Impact of Boards Gender Diversity on Firm Profitability: Evidence from Food and Beverages Sector of Indonesia

Triasesiarta Nur
Finance Program, Accounting Department
School of Accounting
Bina Nusantara University
Jakarta, Indonesia
triasesiarta.nur@binus.ac.id

Quinnshe Darvin
Finance Program, Accounting Department
School of Accounting
Bina Nusantara University
Jakarta, Indonesia
quinnshe.darvin@binus.ac.id

Abstract

This study investigates if gender diversity on boards effectively drives firm profitability. For this purpose, this study uses two periods, before and during COVID 19 – Pandemic, to analyze how gender diversity existence strengthens or weakens the impact of the Board of Commissioners (BOC), Board of Directors (BOD), Independent Commissioner (IC) and Directors (ID) on firm profitability. This study also analyzed how BOC, BOD, IC, and ID influence firm profitability. The sample of this study consists of 40 Food and Beverage companies listed on the Indonesian Capital Market from the period 2011 - to 2021. The research models were estimated using panel data regression. The result shows that before Covid 19 – Pandemic, BOC and BOD had a significant negative impact on firm profitability. In contrast, IC and ID had a positive and significant impact on firm profitability. The existence of women in BOC, BOD, and as independent commissioners do not moderate the impact of BOC, BOD, and IC on firm profitability, while female directors had a positive role in moderating the impact of ID on firm profitability. During the Pandemic, BOD did not influence firm profitability, while BOC and ID had a negative influence, and IC positively influenced firm profitability. Interestingly during a pandemic, the existence of women in BOC and BOD negatively moderates the influence of the BOC and BOD on firm profitability. On the contrary, the women's role as independent commissioners and director positively moderates the influence of independent commissioners and directors on firm profitability.

Keywords
Gender diversity, Board of Commissioner, Board of Director, Independent Commissioner, Independent Director.

1. Introduction
One primary subject that draws widespread interest and controversy in discussing corporate governance is diversity, as gender representation on boards of directors. Gender diversity on corporate boards is becoming more of a concern, leading to the development of numerous legislation and policies to encourage female board nomination and participation around the world (Brahma, Nwafor, & Boateng, 2021). Gender diversity is increasingly seen as a value-driver and essential differentiator, as talented women directors could offer significant value to board decision-making. Nonetheless, the degree of diversity differs among countries. Female directors in firms listed on Bursa Malaysia significantly and negatively affect firm performance (Kweh, Ahmad, Ting, Zhang, & Hassan, 2019). While several other research found that gender diversity has significant positive effects on firm profitability (Duppati, Rao, Matlani, Scrimgeour, & Patnaik, 2020). In comparison, other studies have found that

gender diversity has a significant positive impact on firm profitability (Duppati et al., 2020).

This article adds to the body of knowledge in this field by investigating the role of gender diversity in improving firm performance through the presence of women on boards of directors and commissions. Gender diversity on the Board improves board communication and the board monitoring process. Board independence can be used as a good corporate governance mechanism. However, a few empirical studies, such as those (Hsu & Wu, 2018), discovered that board independence increases the likelihood of corporate failure. (Kweh et al., 2019) investigated the impact of gender diversity on board performance and discovered that the number of women on boards has a significant negative impact on firm performance. (Budiyono & Maryam, 2017) investigated the moderating effect of the presence of women on the Board of directors in the consumer goods industry listed on the Indonesia Stock Exchange from 2015 to 2019 and discovered that gender diversity reduces the effect of EVA on firm value.

The disadvantages of having independent directors can be mitigated by having female directors. Female directors are more likely than independent directors to engage in independent thinking and diligence in governance. As a result, this study investigates the interactive effects of female directors, female commissioners, and female independent directors and commissioner on firm profitability. The analysis was carried out both before and during the pandemic. The study was conducted in Indonesia, and the industry chosen was Food and Beverage (F&B), which can withstand a pandemic. In the second quarter of 2021, F&B was the largest contributor to the non-oil and gas processing industry sector, accounting for 38.42 percent and contributing 6.66 percent to the national Gross Domestic Product (GDP). This strategic sector's cumulative achievement in exports was also outstanding, reaching USD19.58 billion, a 42.59 percent increase over the same period the previous year, recorded at USD 13.73 billion (Ministry of Industry of the Republic of Indonesia, 2021). Because of its critical role in meeting people's food needs, the F&B industry must maintain its stellar performance during the Covid-19 pandemic.

According to data from the Central Statistics Agency (BPS), the female labor force participation rate in 2021 was 54.03 percent, while the male labor force participation rate was 82.14 percent. Furthermore, according to BPS data for 2020, the proportion of women in managerial positions is 33.08 percent. According to an ILO survey in 2020, the proportion of Indonesian female Chief Executive Officers (CEOs) is 15 percent. Meanwhile, according to the results of the 2020 census, women account for nearly half of Indonesia's population (BPS, 2021). The two research questions are as follows: first, are female board representation in Indonesian F&B firms capable of increasing firm profitability, or does the presence of women reduce firm profitability? This study adds to the literature by comparing the role of female directors and commissioners in increasing firm profitability in two time periods: before and during COVID 19.

