The Odd-Even Effect in The Boards of Commissioners and Corporate Values

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Abstract
This article expands the understanding of board of commissioners' characteristics by introducing the concept of the odd-even effect in their structure. The study employs a quantitative research approach to explore this phenomenon. When a board of commissioners is composed of an odd number of members, the decision-making process tends to be more straightforward and efficient due to the absence of tie votes, leading to a more unified perspective. In contrast, an even-numbered board is prone to voting ties, which can introduce diverse viewpoints and potential conflicts in decision-making. Consequently, the composition of the board, whether odd or even, significantly impacts corporate value. Boards with fewer members tend to be more effective, with companies having odd-numbered boards generally exhibiting higher corporate value compared to those with even-numbered boards.

Keywords: Corporate value, odd-even effects, board of commissioners

Introduction
Jensen & Meckling (1976) discuss the agency relationship that arises when a principal engages an agent to perform services or make decisions on their behalf. This principal-agent contract often leads to agency problems, as each party aims to maximize their own utility. Eisenhardt (1989) identifies two primary issues resulting from this contract: moral hazard and adverse selection. Moral hazard occurs when the principal cannot fully observe the agent's actions, potentially leading the agent to make decisions that do not align with the company's interests. Adverse selection refers to the information asymmetry where the agent possesses more knowledge than the principal, which may result in incomplete information being shared and subsequently affecting decision-making. Therefore, control mechanisms are essential to regulate the agent's actions.

Corporate governance is one such mechanism that can mitigate agency problems. Cadbury (1992) defines corporate governance as a system that directs and controls a company's operations. Effective corporate governance allows the board of directors to develop the company while ensuring accountability. Agency theory underpins the emergence of Good Corporate Governance (GCG) concepts in business. Through GCG mechanisms, negative agent actions are minimized,

providing assurance to shareholders that their investments are managed effectively and the agent is fulfilling their duties and responsibilities, thereby benefiting the company (Hamdani, 2016). Moreover, the GCG mechanism positively correlates with corporate value (Damayanthi, 2019).

Globally, two primary corporate governance systems are implemented: one-tier boards and two-tier boards. One-tier boards, common in Anglo-Saxon countries like the United Kingdom and the United States, integrate supervisory and executive functions within a single board. Conversely, two-tier boards, prevalent in Continental European countries such as the Netherlands and Germany, separate these functions into supervisory and executive boards (Rasyidah, 2013). Indonesia employs a two-tier board governance system, wherein the board of commissioners performs the supervisory role while the board of directors handles executive functions (Tricker & Tricker, 2015).

Globally, corporate governance systems generally follow one of two models: the one-tier board and the two-tier board. The one-tier board system is typically adopted by Anglo-Saxon countries such as the United Kingdom and the United States, while the two-tier board system is prevalent in Continental European countries like the Netherlands and Germany (Rasyidah, 2013). In the two-tier system, the corporate structure is divided into supervisory boards and executive boards. Conversely, the one-tier system integrates supervisory and executive functions within a single board (Tricker & Tricker, 2015). Indonesia employs the two-tier board governance system, where the board of commissioners handles supervision, and the board of directors manages executive functions.

The effectiveness of a company's board, whether supervisory or executive, significantly influences its success. The characteristics of board members are crucial in determining this success. Consequently, examining the relationship between board characteristics and the performance of the board of commissioners or directors has become a significant area of research (Deng et al., 2012; Gao & Huang, 2018). Numerous studies in finance have investigated various aspects of board characteristics and their impact on performance or corporate value, including female directors (Campbell & Vera, 2010; Darmadi, 2013; Ullah et al., 2019), foreign directors (Masulis et al., 2012; Oxelheim & Randøy, 2003), and independent commissioners (Muryati & Suardikha, 2014; Prabowo & Simpson, 2011). The board's characteristics influence decision-making, which is reflected in the company's performance and value.

Corporate value, as defined by Harmono & Si (2009), is the company's performance as indicated by stock prices, which result from the capital market's demand and supply dynamics, reflecting the public's assessment of the company's performance. High firm value is desirable for shareholders, as it signifies increased prosperity (Hemastuti & Hermanto, 2014). The primary objective of corporate management is to maximize shareholder wealth (Schellenger et al., 1989). This article contributes to the literature by introducing the odd-even effect in board structure.

The article is inspired by the research of Gao & Huang (2018) and He & Luo (2018). Gao & Huang (2018) found that audit committees with an even number of members are more likely to restate financial statements. He & Luo (2018) reported that even-numbered corporate boards in developed markets face more agency problems. Motivated by these

findings, this article tests the odd-even effect on supervisory boards. This study is the first to link the odd-even effect in the structure of the board of commissioners to corporate value. Prior studies by Gao & Huang (2018) and He & Luo (2018) examined the odd-even effect in audit committee structures and board of directors' structures, respectively.

