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THE IMPACT OF BOARD DIVERSITY AND THE MODERATION EFFECT OF COVID-19 PANDEMIC ON FREE CASH FLOW

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ABSTRACT

In this study, we propose pandemic Covid-19 as moderating effect on the role of board diversity in enhancing the allocation of free cash flow. The board diversity variables are examined using least squares regression for panel data by exploiting the variables to board gender diversity, board member affiliation, board specific skills, and board size variables for an observation of 279 Indonesian listed firms over the period 2015–2021. We found that the presence of female gender on the board, the presence of board members who have either an industry specific background or a strong financial background, and enough board members deter the opportunistic conduct of managers and likely to reduce excess funds through dividend pay-outs. The results demonstrate that a diverse board reduces agency conflicts and enhances resource allocation supporting governance practices. During the Covid-19 pandemic, the presence of female gender in the board, the presence of boards member with other corporate affiliations, and the adequacy of board size proved to provide more effective supervision of the company's cash flow allocation. The findings are beneficial to policymakers since this explains the significance of implementing measures to enhance the efficacy of the board's role by instituting a diversity requirement.

Keywords: Corporate Governance, Board Diversity, Free Cash Flow, Pandemic Covid-19

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh Board Diversity dengan efek moderasi pandemi Covid-19 terhadap arus kas bebas pada perusahaan publik di Indonesia. Periode waktu pengamatannya yaitu tujuh tahun dengan data 279 observasi terdiri dari 59 perusahaan dengan periode laporan keuangan tahun 2015-2021. Metode pengujian menggunakan analisis regresi Least Squares data panel untuk menguji pengaruh variabel independen terhadap variabel dependen. Temuan dalam penelitian ini yaitu kehadiran gender wanita dalam Board, adanya anggota Board yang memiliki latar belakang industri tertentu atau latar belakang keuangan yang kuat, dan jumlah anggota Board yang cukup dapat mencegah perilaku oportunis manajer sehingga cenderung mengurangi kelebihan dana melalui pembayaran dividen. Perusahaan yang memiliki arus kas bebas yang tinggi dengan peluang pertumbuhan yang rendah, menunjukan semakin besar risiko arus kas. Hasil penelitian menunjukkan bahwa Board yang beragam mengurangi konflik keagenan dan meningkatkan alokasi sumber daya yang mendukung praktik tata kelola perusahaan. Ketika terjadi pandemi Covid-19, kehadiran gender wanita dalam Board, adanya Board yang memiliki afiliasi dengan perusahaan lain, dan kecukupan jumlah anggota Board terbukti memberikan pengawasan yang lebih efektif terhadap pengalokasian arus kas perusahaan. Temuan ini bermanfaat bagi para pembuat kebijakan karena hal ini menjelaskan pentingnya menerapkan langkah-langkah untuk meningkatkan efektivitas peran Board dengan menambahkan persyaratan Board Diversity.

Kata Kunci: *Tata Kelola Perusahaan, Board Diversity, Arus Kas Bebas, Pandemi Covid-19*

INTRODUCTION

The Covid-19 pandemic has resulted in a worldwide catastrophe that has reduced the amount of economic activity that is taking place across the world. Because of this unusual shock, businesses have had a negative impact on their corporate revenues, and the volatility in their cash flow have been exacerbated (1). Those extraordinary conditions force managers to do proper allocation of free cash flow. Free cash flow is the remaining cash flow after every project with a positive Net Present Value have been funded (2). An extremely high free cash flow may indicate excess fund that means the

company is not investing in its business or allocating it well.

In situations where there is surplus corporate cash, managers are incentivised to enhance their authority over company assets by directing investments towards endeavours that yield personal benefits (3) . The utilisation of debt as a disciplinary mechanism to deter managers from making opportunistic use of available cash may lead to a situation where managers with self-interest who prioritise their personal objectives, may exhibit a preference for a lower level of debt than what is deemed optimal (4). Despite limited investment opportunities, managers are incentivised to reinvest free cash flow rather than pay dividends (5). On the other hand, shareholder and board can encourage management to do equity policy by allocating free cash flow to pay dividends. Unquestionably, the board is an integral part of any organisation's governance structure due to the significance of its functions in overseeing and regulating management practices to avert inadequate allocation of resources by management (6). Performance of the board can play an essential part in preventing agency conflicts (7). If the board does not understand their role, the monitoring function will be ineffective.