2. Literature Review

2.1 Board size and Firm Profitability

Corporate boards of directors play a critical role in modern company governance, so understanding this relationship is critical to understanding corporate governance. Much of the public discussion about board structure has centered on calls for smaller board sizes. It is argued that, while larger board sizes initially facilitate important board functions, larger boards eventually suffer from coordination and communication issues. Thus, board effectiveness (and firm performance) suffers (Jensen, 1993). The empirical evidence (discussed below) supports this viewpoint, with most studies demonstrating a significantly negative relationship between board size and corporate performance. If a larger board size "causes" poor performance, then larger boards represent inefficient governance that could be improved by a "one size fits all" approach to board size. For example, influential scholars have argued that board size should be limited to 8 or 9 members (Jensen, 1993). As a result, the findings have important regulatory implications.

However, large boards eventually have disadvantages in the form of coordination costs and free-rider issues. Firstly, coordination and communication issues occur as it becomes more challenging to plan board meetings and obtain consensus, resulting in slower and less efficient decision-making (Jensen, 1993). Second, board cohesion suffers because board members are less likely to share a shared goal, communicate appropriately with one another, and establish an agreement based on the directors' differing points of view. Third, director free riding grows when the cost to any particular director of failing to exercise diligence decreases in proportion to board size. When board size exceeds a particular threshold, these inefficiencies offset the early benefits of having more directors to draw from, resulting in lower corporate performance. (Lipton & Lorsch, 1992) argue that a board size of eight or nine directors is optimal, whereas (Jensen, 1993) believes that a board size of seven or eight directors is optimal. As a result, any adverse effect of a large board size is more likely to reflect difficulties in carrying out the advisory role than difficulties in carrying out the monitoring job (Yan, Hui, & Xin, 2021).

The Board of Commissioners (BOC) is GCG's internal system for controlling and overseeing management behavior in the firm's management to align the interests of shareholders and company managers. The Board of Commissioners (BOC) is the core of GCG. It is entrusted with assuring corporate strategy and monitoring managers in managing the company; hence BOC has a potent influence on firm value. Furthermore, (Setiawan, Handiliastawan, & Jafar, 2020), discovered that the Board of Commissioners had a positive impact on firm value. (Sutrisno, 2020) proved that Board of commissioners has a significant but negative effect on firm value.
Hypothesis 1a: Board of Directors influences firm profitability before and during COVID 19- Pandemic
Hypothesis 1b: Board of Commissioners influences profitability before and during COVID 19- Pandemic

2.2 Board Independence and Firm Profitability

According to agency theory (Fama & Jensen, 1983) independent directors work in the best interests of shareholders since they have close control over corporate activities and usually have less cooperation with management. It is commonly recognized that independent board members have a reputation for protecting the interests of shareholders. On the other hand, dependent directors are more affected by the CEO, who provides them with personal rewards, particularly those related to their career. Nonetheless, independent directors might have a negative impact on a company's internal governance if they have a covert relationship with management. According to research, external board directors are less likely to commit fraud. Agency theory indicates that an external board of directors should effectively oversee top management and the Board itself. (Krause, Li, Ma, & Bruton, 2019) considers independent board directors to be completely independent of management.

The two most essential functions of the Board of directors are advising and monitoring. The advisory function involves the provision of expert advice to the CEO and access to critical information and resources (Fama & Jensen, 1983). Those roles are performed by both insiders and outsiders, although Fama and Jensen (1983) note the importance of outside directors, who bring valuable expertise and potentially essential connections. The advantage of a larger board size is the more excellent collective information that the Board subsequently possesses, and hence larger boards will lead to higher performance (Guest, 2009). Secondly, the Board has the responsibility to monitor, discipline, and remove ineffective management teams, to ensure that managers pursue the interests of shareholders. Insiders are a significant source of firm-specific shareholders for the Board. Still, their aims may be distorted due to private gains and a lack of independence from the CEO. Outsiders are more independent than insiders and provide better oversight, although they are less aware of the firm's activities.

One advantage of appointing independent directors is that they are not influenced by management and are entirely independent of them. According to some academics, regulators, and investors, an independent board of directors is an important corporate governance tool for monitoring management. They cannot, however, prevent business scandals from occurring. Maximizing shareholder value necessitates effective corporate governance systems that improve a firm's economic efficiency. Investors typically desire more independent directors on the Board. The Board of directors is positively related to corporate profitability. Similarly, board independence is beneficial to profitability (Mihail, Dumitrescu, Micu, & Lobda, 2021); (Farhan, Tabash, Almaqtari, & Yahya, 2020).