Board structures with an even number of members often exhibit weaker monitoring and are more susceptible to agency problems. These boards are generally considered inefficient in decision-making, as decisions are typically made through voting. An even-numbered board is prone to voting ties, which can lead to inefficiency and conflict, hindering effective decision-making and oversight. In contrast, boards with an odd number of members avoid tie votes, facilitating smoother decision-making and more effective monitoring (He & Luo, 2018).

He & Luo (2018) further argue that even-numbered boards tend to hold fewer meetings and experience higher rates of director absenteeism. This suggests that such boards may lack the commitment necessary for rigorous executive oversight. Additionally, He & Luo (2018) find that even-numbered boards are positively associated with various agency problems, including inter-company loans, loan guarantees for related parties, and excessive consumption. Companies with even-numbered boards are also more likely to receive modified audit opinions and encounter accounting irregularities. Based on theoretical insights and previous research findings, the hypothesis of this study is:

H_a**:** The odd-even composition of board commissioners affects the value of the company.

Research Method

This research focused on companies listed in the LQ 45 Index from 2015 to 2018. LQ 45 companies are recognized for their good corporate governance and strong corporate fundamentals. The sample included companies consistently listed in the LQ 45 Index throughout the study period. Out of the 45 companies listed on the LQ 45 Index in 2015, only 32 remained consistently listed during the entire study period, resulting in a total of 128 samples over the four years.

Table 1. Research Sample Selection Process

Criteria	Total Company
Companies listed in LQ45	45
Companies with inconsistencies in LQ45 during the study period	(13)
Total sample companies	32
Observation period	4
Total research sample	128

Source: Processed Data, 2020

The research examined the corporate value and the odd-even structure of the board of commissioners. The dependent variable was corporate value (Y), while the independent variable was the odd-even board of commissioners (X). Given the numerous factors that could influence corporate value, the study included several control variables to isolate the impact of the odd-even board structure. These control variables were

company size, leverage, independent commissioners, female commissioners, and board size. This approach ensured that the influence of the independent variable on the dependent variable was accurately assessed without bias.

The dependent variable in this study was corporate value, measured using Tobin's Q. Tobin's Q ratio is an accurate and reliable indicator of corporate value, assessing management's effectiveness in resource management and investment growth (Sudiyatno & Puspitasari, 2010; Tambunan et al., 2017). A higher Tobin's Q ratio indicates better corporate value. The formula for calculating Tobin's Q follows Chung & Pruitt (1994).

$$Q = \frac{(\text{MVS}+\text{D})}{\text{TA}} \quad \text{..... (1)}$$

Where:
Q = Corporate value
MVS = Market value of all outstanding shares
D = Debt
TA = Total Asset

The independent variable in this research was measured using a dummy variable: a value of 1 was assigned to companies with an odd number of commissioners, and a value of 0 was assigned to companies with an even number of commissioners. Company size was measured by the natural logarithm of the company's total assets. The calculation formula is as follows:

$$\text{Size} = \text{Ln}(\text{TA}) \quad \text{..... (2)}$$

Where:
Size = Company Size
Ln = Natural Logarithm
TA = Total asset

Leverage measured using Debt to Asset Ratio (DAR), with the following calculationformula:

$$\text{DAR} = \frac{\text{Total Liability}}{\text{Total Asset}} \quad \text{..... (3)}$$

Where:
DAR: Debt to Asset Rasio

Independent commissioners were measured by the percentage of independent commissioners on the board. Female commissioners were measured by the percentage of female commissioners on the board. The board size was measured by the total number of commissioners. This research utilized quantitative data, specifically secondary data from company annual reports accessed through www.idx.co.id. Data were collected using the nonparticipant observation method. To test the research hypotheses, multiple linear regression analysis was employed.

Result and Discussion

The independent variable in this study is the odd/even commissioner, represented as a dummy variable. Table 2 indicates a mean score of 0.507 for this variable, demonstrating a fairly even distribution. This is evidenced by the mean score's central position in the descriptive statistics. The control variables show the following mean scores: company size at 31,672, leverage at 0.510, and independent commissioners at 0.435. This indicates that,

on average, 43.5% of the board of commissioners are independent. The female commissioner control variable has a mean score of 0.075, meaning that only 7.5% of the commissioners in the sample companies are female.

Table 2. Descriptive Statistics Analysis Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Odd Even Commissioner	128	0.000	1.000	0.508	**0.502**
Size	128	28.989	34.799	31.672	**1.387**
Leverage	128	0.001	0.919	0.510	**0.224**
Independent	128	0.300	0.833	0.436	**0.118**

Source: Processed Data, 2020

The board size control variable has a minimum value of 3 and a maximum value of 13, consistent with UUPT Article 108, Paragraph 3, which states that the board of commissioners must consist of one or more members.

Table 2 shows the results of the descriptive statistical analysis using SPSS. Descriptive statistics provide a data description including the mean, standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness.

