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The impact of family ownership on the relationship between the existence of the women board of commissioners and firm performance

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Abstract

Purpose: The first objective of this study is to analyze the presence of women boards of commissioners (WBoC) and firm performance (FP). Subsequently, the second objective is to analyze the role of family ownership (FO) in strengthening the influence of WBoC on FP.

Design/methodology/approach: This study used secondary data with a sample of all companies listed on the Indonesia Stock Exchange from 2017 to 2021. Accordingly, a total of 788 observations were employed and data were analyzed using moderate regression analysis with unbalanced panel data.

Findings: The results revealed that WBoC had no effect on FP as measured by TQ and ROA. Empirical research has also shown that FO strengthens WBoC in increasing ROA and TQ.

Research limitations/implications: In Indonesia, the portion of the representation of each company's women board of commissioners involves only one member at an average of 78%. Besides, as many as 22% of companies with a board of commissioners have more or equal to 2 members.

Practical implications: The findings serve as a guide for stockholders in choosing capable women board of commissioners for an effective supervisory system that drives the success of businesses.

Originality/value: This study brings forth FO as a moderating variable in the influence of WBoC on FP by adopting a multi-theoretical framework (agency theory, resource dependence theory (RDT), and socioemotional welfare theory (SEW)), which helps explain the various reasons that determine FP.

Keywords: Women board of commissioners (WBoC), Family ownership (FO), Return on assets (ROA), Tobin's Q (TQ), Firm performance (FP), Indonesia stock exchange

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1. Introduction

Gender diversity has become a prevalent issue in academia. Notably, gender diversity is a component of corporate governance implemented with the establishment of the women board of commissioners (WBoC) (Kusumastati, Siregar, Martani & Adhariani, 2022; Raddant & Takahashi, 2022). WBoC exists because Indonesia has a two-tier leadership structure. Gender diversity in boards is an interesting topic to examine, especially in Indonesia, owing to the patriarchal culture that embraces males as more worthy leaders in the company ranks (Yuliana & Kholilah, 2019). However, Darmadi (2013) found evidence that women in Indonesia are included in the ranks of companies that go public because they are family-owned companies.

The presence of WBoC serves as a control function (Assenga, Aly & Hussainey, 2018; Lafuente & Vaillant, 2019) and monitoring function (Rahman & Zahid, 2021; Zhou, Owusu-Ansah & Maggina, 2018) to improve firm performance (FP) (Mubarka & Kammerlander, 2022; Ramadan & Hassan, 2022). While empirical research on the influence of WBoC on FP has shown inconclusive results, many studies have shown that the presence of WBoC either has a lower impact on FP (Adams & Ferreira, 2009; Akpan & Amran, 2014; Darmadi, 2013; Fauzi & Locke, 2012; Ghafoor, Duffour, Khan & Khan, 2022; Mubarka & Kammerlander, 2022; Roudaki, 2018) or a positive impact on FP (Dissanayake, Jeyaraj & Nerur, 2021; Mubarka & Kammerlander, 2022; Ramadan & Hassan, 2022; Tran, Nguyen& Wang, 2022). Meanwhile, other studies (Hatane, Winoto, Tarigan & Jie, 2022; Kumar, Nigam & Singh, 2020; Shukeri, Shin & Shaari, 2012; Wang, Abbasi, Babajide & Yekini, 2019) have also shown that the presence of WBoC has no impact on FP.

According to field data, the number of WBoC in Indonesia from 2017 to 2021 was different each year (Indonesia Stock Exchange, 2022). The following information is drawn from a compilation of annual reports of Indonesian public listed companies from 2017 to 2021:

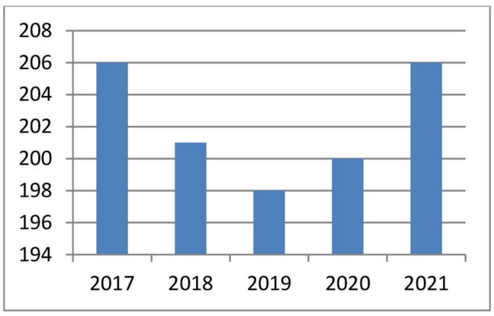

Figure 1. Total WBoC in Indonesia

Figure 1 shows that the number of WBoC decreased from 2017 to 2019 and increased from 2019 to 2021. According to the International Finance Corporation (2019), in the Association of Southeast Asian Nations (ASEAN) region, the proportion of women serving on the board of commissioners in Thailand was 20.4%, followed by 15.4% in Vietnam and 14.9% in Indonesia. Specifically, in ASEAN, Indonesia ranks third in the number of women on corporate boards. Nevertheless, according to the Financial Services Authority (OJK), WBoC's contribution is still below 50% (Keuangan, 2021).

Gender equality, which is linked to the United Nation's (UN) Sustainable Development Goals (SDGs) in the context of family ownership (FO), is an interesting subject for research. Gender equality in the context of FO is interesting to study because it has a positive effect on FP. For instance, 1) FO shows ownership identity (Cid, San-Martín & Saona, 2021), 2) FO has a long-term family orientation (Jabbouri & Jabbouri, 2021), and 3) FO is an intergenerational transmission (Cid et al., 2021; Widagdo, Rahmawati, Djuminah, Arifah, Goestjahjanti & Kiswanto, 2023). However, there are certain consequences in which FO has a negative effect on FP, such as 1) a conflict of interest between minority shareholders and family shareholders, 2) family shareholders paying more attention to growing the company and sustaining company performance than maximizing shareholders profits, and 3) maintaining management positions for controlling shareholders despite their inadequate competence (Widagdo et al., 2023). In this vein, we offer a new approach to investigate whether FO moderates the existing relationship between WBoC and FP. Because women are more careful in making judgments, FO provides several opportunities for women to join corporate boards (D'Amato, 2017). FO has been widely applied to developing companies such as in Indonesia, and it has dominated businesses in Indonesia by more than 95% (Widagdo et al., 2023). The capital market in Indonesia is also relatively unique in that companies that go public are mainly controlled by FO (Darmadi, 2013).