Agency theory discusses the conflicts of interest that might arise between the principle (owner) and the agent (administration). According to this theory, firms with a large number of independent directors on their board can improve their performance because these directors are outsiders with no critical interests in the firm and can monitor and advise managers, who can then encourage and influence shareholder interests. Independent directors who typically hold numerous board memberships are overburdened, resulting in poor firm performance. Because they lack formal authority, independent directors may be unable to persuade CEOs to perform acts on their behalf (Rashid, 2018). Independent directors have unique experiences and expertise gained from other firms, and these resources can assist firms raise their profit and achieve success. However, because independent directors lack insider information about their companies, they may be unable to accomplish their assigned job.

Upper echelons theory describes how leaders' behavior, experience, and values can affect business success. Empowering independent directors may improve efficient oversight and increase business value. CEOs may not employ their expertise and skills in the boardroom. In other words, board independence may be ineffective in improving firm performance. As a result, when making choices, independent directors must use their expertise, talent, and knowledge (Kweh et al., 2019).

Hypothesis 2a: Independent Commissioner influences firm profitability before and during COVID 19 – Pandemic

Hypothesis 2b: Independent Directors influences firm profitability before and during COVID 19 – Pandemic

2.3 Board Gender Diversity and Firm Profitability

The Board of directors is responsible for safeguarding and promoting the interests of shareholders, consumers, suppliers, employees, society, the environment, and dealing with financial issues. Female directors are more concerned with the sensitivity of their stakeholders than their male counterparts and make better judgments that can contribute to good company performance. Gender diversity on corporate boards can also strengthen corporate governance. Because of the unique expertise information and variety of experiences, talents, and networks of gender-diverse boards, various nations' number of studies on board gender diversity and company performance has expanded in recent years (Kweh et al., 2019). This viewpoint is reinforced by (Duppati et al., 2020), their findings indicate that gender diversity has a favorable and significant impact on financial success. Female directors have a more significant favorable impact on business performance, particularly in enterprises controlled by legal entities. Female directors in controlling firms spend significant effort to monitor and enhance their firms' operations and financial performance.

In contrast, (Kweh et al., 2019) discovered that board gender diversity might have a negative impact on firm performance. Existing empirical data indicates that female directors are more cautious than their male colleagues when making crucial organizational decisions. (Roe et al., 2022) demonstrated that board gender diversity did not affect the performance of Amman Stock Exchange nonfinancial companies. (Pletzer, Nikolova, Kedzior, & Voelpel, 2015) found a negative association between female directors and business performance due to these directors' lack of skills and expertise in monitoring their firms' performance. They also stated that female directors might be hired primarily on their familial links rather than their level of skill and experience.

2.4 The moderating role of board gender diversity on the influence of Board of Commissioners, Board of Directors, Independent Commissioners, and Independent Directors on Firm Profitability.

Several studies have emphasized the importance of having women on boards. Advocates for gender diversity on boards argue that incorporating female members boosts a firm's competitive advantage in cost savings, energizes the company, and more outstanding communication across different levels of the organization and among board members (Naeem, Karim, Nor, & Ismail, 2022). Compared to all-male boards, diversity on the Board provides potential job possibilities, attracts more qualified employees, and serves the organization better (Ali, Wang, Jebran, & Ali, 2020). This study is notable because it evaluated the effect of female directors in corporate governance and CSP and determined that women are more caring about the environment, community, and society.

According to the upper echelons theory, women differ intellectually from males; their prior knowledge, experience, and values also differ when making strategic decisions that eventually improve a firm's long-term performance (Naeem et al., 2022). As a result, it is envisaged that choices made by boards of directors on CSP will change depending on their gender composition. Women tend to moderate the association between corporate governance and corporate sustainability since their values are matched with enterprises' social and sustainable activities. Furthermore, women contribute expertise and knowledge to the board, which may have strategic consequences for corporations in terms of long-term success, philanthropy, and community involvement. Evidence supporting board gender diversity arguments emphasizes the critical role of female directors on the board in the relationship between a firm's corporate governance and CSP. Based on the preceding reasons, we suggest the following non-directional hypothesis: This may have strategic ramifications for corporations in terms of long-term performance, philanthropy, and community-related activities. Evidence supporting board gender diversity arguments emphasizes the important role of female directors on the board in the relationship between a firm's corporate governance and CSP. Based on the foregoing, the proposed hypothesis:

H3a. The existence of female commissioner on Board of Director significantly moderates the impact of BOD on Firm Profitability before and during COVID 19- Pandemic

H3b. The existence of female director on Board of Commissioner significantly moderates the impact of BOC on Firm Profitability before and during COVID 19- Pandemic

H3c. The existence of female commissioner significantly moderates the impact of IC on Firm Profitability before and during COVID 19- Pandemic

H3d. The existence of female director significantly moderates the impact of ID on Firm Profitability before and during COVID 19- Pandemic

3. Methods

3.1 Population and Sample

This study's population consists of Food and Beverage companies listed on the Indonesian Capital Market. Purposive sampling was used to choose 40 companies with the criteria of publishing complete periodic yearly reports during the observation period. The data requested is a 10-year annual financial report (2011-2021). The samples were divided into two groups in order to examine the behavior of company profitability prior to pandemic Covid 19 (2011-2019) and during Covid 19 (Period of 2020-2021).

