynamics of gender diversity in boardrooms and consider broader data collection methods to enrich the understanding of these dynamics.

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