According to research, FO can hinder firm performance (Bazhair & Alshareef, 2022). However, Amore, Pelucco and Quarato (2022) found that FO can potentially increase a company's success; thus, the authors were interested in FO as a moderating variable due to the conflicting results of FO studies on FP. The present study refers to studies by Amin, Ali, Rehman, Naseem and Ahmad (2022), García, Domingo and Martín (2022), and Abdullah and Ismail (2015). Amin et al. (2022) found that family ownership moderated the relationship between the presence of women in corporate governance and company performance. García et al. (2022) explored how female directors influence corporate performance, distinguishing between female family and non-family members on the board, while Abdullah and Ismail (2015) investigated if family ownership moderates the effectiveness of female directors and female audit committee members in reducing earnings management. In reference to these studies, we believe that our study has a unique contribution that differentiates it from previous studies, as it involves the inclusion of FO as a moderating variable in the influence of WBoC on FP. Additionally, the present study adopted a multi-theoretical framework that helps explain the various reasons that determine FP, whereas the previous studies only used one single theory. As a result, we offer new insights drawn from the agency theory, the recourse dependence theory (RDT), and the socioemotional welfare theory (SEW) to explain the impact of WBoC on FP, which is moderated by FO. Concomitantly, we provide significant additional knowledge to understand the dynamics of family businesses and their relationship with gender equality in the global context that keeps changing.

The complex issues that arise from FO-owned companies can positively impact FP (Al-Qatanani & Siam, 2021; Jabbouri & Jabbouri, 2021) and negatively impact business success (Widagdo et al., 2023). In addition, the involvement of WBoC, which has unique leadership in terms of the company's supervisory board, makes this study more interesting to carry out. The present study also seeks to fill the research gap by making valuable contributions to the scientific literature and developing a better understanding of the factors affecting FP. In this regard, we address two research questions: Do women board of commissioners have an effect on firm performance? Does family ownership moderate the influence of the existence of women board of commissioners on firm performance?

Studies on WBoC and FP have been extensively conducted in developed countries such as Italy (Flabbi, Macis, Moro & Schivardi, 2019), Iceland (Gudjonsson, Kristinsson, Gylfason & Minelgaite, 2020), Germany (Green & Homroy, 2017), Spain (Valls-Martínez & Cruz-Rambaud, 2019), Britain (Gong & Girma, 2021), and China (Ghafoor et al., 2022). However, researchers have yet to explore the relationship between WBoC and FP moderated by FO in developing countries. Therefore, this study aims to examine FO that moderates the relationship between gender diversity and FP in the context of developing countries such as Indonesia, which has different economic and cultural environments. The research sample includes 788 observations from companies listed on the Indonesia Stock Exchange between 2017 and 2021. Overall, the results showed that WBoC does not affect FP; however, FO strengthens the WBoC relationship in improving FP.

The present study is divided into five parts. The first part entails the introduction, while the second part entails the literature review and hypothesis development. The third part involves the methods, while the fourth part presents the results and discussion. The fifth part includes the conclusion and limitations.

2. Literature Review and Hypothesis Development

2.1. Agency Theory

Type 1 agency theory addresses the conflict of interest between principals and agents (Jensen & Meckling, 1976). Hence, the supervisory structure through the board of commissioners is needed to bridge the conflict of interest between shareholders and management. The board of commissioners serves as a corporate governance tool to reduce disputes between principals and management (Leyva-Townsend, Rodriguez, Idrovo & Pulga, 2021; Xu, Yang, Shan & Graves, 2022). The agency theory asserts that WBoC plays a monitoring role (Ataay, 2018;

Hatane et al., 2022). Women boards are more interested and conscientious in monitoring than men, and the agency theory highlights the monitoring behavior of female commissioners (Duppati, Rao, Matlani, Scrimgeour & Patnaik, 2020; Mubarka & Kammerlander, 2022). Other findings have also stated that empathetic, patient, and supportive female boards can increase FP (Kim, Kuang & Qin, 2020). For instance, in Russia, women are perceived as more empathetic, collaborative, and supportive than men (Kim et al., 2020). WBoC tends to be careful in monitoring management so that the company's operations become effective in improving firm performance (Leyva-Townsend et al., 2021). Thus, a balanced composition of the board of commissioners between men and women can create a unique diversity of experience, insight, and new knowledge so as to run the supervision process better (Chadwick & Dawson, 2018).

Type 2 agency theory indicates a conflict of interest between majority shareholders and minority shareholders (Panda & Leepsa, 2017). Majority shareholders can be demonstrated through the existence of family ownership. According to Darmadi (2013), family ownership dominates in Indonesia and is prone to agency conflicts. In this regard, family members play an important role in handling disputes between majority and minority shareholders (Setiawati, Putri & Nisa, 2022). Notably, the important role of family owners in corporate governance can strengthen the influence of WBoC on FP.