3.2 Research Variables

This study includes one dependent variable, firm profitability, five independent variables (board of commissioners, board of directors, independent commissioner, independent directors), three controlling variables (firm size, firm liquidity, and leverage), and two moderating variables (board gender diversity of Board Commissioner and Board of Director). The research definitions variable and methods to measure it are shown in Table 1. The conceptual framework of this research can be seen in Figure 1.

Table 1. Definition of variables

Abv.	Variable	Measurement
ROE	Firm Profitability	Net Income/Total Equity
ROA	Firm Profitability	Net Income/Total Assets
GPM	Firm Profitability	Gross profit/Sales
NPM	Firm Profitability	Net Profit/Sales
BOC	Board of Commissioner size	Number of Commissioner
BOD	Board of Director size	Number of Director
IC	Independent Commissioner	Number of Independent Commissioner
ID	Independent Director	Number of Independent Directors
BOCR	Board gender diversity in Board of commissioner	Number of Women Commissioner/Number of Commissioner
BODR	Board gender diversity in Board of director	Number of Women Director /Number of Directors
FSIZE	Firm Size	Natural logarithm of total assets
WCR	Working Capital Ratio/ Firm Liquidity	Current Asset-Current Liabilities/Total Assets
DTA	Leverage	Total Debt/Total Assets

3.3 Model Specification

Panel regression models are built for this study as they can capture more information compared with single cross-section and time series data. The equations are as follows:

$$ROE_{it} = \beta_0 + \beta_1 BOC_{it} + \beta_2 BOD_{it} + \beta_3 IC_{it} + \beta_4 ID_{it} + \beta_5 BOC_{it} * BOCR_{it} + \beta_6 BOD_{it} * BODR_{it} + \beta_7 IC_{it} * BOCR_{it} + \beta_8 ID_{it} * BODR_{it} + CONTROLS_{it} + \varepsilon_{it} \quad \text{.......(1)}$$

$$ROA_{it} = \beta_0 + \beta_1 BOC_{it} + \beta_2 BOD_{it} + \beta_3 IC_{it} + \beta_4 ID_{it} + \beta_5 BOC_{it} * BOCR_{it} + \beta_6 BOD_{it} * BODR_{it} + \beta_7 IC_{it} * BOCR_{it} + \beta_8 ID_{it} * BODR_{it} + CONTROLS_{it} + \varepsilon_{it} \quad \text{.......(2)}$$

$$GPM_{it} = \beta_0+\beta_1 BOC_{it}+\beta_2 BOD_{it}+\beta_3 IC_{it}+\beta_4 ID_{it} + \beta_5 BOC_{it} * BOCR_{it} + \beta_6 BOD_{it} * BODR_{it}+\beta_7 IC_{it} * BOCR_{it} + \beta_8 ID_{it} * BODR_{it} + CONTROLS_{it} + \varepsilon_{it} \quad \text{(3)}$$

$$NPM_{it} = \beta_0+\beta_1 BOC_{it}+\beta_2 BOD_{it}+\beta_3 IC_{it}+\beta_4 ID_{it} + \beta_5 BOC_{it} * BOCR_{it} + \beta_6 BOD_{it} * BODR_{it}+\beta_7 IC_{it} * BOCR_{it} + \beta_8 ID_{it} * BODR_{it} + CONTROLS_{it} + \varepsilon_{it} \quad \text{(4)}$$

Where β is the coefficient of Board of Commissioner (BOC), Board of Director (BOD), Independent Commissioner (IC), Independent Director (ID) and the vector of firms control variables (liquidity, leverage, and firm size). ε_{it} depics the error term for firm *i* at time *t*. The above models can be estimated to examine the relationship amongst board size, board independence, board gender diversity and firm profitability both in two research period: before and during Covid 19-Pademic. This study uses four proxies for firm profitability: Return on Equity, as the primary measurement, and three other proxies used for robustness: Return on Assets, Gross Profit Margin and Net Profit Margin.

This research consists of one dependent variable, firm profitability, five independent variables consisting of the board of commissioners, board of directors, independent commissioner, independent directors, three controlling variables: firm size, firm liquidity, and leverage, two moderating variable of Board Gender diversity of Board Commissioner and Board of Director.