A study on emerging economies, observed that businesses in developing nations tend to operate within societies where male leadership predominates and exhibit suboptimal resource utilisation (2). Board gender diversity can affect the effectiveness of decision making (7). However, the Indonesian Financial Services Authority observes that the average representation of women on the boards of Indonesian publicly traded companies remains below 50% (8). In addition, the past literature provides no consensus regarding the effect of board size on an organisation's performance, since it examines the positive and negative effects of larger boards leading to righteous decision-making (9).

Previous research focusing on the impact of Covid-19 on company performance shows that the Covid-19 pandemic has a negative impact on company performance (10). Furthermore, the pandemic has highlighted the significance of a firm's sustainability performance as one of the primary determinants of its resilience to unexpected disruptions (11). Policy restrictions on activities that occur throughout the world are detrimental to business performance (12). Good governance is essential and plays a crucial role on post-pandemic recovery and formation of a new normal (13). The novelty of this study are we look further at the influence of diversity by expanding the variables including board specific skills, board member affiliation, and board size and we also consider the moderating effect of Covid-19 pandemic on the relationship between the board diversity on free cash flow which not been evaluated before.

The objective of this study is to examine interrelated topics about first, the impact of boards diversity on the level of free cash flow

and second, the moderating effect of Covid-19 pandemic on the relationship of boards diversity and free cash flow. The contributions of this study are listed below.

a. Pandemic Covid-19 becomes a moderating effect on the role of board diversity where previous research does not evaluate in extraordinary situations.
b. Board diversity is exploited by expanding the variables to board gender, board member affiliation, board specific skills, board size as independent variables, which enriches previous literature.
c. The results of this study can provide policymakers with significant insights regarding the significance of board diversity in preventing the inappropriate allocation of funds, thereby facilitating the integration of diversity in hierarchical structures.

METHOD

Data and Source

This study is conducted using quantitative statistical methods. Statistical descriptive analysis is conducted to describe the form of data distribution as a first step for data description and explain the results of data tabulation derived from data input in the form of mean, variance, minimum and maximum values (14). This study relies on secondary data obtained through Refinitiv Eikon (Thomson Reuters) for the 2015-2021 figures of 784 publicly traded Indonesian corporations. Companies in the financial sector are excluded because their business models and financial structures are distinct. We obtained 59 firms with comprehensive data and 279 samples.

Variables definitions and measurements

The dependent variable in this study is the level of free cash flow (FCF). Free cash flow is measured by multiplying cash flow by the inverse of Tobin's Q (2). Tobin's Q is a ratio measurement tool that defines the value of the company. Tobin's Q also describe the effectiveness and efficiency of the company in utilising all its asset resources. The greater the cash flow and the lower the Tobin's Q, the greater the risk of free cash flow. Tobin's Q is considered a measure of growth opportunity that allows for the identification of free cash flow risks that need to be anticipated.

The independent variables to be used in this study are bored gender (BOG), board member affiliation (BMA), board specific skill (BSS), and board size (BOZ). Board gender diversity describe the percentage of women on the board. Board member affiliation describes the average number of other company affiliations for board members. Board specific skills describe the percentage of board members who have a specific industry or strong financial knowledge background. Board Size describe the number of boards at the end of the fiscal year.

The control variables in this study are firm-specific variable, such as Dividend Payout, Leverage, Firm Size, Profitability, and Growth Opportunities which were selected based on previous research. To minimise

unnecessary data volatility, the natural logarithm of total assets is used as a proxy for firm size, therefore. Therefore, the fluctuation of the assets having a value of hundreds of billions or even trillions will be reduced without changing their proportional worth. Net income to total assets and Tobin's Q is used to calculate the firm profitability and growth potential.

The moderating variable in this study is the Covid-19 pandemic (COV), which described by dummy variable equal to 1 for the pandemic period, and equal to 0 for the period before the pandemic. In Indonesia, the first case of Covid-19 occurred at the beginning of 2020, hence we defined the Covid-19 variable to equal one for the years 2020 and 2021. The interaction variable measure by multiplying the proxies of the Covid-19 pandemic and board diversity variables. If the parameter of this interaction variable is positive, it can be concluded that this variable strengthens the effect of board diversity on free cash flow. Conversely, if the parameter value is negative, it can be concluded that this moderating variable weakens the effect of board diversity on free cash flow.