2.2. Resource Dependence Theory/RDT

In the RDT approach, the board of commissioners can advise managers and shape their strategic initiatives (Molinero-Díez, Blanco-Mazagatos, Garcia-Rodriguez & Romero-Merino, 2022). A balanced board of members from different groups, such as gender, is likely to improve the oversight process (Karim, Naeem & Ismail, 2022; Tleubayev, Bobojonov, Gagalyuk & Glauben, 2020). Based on the RDT, a more diverse board of commissioners is a valuable resource that effectively monitors and helps achieve better economic outcomes. Gender diversity in the board of commissioners can be shown by the presence of women board of commissioners (WBoC). Besides impacting the quality of the monitoring function and financial performance (Duppati et al., 2020; Hatane et al., 2022; Kumar et al., 2020), the presence of WBoC can also increase the efficiency of supervision, thereby increasing the competitiveness of a company and improving the company's performance (Xu et al., 2022).

2.3. Socioemotional Welfare Theory (SEW)

SEW is described as a non-financial or endowment element of the family owner (Kammerlander, 2022). According to the SEW, family ownership (FO) has distinguishing features such as long-term vision and the construction of intangible assets such as reputation or trust creation in stakeholder relations (Garcés-Ayerbe, Rivera-Torres, Murillo-Luna & Suárez-Gálvez, 2021). The five aspects of SEW on corporate performance are 1) family identification, 2) emotional attachment, 3) dynastic succession, 4) family control, and 5) family influence (Calabrò, Cameran, Campa & Pettinicchio, 2022; Sunon, Islam & Kabir, 2022). Families' desire to protect their social and emotional wealth enhances FO performance (Kammerlander, 2022; Sunon et al., 2022). As such, the role of WBoC in improving the effectiveness of monitoring involves the SEW framework on FO. From the viewpoint of SEW, as FOs become more concentrated, they become more risk-averse and, therefore, take fewer opportunities to maintain their family lineage and accumulate wealth.

2.4. Women Board of Commissioners (WBoC) and Firm Performance (FP)

The diversity of the board of commissioners is an important factor supporting the role of the board in achieving a company's objectives (Hatane et al., 2022). WBoC monitors the company effectively and provides various ideas to advise management, making the board more effective. Additionally, the existence of WBoC can guarantee the interests of stakeholders and shareholders, thus resulting in a harmonious relationship (Xu et al., 2022). Furthermore, to maintain investor confidence, attract foreign institutional investment, ensure market efficiency, and make better monitoring and transparency, companies may appoint WBoC (Amin et al., 2022). As a result of such monitoring by WBoC, which instills anxiety, management tends to not behave fraudulently and biasedly and this further improves the company's performance (Mubarka & Kammerlander, 2022; Ramadan & Hassan, 2022). Type 1 agency theory asserts that WBoC plays a monitoring role, thereby increasing FP (Ataay, 2018).

There is mixed empirical evidence on the role of WBoC in FP. For example, in Pakistan, WBoC at state-owned enterprises (SOE) was found to have a positive effect on FP (Ullah, Fang & Jebran, 2020). Meanwhile, Tran et al. (2022) found that increased gender diversity on boards of companies going public in Vietnam increased FP. There was also a strong relationship between the percentage of female board of commissioners and firm performance (Tleubayev et al., 2020). According to Saha and Maji (2022), WBoC has a positive impact on company performance. In the context of Egyptian companies, gender diversity on the board of commissioners positively affects firm performance, as measured by TQ. While Molinero-Díez et al. (2022) evidenced that women board of commissioners improve economic performance in companies in Germany, Mahsina and Agustia (2023) showed that board gender diversity has a positive effect on firm performance in companies that went public in Indonesia from 2017 to 2019. Assenga et al. (2018) also found that gender diversity has a positive impact on the financial performance of listed firms in Tanzania. However, in Kuwait, the presence of a board of women commissioners is not an effective mechanism to improve company performance (Al-Shammari & Al-Saidi, 2014). Gender diversity on the board of commissioners in China also has a negative influence on firm performance (Ghafoor et al., 2022), and it has no relation to the performance of agricultural companies in New Zealand (Roudaki, 2018). Nevertheless, based on resource dependence theory/RDT, the presence of WBoC can improve the monitoring function and increase firm performance (Duppati et al., 2020). Therefore, based on the findings of previous studies and the resource dependence theory, Type 1 agency theory, the following research hypothesis is proposed:

H1: Women board of commissioners has an effect on firm performance

2.5. Family Ownership (FO), the Existence of Women Board of Commissioners (WBoC), and Firm Performance (FP)

Family ownership involves one or more members of the same family, which not only shares equity but also manages day-to-day operations (Sunon et al., 2022). Investors cannot obtain governance information about the company directly, resulting in information asymmetric issues. Type 2 agency theory shows a conflict of interest between the majority shareholders represented by family ownership and the minority shareholders (Panda & Leepsa, 2017). In this regard, the effectiveness of the family corporate governance model must be handled carefully (Li, 2022). Evidently, there is a weak correlation between ownership structure and FP, while board characteristics have been found to strongly influence company performance based on the resource dependency theory (Karim et al., 2022). Other empirical findings have also suggested that ownership structure has a poor relationship with business success; however, board quality is strongly linked to company performance in Malaysia (Karim et al., 2022).