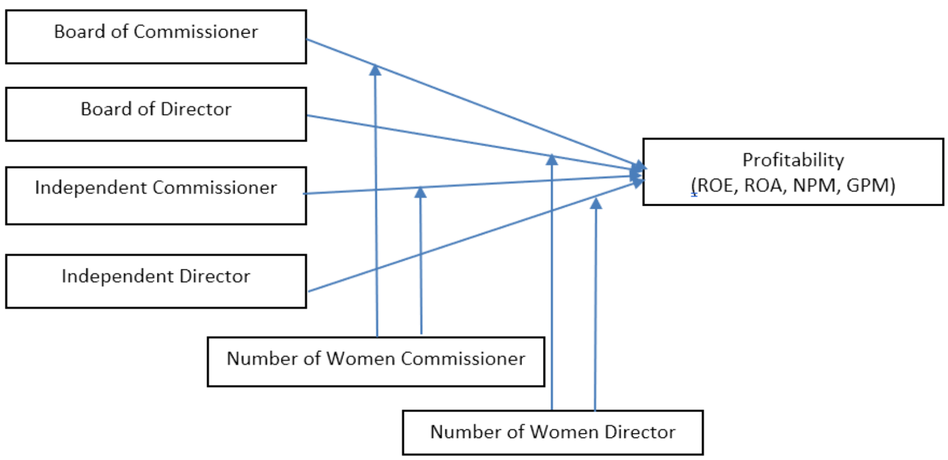

Figure 1 Conceptual Framework

3.4. Analysis Technique

The models were estimated using panel data regression. Panel data regression analysis is used to test hypotheses in this study. In panel data analysis, the optimum model must be selected from three options: common effect, fixed effect, or random effect. The results of calculations using the e-Views of each model. The following steps are required to determine which of the three models is the best. The first stage is to use the Chow test to select between the common effect model and the fixed effect; if the results of the common effect model are better than the fixed effect, the second step is to use the Lagrange Multiplier test to choose between the common effect model and the random effect. If the findings are random, the best model is the random effect. The third step is to use the Hausman test to select the best model from the fixed and random effects. The models presented are those chosen based on the Chow, Hausman, and Lagrange tests.

4.Result and Discussion

4.1 Descriptive Statistics

The description of the research data in the form of minimum, maximum, mean and standard deviation values processed by e-Views 11, can be seen in Table 2 and Table 3. The values of the research variables before and during Covid 19 - Pandemic are similar, except the Return on Equity and Return on Assets. ROE show a decrease in mean, from 0.2239 to 0.1361, meaning a significant decrease of firm net income. The same thing also applies for ROA which has a decrease mean from 0.1191 to 0.094. this decrease as a sign of significant decrease in firms' net income during Covid 19 – Pandemic. The other two profitability proxies show similar values, because both net profit to sales and gross profit to sales might decrease proportionally.

Table 2 Descriptive Statistics Before Covid 19 – Pandemic
(BOC, BOD, IC, ID, BOCR, BODR)

	BOC	BOD	IBOC	IBOD	WBOCR	WBODR
Mean	4.2019	5.9615	1.7596	0.4711	0.1652	0.1494
Median	4.0000	5.0000	1.0000	0.0000	0.0000	0.1250
Max	8.0000	13.000	4.0000	2.0000	0.6666	0.6000
Min	2.000	2.000	0.0000	0.0000	0.0000	0.0000
St. Dev	1.6627	2.1896	0.9398	0.5389	0.2000	0.1798
Obs	200	200	200	200	200	200

Table 3 Descriptive Statistics During Covid 19 – Pandemic
(BOC, BOD, IC, ID, BOCR, BODR)

	BOC	BOD	IC	ID	BOCR	BODR
Mean	4.4230	5.7692	1.9615	0.3461	0.1684	0.1705
Median	4.0000	5.0000	2.0000	0.0000	0.1339	0.0625
Max	8.0000	10.0000	5.0000	1.0000	0.5000	0.6667
Min	2.0000	2.0000	1.0000	0.0000	0.0007	0.0000
St.Dev	1.7702	2.1034	1.1128	0.4851	0.1819	0.2118
obs	80	80	80	80	80	80

4.2 Hypothesis Testing and Discussion

Board sized and Firm Profitability: The impact of Board of Director and Board of Commissioner size on firm profitability before and during Covid 19 – Pandemic.

This component of the research examines the interaction between the Board of Directors and the Board of Commissioners, as well as four proxies for business profitability, throughout two time periods. Table 4 depicts the impact of Board size, Independence Board, and control factors on firm profitability prior to the COVID 19 Pandemic, while Table 5 depicts hypothesis testing during the COVID 19 Pandemic. Tables 4 and 5 exhibit four models, each representing firm profitability using ROE, ROA, GPM, and NPM as profitability proxies. During the pandemic, Board Commissioner has a negative impact on company profitability in two models: ROE (Model 1), NPM (Model 4), while models 2 and 4 reveal that BOC has no impact on firm profitability (NPM).

The hypothesis test results show that the board of commissioners (BOC) has a significant but negative effect on firm value after controlling for total assets, firm size, and firm liquidity. This suggests that having more members on the board of commissioners reduces the company's worth. According to the theory, BOC is required as an internal GCG mechanism to ensure corporate strategy and oversee managers in managing the company. However, the negative influence suggests that the large number of BOCs can decrease the effectiveness of the board of directors' supervision to have a better quality in decision making, which can harm investors and, ultimately, firm value. This result is in line with the research of (Sutrisno, 2020).