Table 1: Variable definition and measurement

Variable Abbreviation	Variable Name	Measurement Method
Dependent Variable		
FCF	Free cash flow	(EBITDA – taxes – interest paid on debt – total dividends)/TobinQ
Independent Variable		
BOG	Board Gender	The percentage of female on the board
BMA	Board Member Affiliation	The average number of other company affiliations for board members
BSS	Board Specific Skills	Percentage of board members who have either an industry specific background or a strong financial background.
BOZ	Board Size	The total number of board members at the end of the fiscal year
Moderating Variable		
BOG*COV	Interaction Variable of Board Gender and Covid-19 pandemic	Multiplying of Board Gender and Variable Dummy Covid-19
BMA*COV	Interaction Variable of Board Member Affiliation and Covid-19 pandemic	Multiplying of Board Member Affiliation and Variable Dummy Covid-19
BSS*COV	Interaction Variable of Board Specific Skills and Covid-19 pandemic	Multiplying of Board Specific Skills and Variable Dummy Covid-19
BOZ*COV	Interaction Variable of Board Size and Covid-19 pandemic	Multiplying of Board Size and Variable Dummy Covid-19
Control Variable		
PRO	Profitability	The net income to total assets
GRO	Growth Opportunities (Tobin Q)	The market value of equity þ the book value of debt)/the book value of assets
SIZ	Firm Size	Natural logarithm of total assets
LEV	Leverage	total debt over total assets
DIV	Dividend Payout	The dividend paid divided by total assets

Source: The Author, 2023

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Models

Based on the variables mention in Table 1, the empirical model used was developed in previous research as follows.

$$\text{FCF}_{it} = \alpha + \beta_1 \text{BOG}_{it} + \beta_2 \text{BMA}_{it} + \beta_3 \text{BSS}_{it} + \beta_4 \text{BOZ}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{DIV}_{it} + \beta_7 \text{PRO}_{it} + \beta_8 \text{GRO}_{it} + \beta_9 \text{SIZ}_{it} + e_{it} \quad \text{..... [1]}$$

We also develop empirical model using Covid-19 pandemic as moderating effect as follows.

$$\text{FCF\_COV}_{it} = \alpha + \beta_1 \text{BOG}_{it} + \beta_2 \text{BMA}_{it} + \beta_3 \text{BSS}_{it} + \beta_4 \text{BOZ}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{DIV}_{it} + \beta_7 \text{PRO}_{it} + \beta_8 \text{GRO}_{it} + \beta_9 \text{SIZ}_{it} + \beta_{10} \text{COV}_t + \beta_{11} \text{BOG} * \text{COV}_{it} + \beta_{12} \text{BMA} * \text{COV}_{it} + \beta_{13} \text{BSS} * \text{COV}_{it} + \beta_{14} \text{BOZ} * \text{COV}_{it} + e_{it} \quad \text{..... [2]}$$

Description:
α = constant value or intercept
β = parameter value of the variable
i = entity, cross section data
t = period, time series data
e = error term

This research employs panel data regression for its data analysis. Before regression is performed, the optimal model will be chosen from the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The model will be selected using the Chow Test, Hausman Test, and LaGrange Multiplier Test. The chosen model will then be evaluated for classical assumptions, such as homoscedasticity, non-multicollinearity, and non-autocorrelation. We use eViews application to run the regression model.

RESULTS AND DISCUSSION

Table 2 reports a summary of descriptive statistics for all variables adopted in this study.

Table 2: Descriptive Statistic

Variable	N	Mean	Median	Max	Min	StdDev
FCF*	279	3.28	1.20	34.22	(7.47)	5.47
BOG	279	0.08	0	0.66	0	0.11
BMA	279	0.75	0.56	3.25	0	0.78
BSS	279	0.30	0.28	1.00	0	0.24
BOZ	279	6.17	6.00	14.00	3.00	2.24
LEV	279	0.26	0.24	1.45	0	0.21
DIV	279	0.05	0.02	0.44	0	0.08
PRO	279	0.08	0.06	0.58	(0.66)	0.11
GRO	279	2.53	1.41	40.69	0.71	3.67
SIZ	279	31.26	31.18	33.66	26.99	0.99
BOG*COV	279	3.32	0	66.67	0	9.07
BMA*COV	279	0.26	0	3.00	0	0.56
BSS*COV	279	11.17	0	100.00	0	21.32
BOZ*COV	279	2.11	0	21.00	0	3.22

Source: The Author, 2023

Variable FCF as dependent variable, has an average value of IDR 3.2 trillion and a standard deviation of IDR 5.4 trillion. This variable also has a minimum value of negative IDR 7.4 billion and the maximum value of IDR 34.2 trillion, which means that there are companies in the sample that experience negative free cash flow or have no free cash flow value. This significant difference between the minimum and maximum values explains why there is a large standard deviation value as well. This shows that public companies in Indonesia have highly variable levels of free cash flow.