According to the resource dependence theory, having a diverse board of commissioners can improve monitoring, thus helping organizations improve their performance (Hatane et al., 2022). From the agency theory and the resource dependence theory, WBoC variables emerge. When associated with the socioemotional welfare theory (SEW), FO that aims to identify families and have emotional attachments as well as renewal of ties through dynastic succession can improve FP (Jain, Thukral & Paul, 2022; Kammerlander, 2022; Raithatha & Ladkani, 2022). The SEW also seeks to establish family control, as family involvement improves corporate performance (Sunon et al., 2022). Furthermore, women's involvement in companies with high family control particularly has a positive influence on company performance compared to companies with low family control (D'Amato, 2017). Based on these theories, FO possibly strengthens or weakens the influence of the existence of women board of commissioners on firm performance. Therefore, the following hypothesis is put forward:

H2: Family ownership moderates the influence of the existence of women board of commissioners on firm performance

3. Methods

3.1. Sampling and data collection

In this study, the population consists of all companies listed on the Indonesia Stock Exchange between 2017 and 2021, constituting a total of 3,195. The sampling criteria are 1) companies listed on the Indonesia Stock Exchange from 2017 to 2021 from the non-financial sector, and 2) companies that provide a complete annual report to accommodate all research variables used. The non-financial sector serves as the criterion because the financial statements of non-financial companies with financial companies have different formats and components, thus reducing bias if included in the research sample (Mahsina & Agustia, 2023). However, since most of the data presented in the annual report are not available to cover our variables, the final sample includes 788 observations using a pooled unbalanced sample after purposive sampling. The data used for this study can be accessed from the annual report of Indonesian companies going public (Indonesia Stock Exchange, 2022).

3.2. Research Framework and Measurement of Operational Variables

3.2.1. Research Framework

This study encompasses firm performance (FP) as the dependent variable, women board of commissioners (WBoC) as the independent variable, and family ownership (FO) as the moderating variable. In addition, the control variables constitute commissioner's size, independent commissioners, audit committee, firm size, firm age, and leverage, as depicted in the framework below.

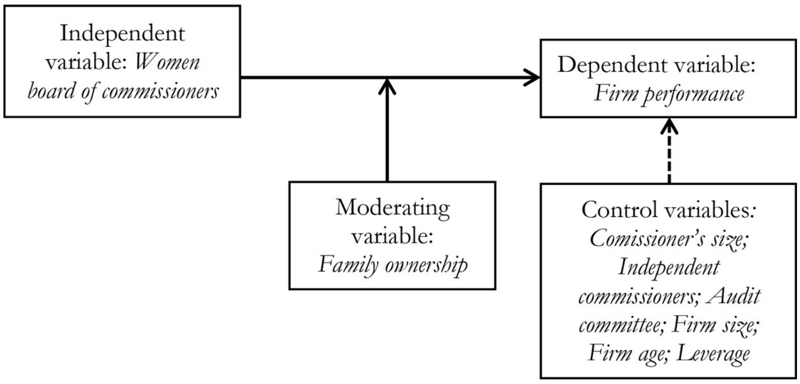

Figure 2. Research framework (2023)

3.2.2. Dependent Variable

Firm performance in this study refers to the studies by Leyva-Townsend et al. (2021) and Mastella, Vancin, Perlin and Kirch (2021) using Tobin's Q (TQ) measurement. TQ is measured by adding market value equity and total debt divided by total assets. Firm performance is also measured by return on assets (ROA) (Ben-Slama, Ajina & Lakhal, 2019). Accordingly, ROA is calculated by dividing earnings after taxes by total assets.

3.2.3. Independent Variable

The independent variable involves the existence of women board of commissioners (WBoC). WboC is measured using the Blau Index (Bin-Khidmat, Ayub-Khan & Ullah, 2020) and is calculated as follows:

$$\text{BIWBoC} = 1 - \sum_i^n p_i^2 \tag{1}$$

p denotes the proportion of board commissioners in each male and female category, while n symbolizes the total number of commissioners on board. Women board of commissioners is also measured using the proportion of women board of commissioners (PROWBoC) by dividing the number of women board of commissioners by the total board of commissioners. In addition, women board of commissioners is further measured by the total women board of commissioners (NWBoC).

3.2.4. Moderating Variable

In this study, the moderating variable is family ownership (FO), which is measured using dummy variables. The dummy variable is coded as "1" if the management owns shares and has affiliation with the founder of the company, and "0" if it does not own shares and has no affiliation with the founder.

3.2.5. Control Variables

As depicted in Figure 2, control variables consist of commissioner's size, independent commissioners, audit committee, firm size, firm age, and leverage. The commissioner's size is measured by summing up the board of commissioners (Kusumastati et al., 2022), while independent commissioners are measured by summing up the independent boards of commissioners (Halim, Mustika, Sari, Anugerah & Mohd-Sanusi, 2017). Subsequently, the audit committee is measured by summing up the audit committees (Al-Farooque, Buachoom & Sun, 2020), and firm size is measured by the natural logarithm of total assets (Sun & Zou, 2021). Finally, firm age is measured by the number of years from when the company was founded until now (Marashdeh, Alomari, Aleqab & Alqatamin, 2021), and leverage is measured based on the total debt divided by total assets (Ararat & Yurtoglu, 2021).