Members of the board of commissioners must be professional and have the capacity and integrity to carry out their tasks correctly in assuring and paying attention to the office stakeholders' interests. Because of the large number of boards of commissioners, decision making is less effective, lowering business value. The size of the board of commissioners is not the primary determinant of the efficiency of company management supervision, because the board of commissioners is the core of corporate governance, charged with ensuring company strategy and supervising managers in managing the firm (Sutrisno, 2020).

Table 5 demonstrates that BOC had negative effect on company profitability, for Model 1 and Model 2. During the pandemic, BOC is unable to carry out its primary responsibilities, such as maintaining corporate strategy and supervising managers in charge of the company. The Indonesian government's policy of restricting community activities in response to the COVID-19 outbreak has harmed the country's economy. The BOC's role cannot compensate for the loss in firm performance caused by the slowing of economic growth.

According to Table 4, the board of directors has a significant negative impact on ROE and ROA. That is, the more members of the board of directors, the lower the company's profitability. This can be interpreted that the BOD, as an organ with full authority and responsibility for the company's management, is unable to carry out its critical job as a function of corporate decision making. Using at least two proxies, the study discovered significant evidence that board size had a negative impact on firm profitability**.** This implies that increasing the size of the board will have an inverse effect on company market performance, demonstrating that increasing board size will cause communication and coordination issues, higher free-loader obstacles and knowledge sharing costs, and less expression of ideas and thoughts (Goel & Sharma, 2020). Large boards eventually have disadvantages in the form of coordination costs and free rider issues. Firstly, coordination and communication issues occur as it becomes more difficult to plan board meetings and obtain consensus, resulting in slower and less efficient decision-making. Second, board cohesion suffers because board members are less likely to share a shared goal, communicate properly with one another, and establish an agreement based on the directors' differing points of view. Third, director free-riding grows when the cost to any particular director of failing to exercise diligence decreases in proportion to board size (Guest, 2009). Table 5 illustrates that BOD did not influence on company profitability for all proxies. The size of BOD had no influence on ROE, ROA, GPM and NPM during COVID 19-Pandemic.

Board Independent and Firm Profitability: The impact of Independent Director and Independent Commissioner on firm profitability before and during Covid 19 – Pandemic

Table 4 shows that the Independent Commissioners had a positive and significant impact on firm profitability in three categories (ROE, ROA and NPM). The independent director also had a positive and significant impact on three models: Model 1, 2 and 4. The larger the percentage of independent commissioner and director in both BOC and BOD the higher the firm's profitability. These independent members may make significant policy recommendations aimed at strengthening corporate governance procedures. They also enhance board monitoring efficiency and reduce the corresponding agency issue (Mihail et al., 2021). The positive effects of having independent members on boards are compatible with agency theory and the firm's resource-based orientation (Raimo, Vitolla, & Rubino, 2021). The results have significant management and policy consequences. Implementation of optimal corporate governance principles, such as the appointment of independent board members, in corporations. In the case of independent board members, shareholders can try to establish these policies because they would considerably benefit from these corporate governance indicators.

Table 5 reveals that during the pandemic, the Independent Commissioner has a positive and significant impact on firm profitability only in the case of ROE and ROA. Although the Independent BOC has a considerable beneficial influence on firm profitability, the Independent Director has a negative impact on firm profitability. The bigger the ratio of independent board members on the board of directors, the worse the firm's profitability in Model 1, 2, and 4.

In addition to the economic crisis, public companies' scandals also encourage increasing economists' awareness of the importance of implementing good corporate governance. The causes of the economic crisis in Asian countries, including Indonesia, are the supervisory mechanism of the company's board of commissioners/directors do not effectively protect shareholders' interests. A company structure consisting only of a board of directors and a board of commissioners without any independent directors and commissioners is not enough to convince shareholders shares that the directors will work to maximize the interests of shareholders and that commissioners will work adequately to supervise the directors (Rashid, 2018). Based on the principles of good corporate governance, this structure needs to be strengthened by placing more independent people tasked with balancing the energy of subjectivity owned by the Board of Directors with supervision to management to ensure that the direction of management policies is in line with the interests of the owner of the company. The director independent has a function as a neutral party who can bridge the interests between company directors and shareholders. But Indonesia's function and use of independent directors are still ambiguous (Khameswary, 2019).

The concept of an independent director is better known in countries with a Common Law legal system which also adheres to the One Tier System corporate law system, where the One Tier System only has one board of directors consisting of executive directors and non-executive directors. The Indonesia Stock Exchange issues regulations requiring an independent director in Indonesia. This rule adopts the concept of independent Directors in the common law legal system that adheres to the concept of one board in corporate law. So, when translated into the legal system, a company in Indonesia that adheres to two boards is as if there must be two types of independent parties, namely independent commissioners on the board of commissioners and directors Independent on the board of directors. An Independent Director in the Common Law legal system is equivalent to an independent commissioner in Indonesia's legal system (Khameswary, 2019).