Positive FCF indicates that a company can finance its operational and expansion activities without much need for additional external capital. In business terms, this condition is quite healthy because the company can grow organically from its own business results. If these conditions cannot be met (negative free cash flow), the company will try to seek loans (bank debt or issuing bonds) or ask for additional capital from investors.

Based on the sample, there are 27 companies with negative FCF values. Negative free cash flow does not necessarily mean that the company is experiencing financial difficulties, but it could be that they are investing heavily to expand market share, which will lead to future growth. An extremely high free cash flow may indicate that the company is not investing in its business or allocating it well.

The percentage of women on the board has an average value of 8%, this is in accordance with data from the Indonesian Financial Services Authority which notes that the representation of women on the boards of listed companies in Indonesia is still below 50%. Highlighting the financial policy, based on the results of the descriptive statistics above, the results show that the average capital structure of public companies in Indonesia 26% comes from external sources of debt. In parallel, these companies pay an average of 5% of their assets as dividends. The standard deviation of dividend payments is 8%, indicating that dividend payments are highly dispersed among publicly listed companies in Indonesia.

Hypothesis Test

According to agency theory and resource dependence theory, board gender diversity can help companies improve their communication with stakeholders and monitoring systems, thereby reducing the likelihood of agency issues (7).

Board Member Affiliation represents the average number of affiliations with other companies held by board members. The optimal board composition includes a variety of board member affiliations and occupations (15).

Board Specific Skills represent percentage of board members who have either an industry specific or a strong financial background. It can be described as members who have a specific industry background, which is defined as Business Expert (16).

Board Size represent the total number of board members. The number of boards affects the

effectiveness of supervisory and advisory functions. The importance of the board size because the complexity of the company's operations causes more demand on board members to discuss and agree on these complex activities (17). Australia-based research indicates that board size is positively correlated with firm performance (18). Briefly, if board diversity results in improved monitoring and fewer agency conflicts, it is more likely to reduce free cash flow. Accordingly, hypothesis one state as below.

H1. The presence of board diversity negatively affects the level of free cash flow.

H1a: The presence of female gender on the board has a negative impact on the level of free cash flow.

H1b: The presence of board members affiliated with other companies has a negative impact on the level of free cash flow.

H1c: The presence of board members who have a specific industry background or strong financial knowledge has a negative impact on the level of free cash flow.

H1d: The number of board members has a negative impact on the level of free cash flow.

Covid-19 pandemic determines how the governance system and firm financial performance are connected (9). Privately held businesses' financial results and cash holding levels declined because of Covid-19 (19). Activity restriction policies that occur around the world are detrimental to business performance (12). This is what underlies this study to further examine the moderating effect of the Covid-19 pandemic on the relationship between board diversity and free cash flow. Accordingly, hypothesis two state as below.

H2: The Covid-19 pandemic has a moderating effect on the relationship between board diversity and the level of free cash flow.

H2a: The Covid-19 pandemic has a moderating effect on the relationship between board gender and the level of free cash flow.

H2b: The Covid-19 pandemic has a moderating effect on the relationship between board member affiliation and the level of free cash flow.

H2c: The Covid-19 pandemic has a moderating effect on the relationship between board specific skills and the level of free cash flow.

H2d: The Covid-19 pandemic has a moderating effect on the relationship between board size and the level of free cash flow.

Regression results

In this study, the panel data regression model is determined using model testing with the Chow Test and the Hausman Test. Given that the Prob > F value is zero based on the Chow Test, the selected model is the Fixed-Effect Model. In addition, based on the Hausman test, the Prob> chi2 value and p-value of the research model are less than 5%, so the Fixed-Effect Model has been chosen. Since the Fixed-Effect Model selected in the Chow Test and Hausman Test, the LaGrange Multiplier test is no longer necessary. The outcomes of the least squares (LS) regression are provided in Table 3.