3.3. Data Analysis

Hypothesis testing using regression analysis with moderating variables (Solimun, Amalia & Fernandes, 2019) was conducted in the present study with an aim to examine the moderation effect of FO on the relationship between WBoC and FP. According to Jiang, Cherian, Sial, Wan, Filipe, Mata et al. (2021), regression with moderating variables as the basic methodology for estimating the following regression equation is as follows:

$$TQ_{i,t} = \beta_0 + \beta_1 BIWBoC_{i,t} + \beta_2 BIWBoC * FO + \sum_{i=1}^{n} \beta_n CV_{it} + \varepsilon_{it} \quad (2)$$

TQ, which refers to Tobin's Q, was used to measure FP. BIWBoC denotes the existence of women board of commissioners, measured with a Blau index. β_0 denotes the FP intercept, while β_1 denotes the BIWBoC coefficient and β_2 denotes the coefficient of the moderating variable (BIWBoC*FO). Next, $\sum^{n}_{i=1}\beta_n CV_{it}$ are the control variables used in this study, and ε_{it} denotes the standard error.

Hypothesis testing can be supplemented by the robustness test. The purpose of this test is to see the robustness of the research model being tested (Ghafoor et al., 2022). In this study, the robustness test was performed by substituting the proxy independent variable for the presence of WBoC using the proportion of WBoC (PROWBoC) and the number of WBoC (NWBoC). The robustness test was also performed by replacing the FP proxy with a short-term measurement, namely return on assets (ROA).

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive statistics are presented in Table 1, Table 2, and Table 3 below.

Variable	Obs	Mean	Std. Dev	Min	Max
TQ	788	1.50	1.72	0.12	21.64
ROA	788	0.03	0.12	-1.47	1.10
BIWBoC	788	0.39	0.09	0.00	0.50
NWBoC	788	1.28	0.58	1.00	4.00
PROWBoC	788	0.32	0.16	0.11	1.00
COMSIZE	788	4.49	2.12	2.00	18.00
INDCOM	788	2.13	1.37	0.00	10.00
AUDCOM	788	3.09	0.66	2.00	3.00
FIRMSIZE	788	29.12	2.06	20.90	35.56
FIRMAGE	788	36.81	19.11	4.00	126.00
LEVERAGE	788	0.51	0.43	0.01	8.34

Table 1. Descriptive Statistics

Number of women	Total observations	Frequency
1	613	77.79%
2	136	17.26%
3	32	4.06%
4	7	0.89%
Total	788	100%

Table 2. Frequency of PROWBoC

Table 1 shows the descriptive statistical results, averaging TQ and ROA at 1.50 and 0.03, respectively. The average diversity score of the board of commissioners (BIWBoC) was 0.39, while the maximum value of 0.50 indicates a low diversity score, with an average NWBoC score of 1.28 and a maximum value of 4. Table 2 shows that each observation had an average WBoC of 1 women representation at 77.79% and WBoC out of 788 observations with 4 women representation at most. Table 3 shows that 67.13% of the observations entail FO, which means that companies in Indonesia are dominated by FO.

	FO	
	Frequency	**Percentage**
0	259	32.87%
1	529	67.13%
Total	788	100%

Table 3. Dummy variable descriptive statistics

	BIWBoC	NWBoC	PROWBoC	FO	TQ	ROA	COMSIZE	INDCOM	AUDCOM	FIRMSIZE	FIRMAGE	LEV
BIWBoC	1.00											
NWBoC	0.23	1.00										
PROWBoC	0.49	0.54	1.00									
FO	0.10	0.12	0.01	1.00								
TQ	0.01	0.03	0.06	-0.10	1.00							
ROA	-0.07	-0.04	-0.07	-0.01	0.20	1.00						
COMSIZE	-0.61	0.26	-0.53	0.03	-0.01	0.10	1.00					
INDCOM	-0.44	0.07	-0.43	-0.03	-0.05	0.10	0.61	1.00				
AUDCOM	-0.16	0.00	-0.16	-0.08	-0.04	0.00	0.23	0.33	1.00			
FIRMSIZE	-0.36	-0.01	-0.41	-0.01	-0.13	0.11	0.46	0.43	0.21	1.00		
FIRMAGE	-0.22	0.06	-0.23	-0.09	0.01	0.05	0.37	0.34	0.26	0.32	1.00	
LEVERAGE	-0.01	-0.03	-0.06	-0.07	0.03	-0.05	0.03	0.02	0.08	0.06	0.11	1.00

Table 4. Correlation matrix

Table 4 shows the correlation matrix. Correlations must be assessed because there might be relationships between variables that correlate with each other between the independent variables. According to Livnat, Smith, Suslava and Tarlie (2021), the assumption is that there is no correlation if the value of the correlation coefficient is below 0.8. Based on the table, the correlation coefficients of all independent variables were less than 0.8. In other words, there is no correlation between the independent variables.

Multicollinearity problems can also be overcome using the variance inflation factor (VIF) test. Table 5 shows VIF values of less than 10. According to Hair, Black, Babin and Anderson (2018), VIF values of less than 10 show no multicollinearity. Therefore, the VIF test results concluded no multicollinearity problems in this study.

Variable	VIF
TQ	2.10
ROA	1.04
BIWBoC	2.72
PROWBoC	6.22
NWBoC	6.05
FO	1.06
COMSIZE	6.02
INDCOM	1.78
AUDCOM	1.22
FIRMSIZE	1.21
FIRMAGE	1.28
LEVERAGE	1.03

Table 5. Variance inflation factors

4.2. Women Board of Commissioners and Firm Performance

Model 1 in Table 6 illustrates the direct influence of WBoC on FP as measured by TQ. BIWBoC, NWBoC, and PROWBoC showed values with $p > 10\%$, indicating that BIWBoC, NWoC, and PROWBoC had no effect on TQ. These results do not support the first hypothesis, which states that the presence of WBoC has an effect on FP. Furthermore, although the results support the findings of previous studies (Hatane et al., 2022; Kumar et al., 2020; Shukeri et al., 2012; Wang et al., 2019), they do not support the proposed hypothesis because Indonesia does not have a special regulation stating that gender diversity is a requirement in the governance of companies that go public.