Table 4 Hypothesis Testing – Before Covid 19 - Pandemic

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
Variable	ROE	ROA	GPM	NPM
C	0.2789955*** (4.160367)	0.225608*** (4.482245)	0.360374*** (4.082349)	0.242990 *** (6.671007)
BOC	-0.021688* (-1.829808)	-0.018878 (-1.441836)	0.030769 (1.570855)	-0.016532** (-2.279191)
BOD	-0.009426* (-2.138113)	-0.006986* (-1.800452)	-0.006820 (-0.982900)	-0.001575 (-0.660715)
IC	0.101882*** (4.164673)	0.068058** (2.658050)	0.003787 (0.103493)	0.052266 *** (3.927682)
ID	0.111325*** (5.577977)	0.069734*** (4.312187)	0.009378 (0.250406)	0.115467*** (10.26152)
BOC*BOCR	-0.043515 (-4.469754)	-0.089131 (1.461260)	-0.174163 (-2.988624)	-0.027429 (-0.9096650)
BOD*BODR	-0.11477 (-1.877518)	0.004605 (0.346491)	0.003633 (0.131692)	-0.004476 (-0.522757)
IC*BOCR	-0.078493 (0.717019)	0.155620 (1.157121)	0.266116 (0.832686)	-0.0211031 (-0.321665)
ID*BODR	0.291974*** (2.867953)	0.138576** (2.311005)	0.498935** (2.792217)	0.0211031*** (5.936917)
LNTA	0.001597 (0.717019)	-0.000352 (-0.230571)	0.0007148* (1.867663)	0.002596*** (2.647118)
WCR	-0.005745* (-1.877518)	-0.003825 (-1.579050)	0.000990 (0.203335)	-0.006060*** (-3.791961)
DTA	-0.386986*** (-4.469754)	-0.260377*** (-4.099655)	-0.243424* (-1.895073)	-0.330871*** (-0.7550891)
ADJ R2	0.682104	0.635585	0.398006	0.655785
F-STAT	2.772833	2.467771	2.202999	2.7789760

Notes: *, **, *** Significant at 10, 5 and 1 percent levels, respectively.

It is commonly recognized that independent board members have a reputation for protecting the interests of shareholders. On the other hand, Dependent directors are more swayed by the CEO, which provides them with personal rewards, particularly those related to their career (Farhan et al., 2020) Nonetheless, independent directors might have a negative impact on a company's internal governance if they have a covert relationship with management. This suggests that having a higher percentage of independent directors diminishes firm profitability. This could be because independent directors are in no better position to oversee the operations of food and beverage companies during the pandemic.

The moderating role of board gender diversity on the influence of Board of Commissioners, Board of Directors, Independent Commissioners, and Independent Directors on Firm Profitability before and during COVID 19-Pandemic.

Table 4 shows that the existence of a female commissioner and director on the board before the pandemic had no impact on the role of BOC, BOD, and IC on company profitability in all four scenarios. Nevertheless, in four measurements, a female director positively moderates the impact of Independent Directors on firm profitability.

Women directors are more likely than men to apply a greater level of complex moral reasoning. This means that female corporate directors are significantly more likely to consider the interests of several stakeholders when making decisions to reach a fair and ethically consistent result. They will also employ cooperation, collaboration, and consensus-building more frequently — and effectively — to make sound decisions. Their effectiveness stems from their natural curiosity and ability to see new possibilities. Due to their apparent superior decision-making abilities, female corporate directors can make significant contributions to any board. This higher-quality decision-making skill explains why women on boards have higher rates of return, more effective risk management, and even lower bankruptcy rates (Hindasah & Harsono, 2021). Gender diversity in the board of directors positively impacts business profitability when there is a higher proportion of external independent directors

Table 5 Hypothesis Testing - During Covid 19 - Pandemic

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
Variable	ROE	ROA	GPM	NPM
C	0.361290*** (6.420052)	0.281934*** (6.524788)	0.405360*** (4.525616)	0.2938850*** (3.452678)
BOC	-0.033093*** (-2.999281)	-0.024536** (-2.063352)	0.026257 (1.387097)	-0.020451 (-1.158167)
BOD	0.000131 (0.030463)	-0.002380 (-0.617283)	-0.003147 (-0.435673)	0.001512 (0.313910)
IC	0.103660*** (4.545058)	0.071186** (2.977892)	0.006291 (0.175956)	0.051512 (1.58492)
ID	-0.147659*** -(6.314338)	-0.098034*** -(5.176470)	-0.013234 -(0.350495)	-0.142932*** -(5.004219)
BOC*BOCR	-0.095083* (-2.010009)	-0.151950** (-2.761504)	-0.223316*** (-3.484638)	-0.099943 (-1.162183)
BOD*BODR	-0.023299*** (-4.592789)	-0.021271*** (-4.061337)	-0.017004 (-1.633308)	-0.022165*** (-3.141413)
IC*BOCR	0.122579** (2.128791)	0.316568** (2.525682)	0.394732** (2.624842)	0.137281 (0.722436)
ID*BODR	0.453206*** (4.936445)	0.270310*** (3.455254)	0.393659** (2.261185)	0.379558*** (3.860213)
LNTA	-0.000452 (-0.222746)	-0.002053 (-1.409153)	0.005789 (1.553491)	0.000895 (0.374302)
WCR	-0.008411 (-3.141909) ***	-0.004910 (-2.325457) **	0.000126 (0.024567)	-0.006630 (-1.584271)
DTA	-0.450632*** (-5.557874)	-0.298986*** (-4.990008)	-0.274246* (-1.992872)	-0.362997*** (-3.191566)
ADJ R2	0.629588	0.597371	0.247253	0.671158
F-STAT	3.163249	3.167767	2.896758	2.797771