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Table 3: Regression result with LS method.

Variable	Coefficient	Std. Error	Coefficient	Std. Error
	FCF [1]		FCF_COV [2]	
C	-180.484	25.496	-124.413	29.785
BOG	-6.530	3.368*	-7.834	3.520**
BMA	1.311	0.677*	0.721	0.684
BSS	-3.481	1.277***	-3.386	1.397**
BOZ	-0.226	0.146	-0.380	0.181**
LEV	-1.219	1.899	-1.775	1.920
DIV	-15.706	5.184***	-14.549	5.102***
PRO	16.446	3.249***	15.251	3.144***
GRO	0.030	0.081	0.015	0.078
SIZ	5.932	0.821***	4.182	0.962***
COV			-3.266	1.278**
BOG_COV			5.803	3.348*
BMA_COV			1.316	0.473***
BSS_COV			0.703	1.529
BOZ_COV			0.422	0.165**
Prob F-test	0.000		0.000	
R-squared	0.826		0.844	
Adjusted R-Squared	0.771		0.789	
DW Stat	1.005		1.147	

Significance at 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

Source: The Author, 2023

For both research model, the Probability (F-test) value is 0.0000 < 0.05. This demonstrates that the independent variables influence the dependent variable.

For FCF_COV Model, adjusted R-squared equals 0.79, indicating that 79% of the variation in the dependent variable can be explained by the independent variable, while the remaining 21% can be explained by variables outside the scope of the model. Based on the partial significance test, board gender, board-specific skills, board size, dividend pay-out, profitability, company size, and the Covid-19 pandemic have an impact on free cash flow. The Covid-19 pandemic strengthens the association between Board Gender, Board Member Affiliation, and Board Size and the company's level of free cash flow.

Robustness checks

Several supplementary tests were conducted to assess the resilience of our findings. First, the initial empirical model (FCF) is employed, as outlined in previous research. The findings presented in Table 4 indicate that the variables of gender diversity, board-specific skills, and dividend pay-out measures continue to hold significant and negative associations with the free cash flow allocation. The present findings provide additional support to our prior result indicating that boards with gender diversity, specific skills, and a propensity to distribute dividends are more inclined to succeed in arriving at prudent choices which more disposed to advance the interests of shareholders by directly addressing agency issues.

Second, based on the above regression results,

particularly the DW stat value, the research model may have a problem with the relationship between values that are separated by a certain time gap. To solve this issue, an independent variable with a one-year lag period in relation to the dependent variable is added (FCF_1). Third, we also performed robust regression, which is a regression technique used when the distribution of residuals is not normal or when there are multiple outliers affecting the model. Model Robustness Test is essential for analysing data affected by outliers to produce a model that is robust or resistant to outliers. Robust regression uses the M-Estimator for FCF_COV empirical research model with the dependent variable free cash flow and the moderating effect of the Covid-19 Pandemic as follow.

Table 4: Regression result for Robustness Checks

Variable	Coefficient	Std. Error	Coefficient	Std. Error
	One-year Lag		Robust Regression	
C	-49.094	24.729	-37.895	4.037
BOG	-5.468	2.815*	0.021	1.311
BMA	0.311	0.546	0.080	0.183
BSS	-1.876	1.122*	1.449	0.633**
BOZ	-0.070	0.147	0.277	0.076***
LEV	0.188	1.541	0.239	0.655
DIV	-16.745	4.073***	-8.258	2.070***
PRO	12.037	2.524***	6.907	1.545***
GRO	0.013	0.062	-0.048	0.037
SIZ	1.623	0.802**	1.197	0.131***
COV	-2.622	1.020**	3.209	0.753***
BOG_COV	3.056	2.681	1.530	1.948
BMA_COV	1.088	0.378***	0.226	0.316
BSS_COV	0.067	1.220	-2.988	0.955***
BOZ_COV	0.403	0.131***	-0.424	0.102***
FCF_1	0.838	0.076***		
Prob F-test	0.000		0.000	
R-squared	0.901		0.143	
Adjusted R-Squared	0.866		0.103	
DW Stat	2.022		-	

Significance at 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

Source: The Author, 2023

Discussion

The presence of female gender on the board is proven to reduce the excess funds available to managers. Companies with high free cash flow and low growth opportunities tend to encourage managers to conduct earning management (20). This conforms to the agency theory framework that supports the advantages of female representation on boards. Diversity of gender reduces conflicts of interest between managers and shareholders, therefore this considered as a useful corporate governance instrument in relation to board composition (21).