Hatane et al. (2022) found that board diversity in Indonesia does not have a significant impact on profitability. The role of women in Indonesia in companies that go public are not optimal due to the patriarchal culture in the country. Additionally, Kumar et al. (2020) were unable to find evidence of a significant relationship between the gender of the board of directors and the accounting performance of companies going public in India. In fact, the position of women in India is simply for adhering to gender quotas without any regard for their quality and expertise. Shukeri and Alfordy (2022) also found no significant relationship between gender diversity on the board of directors and financial performance. The representation of the board of directors in Saudi countries in companies that go public is driven by family relationships that control it; hence, their performance is less than optimal. Similarly, Wang et al. (2019) found that board diversity has no significant effect on firm performance. Companies in Pakistan have not promoted women to company leadership; the findings showed that most TQ values were lower than the mean score, i.e., less than 1.50, indicating that FP was declining. Such a decrease is related to the observation period in 2020 and 2021 during the Covid-19 pandemic.

The results of this study are in contrast with those in the context of developed countries where pro-diversity has a beneficial influence on FP. Indonesia is a developing country with different economic, legal, and cultural climates from developed countries (Darmadi, 2011). Notably, the greater the gender diversity in a company's ranks, the greater the difference of opinion and the more conflicts arise, thereby decreasing the company's performance (Adams & Ferreira, 2009; Wellalage & Locke, 2013).

In New Zealand, gender diversity causes conflicts due to multiple perspectives, resulting in a decrease in FP (Fauzi & Locke, 2012). The presence of women in companies also has a detrimental influence on FP because women are seen as less capable of making difficult decisions (Mínguez-Vera & Martin, 2011). However, the current results do not support those reported by previous studies (Dissanayake et al., 2021; Molinero-Díez et al., 2022; Tran et al., 2022), thus showing that WBoC positively affects FP.

Additionally, the results do not support the RDT, which states that the presence of WBoC improves monitoring function, thereby increasing FP. In fact, in Indonesian companies, the average of women board of commissioners is 1, which shows a low level of gender diversity on the board. Data also shows that the role of

SDGs proposed by the UN has been implemented in Indonesia although it is not optimal. Moreover, women's culture in Indonesia follows a patriarchal philosophy, which places men first in the leadership paradigm, followed by women (Hatane et al., 2022; Kim et al., 2020). Based on a study by Yuliana and Kholilah (2019), the presence of women in the executive ranks in Indonesia is still relatively small at 20%. Therefore, WBoC participation is still lacking in terms of training, supervisory capabilities, and contact with others. These results are also in line with Karim et al.'s (2022) study in which it was reported that gender diversity can cause internal group conflicts that hinder the decision-making process. Notably, most Indonesians are said to adhere to the patriarchal culture.

Variable	Model 1		Model 2	
	TQ		ROA	
	Coeff	P-value	Coeff	P-value
BIWBoC	0.04	0.82	0.21	0.14
NWBoC	-0.29	0.37	-0.08	0.12
PROWBoC	2.43	0.16	0.26	0.22
FO	-0.59	0.00***	-0.00	0.97
COMSIZE	0.11	0.07*	0.02	0.09*
INDCOM	-0.05	0.00***	0.01	0.04**
AUDCOM	-0.05	0.21	-0.01	0.00***
FIRMSIZE	-0.13	0.00***	0.01	0.25
FIRMAGE	0.00	0.37	0.00	0.69
LEVERAGE	0.01	0.64	-0.02	0.65
N	788		788	
F test	0.00		0.00	
R^2	0.42		0.41	

Description: Significant at ***1%, **5%, *10%

Table 6. Multiple regression

4.3. Family Ownership, the Existence of Women Board of Commissioners, and Firm Performance

Based on Model 1 in Table 7, FO moderation on the impact of WBoC on TQ was tested. The BIWBoC*FO regression coefficient against TQ had a positive value and a p-value of < 10%, while the FO coefficient had a positive value and a p-value of < 10%. From the above analysis, it can be concluded that FO amplifies the impact of the presence of WBoC on FP. Accordingly, these data indicate that the second hypothesis is accepted. Furthermore, in reference to Solimun et al. (2019), these findings suggest that the moderating variable of FO is classified as quasi-moderation. Therefore, the presence of the FO variable can act as an independent variable and a moderating variable.

Based on existing data, the proportion of FO in Indonesia is relatively large at 67.13%. The results of this study support the SEW that FO is able to control companies. According to the SEW, the role of FO in controlling a company in the long run has positive consequences towards firm performance (Calabrò et al., 2022; Sunon et al., 2022). The phenomenon of family companies dominating public listed companies in Indonesia also encourages shareholders to place women on the board of commissioners. In accordance with the RDT, a diverse board of commissioners from a gender point of view entails a company's resource that can carry out effective supervision to improve firm performance (Karim et al., 2022; Tleubayev et al., 2020). Moreover, the current results are in line with the study conducted by Ramadani, Hisrich, Anggadwita and Alamanda (2017), which argues that FO management in Indonesia's main cities has involved women in FO management because of the patient, tenacious, and thrifty character of women, which will benefit companies. As a result, more access to women involvement in the current era of globalization is needed in order to join the world of corporate management as FO controllers.