Notes: *, **, *** Significant at 10, 5 and 1 percent levels, respectively

The board of directors' primary role is to advise strategy formulation and decision-making. Monitoring executive management to ensure that managers follow the best interests of shareholders is an essential part of these board responsibilities (Fama & Jensen, 1983). Corporate governance regulations worldwide, such as the Sarbanes–Oxley Act, strongly encourage and frequently require that a board of directors have a considerable number of independent directors. Independent directors are more inclined to support shareholders' interests and, in some cases, stand up to the CEO, to ask questions, debate issues, display participative leadership and collaboration skills and generally hold their organizations to higher ethical(Hindasah & Harsono, 2021). Women are expected to ascribe to more feminine roles such as sympathy and gentility by contrast, men are expected to be more assertive and aggressive. Another gender role associated with women is flexibility which leads to a more extraordinary ability to manage ambiguous situations. Gender roles are relevant for the board as directors must use communication tactics that are effective in terms of influence. These external directors reinforced female directors' ability to influence firm profitability. The greater the firm's proportion of female directors, the better its performance.

During the pandemic, as can be seen in Table 5 women's presence as directors and commissioners positively moderates the impact of independent commissioners and independent directors on firm profitability almost in all four proxies. Under challenging circumstances, female presence influences the firm's profitability stronger in companies with more independent directors and commissioners. Because they are more open to learning, more interested, and actively seek to understand the perspectives and rationale of others, female directors appear to be more equipped to assess each condition, especially the most challenging one, addressing a board more successfully. They might perceive more possibilities, alternatives, changes, and outcomes. Furthermore, they appear to be more effective at choosing the appropriate action to deal with a situation because they are better at stepping into and understanding the role/perspective of another person.

Although various studies show that the existence of women on the board will lead to a decrease in agency costs and, in the end, will increase the company's value. However, during the pandemic, female directors and commissioners weakened the influence of the board of commissioners and board of directors on the company's profitability, as seen in Table 5. Women are considered more risk-averse than men, so the presence of women will influence the management to adopt a strategy that is too conservative, causing a negative impact on the company's profitability. This study is in line with the study of (Chauhan & Dey, 2017) that the presence of female directors will cause a decrease in firm value. The contribution of women on the board of commissioners and the board of directors has a negative impact on the company's profitability in almost all proxies. Without independent directors and commissioners, women significantly weaken the influence of both BOC and BOD on the company's ROE, ROA, NPM, and GPM. Therefore, the role of the independent board is crucial, especially in crises.

5. Conclusion

This study examines the role of female executives in company profitability. In addition, this study also analysis at how the Board of Commissioners, Board of directors, and independent commissioners and directors affect the company's profitability. The research period is divided into two to see if there are differences in female executive behavior in certain situations, namely before and during the pandemic. The result shows that before Covid 19 – Pandemic, BOC and BOD had a significant negative impact on firm profitability. In contrast, IC and ID positively and significantly impacted firm profitability. The existence of women in BOC, BOD, and independent commissioners does not moderate the impact of BOC, BOD, and IC on firm profitability. In contrast, women had a positive role in moderating the impact of ID on firm profitability.

During the Pandemic, BOD did not influence firm profitability, BOC had a negative and significant influence, and IC significantly positively influenced firm profitability, while ID significantly negatively influenced firm profitability. During a pandemic, the existence of women in BOC and BOD negatively moderates the influence of the BOC and BOD on firm profitability. On the contrary, the women's role as independent commissioners and directors positively moderates the influence of independent commissioners and directors on firm profitability.

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Biographies

Triasesiarta Nur is a lecturer in the School of Accounting, Finance Program at Bina Nusantara University. She obtained his Doctorate in the field of Financial Management from University of Indonesia (Indonesia), Master of Management, majoring in Financial Management from Universitas Indonesia, and Bachelor of Business Administration from University Indonesia. Her research interests are Corporate Finance, Capital Market, and Corporate Governance

Quinnshe Darvin is a Bachelor of Economics just graduated from Bina Nusantara University, Finance Program, Accounting Department.