Board diversity increases board independence, which enables the board to

make more effective decisions, including allocation decisions of free cash flow (22). Gender diversity enables supervisory actions that better align the interests of managers and shareholders, thereby reducing agency costs (23). The results of this study are also consistent with the predictions of resource dependence theory, which states that the presence of female members on the board can be a resource that can be used to enhance management supervision and control (24).

Board Members with strong specific skills or expertise in the financial sector are proven to reduce free cash flow. Board members with a specific industry background is defined as Business Expert (16). A diversity index based on six dimensions, which include demographic and cognitive factors such as gender, age, ethnicity, educational background, financial expertise, and breadth of board experience (25). More diverse board reduces stock volatility and improves performance. Diverse boards implementing more consistent and less risky financial policies since they responsible for the decline in risk.

The relationship between board size and free cash flow is negative, implied that a large board is more active and provides greater supervision and control, which is reflected in a reduced free cash flow. There is a positive relationship between cash holding and board size (26).

The research results indicate that the use of debt does not reduce the level of free cash flow. These findings suggest that debt policy is not driven by a desire for control, but rather by fiscal considerations, as debt tends to increase a company's leverage capacity. The reason is that the risk aversion doctrine can aid in avoiding financial hazards, causing women to use less debt than men because they are risk averse (4).

At the 1% significance level, the coefficient associated with dividend pay-out is negative and statistically significant, indicating that dividends play a beneficial role in reducing managers' access to excessive funds. This indicates that public companies in Indonesia employ this financial policy as an internal governance mechanism to control excessive funds when investment opportunities are scarce. By removing free cash flow from the firm, dividend payments frustrate managers who will use the remaining free cash flow to pursue personal interests at the expense of shareholders (27). The distribution of corporate profits to shareholders discourages managers from investing free cash flow in non-optimal projects, particularly when there are few excellent investment opportunities available (28).

Board gender diversity can encourage corporate dividend payments by improving corporate governance and protection of shareholders' interests (29). The findings of this study are also consistent with the predictions of the resource dependence theory, which states that female board contribute superior experience, skills, and abilities to the board, thereby enhancing board efficacy (30). Consequently, female board are more likely to

set dividend pay-out ratios with a greater pay-out percentage.

Firm size and profitability are shown to have a significant impact on free cash flow. This suggests that companies with larger assets are more likely to raise additional funds, as these assets can be used as collateral in the event of financial distress, allowing for easier access to external financing (2). Profitable companies can engage in projects with a positive NPV because they have a greater amount of free cash flow to finance such investments. Successful businesses are superior at retaining cash.

The results of this study show that board member affiliation, and board size were crucial factors to consider because they support the function of the board in conducting its supervisory and advisory responsibilities toward management.

The results of this study support H1 and H2 that board diversity supports the existence of a strong governance mechanism that reduces the agency costs of cash flow duties and enhances the alignment of shareholders' and management's interests via dividend payments.

CONCLUSION

In the context of corporate governance, firm in emerging markets are typically associated with societies that use resources less efficiently. This study is motivated by these issues to help us comprehend how board diversity impacts corporate decision-making by examining the relationship between board diversity and the moderating effect of Covid-19 pandemic on free cash flow.

The results of this study found that there is still a lack of representation of women on the board, even though this is proven to improve corporate governance. For this reason, in policy making, regulators need to encourage the representation of women on the board. In addition, regulators should also encourage prospective board members to have a strong industry or financial background and ensure that there are sufficient board members to apply effective oversight all the company's business activities.

Recommendation for future research that it is necessary to analyse deeply the reasons for allocating the level of firm free cash flow considering the business life cycle of the company. These become a limitation of this study which needs further investigation.

This research is beneficial for the company's policymakers because it allows them to evaluate the significance of board diversity in monitoring managers' responsibilities, particularly regarding the allocation of excess funds. In addition, this finding has implications for regulators as it explains the significance of implementing measures and reforms to enhance the efficacy of the board's role by instituting a diversity requirement.

With health-related crises such as the Covid-19 pandemic, board diversity can enhance the effect on free cash flow. Therefore, this can be utilised as a shareholder strategy to enhance corporate governance when extraordinary circumstances arise.

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