The robustness test was performed using alternative independent variable measurements of the presence of WBoC using NWBoC and PROWBoC, while the measurement of the dependent variables was based on ROA alternatives. Model 1 in Table 6 shows the consistency of results for WBoC. By measuring the amount of women board of commissioners or by using the proportion of women board of commissioners, FO is able to strengthen the influence of WBoC on TQ. Likewise, the robustness test performed on Model 2 with the dependent ROA variables also showed robust results.

Model 2 in Table 7 shows the proportion of WBoC to ROA. BIWBoC increased ROA with a positive coefficient and a p-value of < 10%. The test results are consistent with the tests performed by past researchers (Ghafoor et al., 2022; Karim et al., 2022). Generally, ROA becomes higher as WBoC increases. Besides, BIWBoC*FO, PROWBoC*FO, and NWBoC*FO tests on ROA showed significant results. FO showed a positive coefficient and was insignificant, which means that FO demonstrated pure moderation. According to Solimun et al. (2019), pure moderation indicates the existence of a moderating variable as a moderating variable only and does not act as an independent variable.

	Model 1		Model 2	
	TQ		ROA	
Variable	Coeff	P-value	Coeff	P-value
BIWBoC	0.04	0.97	0.22	0.03**
NWBoC	-0.29	0.12	-0.14	0.12
PROWBoC	2.43	0.00***	0.33	0.11
FO	0.59	0.08*	0.02	0.71
BIWBoC*FO	2.93	0.02**	0.08	0.01***
NWBoC*FO	0.32	0.09*	0.10	0.08*
PROWBoC*FO	4.04	0.00***	0.22	0.00***
COMSIZE	0.11	0.00***	0.01	0.11
INDCOM	-0.05	0.02**	0.00	0.14
AUDCOM	-0.05	0.45	-0.00	0.04***
FIRMSIZE	-0.13	0.00***	0.00	0.24
FIRMAGE	0.00	0.25	0.00	0.40
LEVERAGE	0.01	0.54	-0.01	0.75
N	788		788	
F test	0.00		0.00	
R^2	0.43		0.42	

Description: Significant at ***1%, **5%, *10%

Table 7. Moderating Role of FO

4.4. Additional Analysis

The number of WBoC is denoted by NWBoC. Based on Table 2, it is evident that the number of board of commissioners with 1 woman member had the largest portion at 78%. Meanwhile, the remaining 22% had a board of commissioners with more than or equal to 2 women members.

The model for NWBoC = 1 against TQ shows a significant p-value, which means that WBoC with 1 woman member has a negative effect on TQ. When the sample is broken down based on the number of female members in the board of commissioners, it shows that companies that only have one woman member on the board of commissioners have lower TQ. Although the results do not support H1, they are consistent with Adams and Ferreira's (2009) finding in which the existence of one female member of the board of commissioners led to a decrease in firm performance. Field data also shows that 77% of the samples are dominated by companies that only have one female member on the board of commissioners. Companies only have one female board member when they have a good idea but do not get good support from their work environment, thus decreasing firm performance. Likewise, when moderated with FO, it was found that FO was unable to moderate the influence of WBoC on ROA.

The model for NWBoC ≥ 2 to TQ shows a positive and significant correlation. Specifically, the results showed that a board of commissioners that has more than or equivalent to 2 women members had a positive effect on TQ. The findings of this study are consistent with previous research (Brahma, Nwafor & Boateng, 2021; Tleubayev et al., 2020). Generally, the higher the NWBoC, the higher the FP. The findings are also consistent with the critical mass hypothesis, which argues that having more than or equal to two women on board can increase FP (Garanina & Muravyev, 2021). However, when interacting with FO, the relationship between WBoC and TQ shows the inability of FO to moderate the influence of WBoC on TQ. However, these test results are consistent if the TQ proxy is changed to ROA.

	NWBoC = 1				NWBoC ≥ 2			
	TQ		ROA		TQ		ROA	
Variable	Coeff	P-value	Coeffi	P-value	Coeff	P-value	Coeffi	P-value
BIWBoC	-4.82	0.02**	-0.24	0.54	4.39	0.05**	0.50	0.01**
PROWBoC	4.31	0.07*	0.23	0.20	5.36	0.00***	0.56	0.01**
FO	-1.06	0.03**	0.07	0.04**	1.17	0.64	0.03	0.64
BIWBoC*FO	7.77	0.01**	-0.12	0.59	0.06	0.99	-0.11	0.48
PROWBoC*FO	-7.62	0.02**	-0.08	0.74	-4.56	0.03**	-0.06	0.61
COMSIZE	-0.03	0.75	-0.00	0.83	0.30	0.00***	0.03	0.07*
INDCOM	-0.01	0.69	0.00	0.37	-0.12	0.03**	-0.12	0.01***
AUDCOM	-0.06	0.37	-0.01	0.00***	0.04	0.89	0.00	0.81
FIRMSIZE	-0.13	0.00***	0.00	0.95	-0.11	0.00***	0.02	0.02**
FIRMAGE	0.01	0.18	-0.01	0.32	-0.01	0.34	-0.00	0.27
LEVERAGE	0.58	0.14	-0.01	0.86	-0.29	0.48	-0.01	0.85
N	613		613		175		175	
F test	0.00		0.00		0.00		0.00	
R^2	34.61		35.29		21.32		21.38	