The hypothesis in this study was tested using linear regression analysis, considering the significance or probability level of the independent variable (odd-even commissioner) in relation to the dependent variable (corporate value). If the probability score is ≥ 0.05, the alternative hypothesis (Ha) is rejected and the null hypothesis (Ho) is accepted. The results of the linear regression analysis are presented in Table 3.

Table 3. Hypothesis Testing with Multiple Linear Regression

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	54.817	6.800		8.064	0.000
Odd-Even Commissioner	1.082	0.510	0.148	2.121	0.036
Size	-2.001	0.240	-0.759	-8.307	0.000
Leverage	3.913	1.370	0.239	2.858	0.005
Commissioner Independent	14.540	2.320	0.466	6.266	0.000
Female Commissioner	0.441	2.360	0.013	0.187	0.852
Board Size	0.361	0.140	0.204	2.625	0.010
Adjusted R Square					0.426
F Statistic					16.730
F Significant					0.000

Source: Processed Data, 2019

Based on the hypothesis testing results in Table 3, the F-statistic has a significance score of 0.000. This score indicates that the research model, which includes the independent variable (odd-even commissioners) and control variables (size, leverage,

independent commissioners, female commissioners, and board size), is valid and appropriate.

Table 4. Mann-Whitney U Test Results

	Tobins Q
Mann-Whitney	1.585
Wilcoxon	3.601
Z	-2.204
Asymp. Sig. (2-tailed)	0.027

Source: Processed Data, 2019

The adjusted R-squared score is 0.426, indicating that the model explains 42.6% of the variance in the dependent variable (corporate value), while the remaining percentage is attributed to variables outside this study. The Odd Even Commissioner variable has an unstandardized coefficient of 1.082 with a significance score (p-value) of 0.036, demonstrating a significant influence on corporate value. These findings align with previous research by Gao & Huang (2018) and He & Luo (2018).

When the board of commissioners is composed of an odd number of members, the decision-making process is more straightforward and efficient due to the absence of voting ties, fostering a unified perspective. In contrast, an even-numbered board is susceptible to voting ties, which can lead to divergent perspectives within the board.

Tables 4 and 5 present the results of the Mann-Whitney test, which was used to determine whether there is a difference in corporate value between companies with odd-numbered boards of commissioners and those with even-numbered boards. The results indicate significant differences in corporate value between these two groups. Companies with odd-numbered boards have a higher average corporate value compared to those with even-numbered boards. These findings are consistent with the multiple linear regression analysis and support the research hypothesis.

Gao & Huang (2018) identified two factors that influence voting behavior: performance preference and conformity preference. Performance preference motivates directors to vote independently based on their judgment and available information. Conformity preference encourages directors to align with the majority vote. In even-numbered boards, the possibility of equally strong dissenting votes leads directors to rely more on performance preferences. Conversely, in odd-numbered boards, directors are more likely to encounter a unified or majority perspective, prompting them to act in line with conformity preferences.

Table 5. Descriptive Results in the Mann-Whitney U Test

Odd Even commissioner	N	Mean Rank	Sum of Ranks
Even	63	57.160	3,601
Odd	65	71.620	4,655
Total	128		

Source: Processed Data, 2019

The score indicates that the odd-even effect on the board of commissioners is more pronounced in companies with a smaller board. This is because the likelihood of voting ties is higher compared to companies with a larger board of commissioners. However, as the number of commissioners increases, the possibility of voting ties and equally strong differing perspectives diminishes. To strengthen the study's findings, multiple linear regression analysis was conducted specifically on boards with fewer than seven commissioners. The results, presented in Table 6, show that the significance level has become stronger, decreasing from 0.036 to 0.011.

Table 6. Multiple Linear Regression Testing on a small Board Size Commissioner

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	60.940	11.870		5.134	0.000
Odd Even Commissioner	2.378	0.907	0.280	2.621	0.011
Size	-2.346	0.391	-0.555	-5.994	0.000
Leverage	4.952	2.047	0.228	2.419	0.018
Independent Commissioner	16.78	2.755	0.516	6.091	0.000
Female Commissioner	1.416	3.096	0.039	0.457	0.649
Board Size	0.896	0.434	0.227	2.063	0.043
Adjusted R Square					0.480
F Statistic					13.135
F Significance					0.000

Source : Processed Data, 2019

Conclusion

This article expands the understanding of board characteristics by introducing the concept of the odd-even effect in the structure of boards of commissioners. The study demonstrates that the proportion of odd or even members on the board affects corporate value. Additionally, it provides insights into agency theory, highlighting potential conflicts not only between principals and agents but also within the board, particularly between majority and minority agents. Boards with an odd number of commissioners reduce the likelihood of internal conflict, leading to more efficient voting and decision-making processes compared to even-numbered boards. These efficiencies, in turn, positively impact corporate value.

However, the study has limitations, including a relatively small sample size. It focuses solely on companies listed in the LQ 45 index. Future research should consider a broader range of companies, such as those in the manufacturing sector. Additionally, it is recommended to explore the performance effectiveness of odd and even-numbered boards from different perspectives.

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