Description: Significant at ***1%, **5%, *10%

Table 8. Robustness test: Alternative measurement of NWBoC

	TQ											
	Service Companies				Manufacturing Companies				Miscellaneous Companies			
Variable	Coeff	P-value	Coeff	P-value	Coeff	P-value	Coeff	P-value	Coeff	P-value	Coeff	P-value
BIWBoC	-0.23	0.11	-0.66	0.00***	-2.96	0.17	-8.80	0.03**	-0.02	0.84	0.26	0.32
BIWBoC*FO			0.73	0.01**			8.02	0.09*			-0.44	0.16
FO	-0.40	0.00***	-0.76	0.00***	-6.31	0.00***	-8.72	0.00***	-0.46	0.00***	-0.34	0.04**
COMSIZE	0.09	0.84	0.00	0.99	0.12	0.87	0.16	0.84	0.12	0.02**	0.12	0.02**
INDCOM	-0.08	0.27	0.09	0.18	0.43	0.70	0.45	0.69	-0.05	0.39	-0.05	0.35
AUDCOM	-0.13	0.21	-0.12	0.26	0.64	0.68	0.65	0.68	-0.19	0.09*	-0.19	0.09*
FIRMSIZE	-0.20	0.00***	-0.20	0.00***	-3.79	0.00***	-3.84	0.00***	-0.10	0.02**	-0.09	0.03**
FIRMAGE	0.01	0.05**	0.01	0.04**	0.02	0.67	0.03	0.56	-0.02	0.00***	-0.02	0.00***
LEVERAGE	-0.24	0.14	-0.21	0.20	1.09	0.00***	1.07	0.00***	1.51	0.00***	1.51	0.00***

Description: Significant at ***1%, **5%, *10%

Table 9. Robustness test: Classification by type of company

Table 9 depicts the effect of WBoC on FP if the sample is grouped into three types of companies, namely services, manufacturing, and miscellaneous companies. The sample of service companies shows that the presence of WBoC did not affect FP, but FO strengthened the WBoC relationship in reducing FP. The sample of manufacturing companies also showed relevant evidence; the test results prove that the model had strong durability. Overall, the results do not support H1 but support H2. However, the case is different for a sample of miscellaneous companies, as FO was found to be unable to moderate the relationship between WBoC and FP. Therefore, both H1 and H2 are not supported.

5. Conclusions and Limitations

This study has several new contributions to the literature. First, in the role of WBoC in supervising companies and increasing FP, the inclusion of WBoC had no effect on FP as measured by TQ and ROA. This is attributed to the culture of women in Indonesia, which adheres to patriarchy and believes that men deserve to be placed in important positions in businesses (Hatane et al., 2022).

Second, in terms of whether companies with one female board member and companies with two or more female board members have an effect on FP, the findings showed that companies that have one female member on the board of commissioners had a negative effect on TQ but no effect on ROA.

The third research contribution involves examining whether gender diversity in different types of industries can influence FP. Gender diversity had a negative effect on TQ in service companies and manufacturing companies, but it had no effect on miscellaneous companies. Meanwhile, the fourth contribution involves investigating the role of FO in strengthening the relationship between the presence of WBoC and FP. Indeed, FO strengthens the presence of WBoC in increasing TQ and ROA.

Subsequently, the present study contributes to the literature by examining the effect of FO moderation on how WboC affects FP if the research sample is grouped into categories of 1) companies that only have 1 woman board of commissioner member and 2) companies that have more than or equal to 2 women board of commissioner members. Evidently, the findings showed that FO was able to strengthen the influence of women board of commissioners consisting of one person on TQ, but it had no effect on ROA. Furthermore, companies that have two or more women board members had an influence on TQ and ROA. Additional findings have also shown that FO could not moderate the influence of women board of commissioners consisting of two or more members on TQ or ROA.

The sixth research contribution involves examining the effect of FO moderation on how WboC affects FP if the research sample is grouped into three types of industries, namely services, manufacturing, and miscellaneous. Based on the findings, FO strengthened the influence of WBoC in reducing TQ in service companies and manufacturing companies, but it had no effect on miscellaneous companies.

Finally, this study involves FO as a moderating variable in the influence of WBoC on FP by adopting a multi-theoretical framework (agency theory, resource dependence theory (RDT), and socioemotional welfare theory (SEW)), which helps explain the various reasons that determine FP.

In essence, the findings of this study can be utilized by companies that go public, especially in considering the presence of women in company supervision. Gender equality in the board of commissioners, in accordance with the UN sustainable development goals (SDGs), should be implemented in Indonesia. When women are included on corporate boards, policymakers and practitioners should pay attention to the human capital component. They must also be prepared with the necessary knowledge, competence, and skills to carry out supervisory functions in the company.

The following entails some limitations of this study: 1) the observation data using panel data was unbalanced; 2) the study took place during the Covid-19 pandemic, thus resulting in bad FP; 3) since the study sample covers all types of companies, the findings cannot be limited; and 4) only dummy variables were used to assess the characteristics of FO. In view of these, future studies may emphasize gender equality in Indonesia, which should be viewed not only from the gender perspective but also in terms of age and educational variation (Hatane et al., 2022). Future studies may further assess the FO factor using share ownership percentages (Afonso-Alves, Matias-Gama & Augusto, 2021) and consider the moderating effect found for family ownership. Analyzing WBoC as family members or independent members may be interesting since their ability to influence board decisions may differ according to this characteristic.

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