Corporate governance and Indonesian state-owned companies' performance: Agency and institutional perspectives

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Abstract: The purpose of this study is to investigate the relationship between corporate governance practices and Indonesia’s SOEs’ performance. State-owned enterprises (SOEs) are often criticized for underperformance and political manipulation, raising doubts about the efficiency of implemented corporate governance mechanisms. Additionally, this research examines the moderating role of board diversity on the relationship between good corporate governance (GCG) and performance. This study adopted a quantitative method to analyze secondary data from SOE’s financial statements from 2012 to 2019. The key independent variable is the GCG score, while return on assets is the dependent variable. The regression model incorporates managerial diversion variables and control variables. Surprisingly, the results found that corporate governance practices adversely affect the performance of Indonesian SOEs, particularly when board members have political affiliations. Institutional theory explains the negative relationship between the implementation of GCG and the performance of state-owned companies from coercive and mimetic perspectives. The phenomenon often happens in a developing country when a new system is adopted without fully understanding its mission. Additionally, the significant role of the Board of Commissioners’ political connection as a moderating variable supports the conjecture of the managerial diversion perspective. This research contributes empirical insights for SOE stakeholders about corporate governance implementation and the performance of Indonesia’s SOEs from the perspective of an emerging economy. The paper contributes novel views to agency and institutional theory for developing countries.

Keywords: Agency theory, Corporate governance, Indonesia, Institutional theory, State-owned enterprises.

1. Introduction

Corporate governance is realized to improve company performance, OECD [1]. Berle and Means [2] Book, The Modern Corporation and Private Property, which was published in 1932, has been influential in the field of corporate governance since its release. Since then, the concept of corporate governance has continued to evolve in the scientific realm. The idea of corporate governance initially focused on the direction and control of companies by shareholders over the company’s operations. However, there exists a situation where the interests of shareholders and managers conflict with each other [2]. This conflict of interest in the companies is further explained by agency theory, where managers who are the agents tend to act against the shareholders’ or the principals’ interests [3] giving rise to the need for corporate governance.

Prior discussions about corporate governance generally concern companies listed in the capital market. Data on companies listed in the capital market is easy to obtain because the relevant authorities regulate it. Therefore, transparency is the basis for public companies to protect shareholders.
Nevertheless, business actors are not limited to public companies but more broadly include non-listed and state-owned enterprise (SOE) companies. SOEs contribute 10% of the world's growth domestic product (GDP). Despite that, current discussions do not distinguish much about the performance comparison between SOEs and non-SOEs. Literature analysis of the development of SOE research has grown in recent years. A total of 50.4 percent of studies are within the context of China. In that case, the research opportunities on SOE are still wide open. Daiser’s research argument states that research on SOE develops and enriches existing theories of the firm.

SOE has the task of generating profit, supporting government programs in the economic and social fields, and acting as a tool for economic intervention. In 2017, SOEs in Indonesia contributed approximately 16.41% to the state budget. In addition to contributions in the form of money, SOEs in Indonesia also serve as an extension of the government's hand in intervening in the economy. This intervention is primarily in terms of meeting the basic needs of the community. The study of Indonesia's SOE performance is critical because of the unique role of Indonesian SOEs and their input to the financial system of the nation. Being the country's backbone, the performance of SOEs, if not carefully monitored, will negatively impact Indonesia’s economic growth. Examining the good governance and corporate diversity of Indonesian SOEs can provide rich insight, as an increasing number of mismanagement and corruption cases have been reported among SOEs in Indonesia. The emerging economy of Indonesia adds to the uniqueness of this study.

In Indonesia, there is a prevailing perception that SOEs perform less effectively than their private counterparts. Consequently, as a shareholder, the government implements monitoring systems to boost the SOEs' performance. Since 2002, the government of Indonesia has implemented a Good Corporate Governance (GCG) system in its companies. In 2011, the government, as the shareholder, introduced a GCG scoring system for State-Owned Enterprises (SOEs). The Ministry of State-Owned Enterprises (MSOE) oversees independent organizations that conduct annual SOE assessments using this scoring system. The primary objective of assessing the GCG score is to oversee and appraise the performance of SOEs. Indonesia has 118 SOEs with an Indonesian Rupiah ( IDR) of 8.739 trillion in assets (2019). They contribute IDR 28.4 trillion in taxes and IDR 50 trillion in dividends. Out of 118 SOEs, there are 20 companies listed on the capital market. With the GCG scoring and monitoring by the government, it is helpful to look at whether corporate governance implementation in Indonesia effectively enhances the performance of SOE. Examining corporate governance in emerging countries like Indonesia provides unique insights distinct from prior studies.

The agency problem includes contracts, management discretion, and incentive contracts and they are relevant to the Indonesian SOEs. Indonesian SOE board members were appointed through a selection process called “fit and proper.” Board appointments for some SOEs require the approval of the Republic of Indonesia’s President, which makes the political process fit and proper. In addition to the agency problem, corporate governance deals with consistency, responsibility, accountability, fairness, transparency, and effectiveness. By following the GCG practice, SOEs are expected to perform better. Despite the GCG score implementation since 2011 discovered a tendency towards shared conservatism, mutual opportunism, and the acceptance of corruption in Indonesia's SOEs. The study found that owners of conglomerate businesses are able to take over the administration of SOEs by promoting themselves to higher positions. Hence, the issue persists: whether the influence of the corporate governance system introduced by the Indonesian authorities, evaluated by the GCG score, is reflected in the performance of the SOEs in Indonesia.

Consequently, this study’s main objective is to determine whether the implementation of corporate governance significantly impacts Indonesian SOEs' performance. Institutional theory may offer another competing perspective instead of agency theory in explaining the phenomena of Indonesia's SOEs. This study contributes a new view of Indonesian SOE in agency and institutional theories. This paper consists of five sections. The first section is the introduction. The second section discusses the theoretical framework, and the third section consists of the hypothesis development. The fourth section
is about the methodology of this study. The fifth section describes the results, while the sixth section discusses the results. Finally, the seventh section concludes the study.

2. Theoretical Framework
The research framework explores the link between corporate governance and SOEs’ performance, considering agency, institutional, and managerial diversion aspects. According to agency theory [3], conflicts arise between the government (principal) and SOE management (agents), potentially leading to opportunistic behavior and agency costs. Without effective monitoring, managers might prioritize personal gains over the government's interests, impacting firm performance. Bebchuk and Jolls [13] describe this as a managerial diversion, where managers redirect corporate resources for personal benefits like luxury, insider trading, and amusement, deviating from shareholder interests. Effective supervision is crucial to prevent such actions and ensure SOE resources contribute to the principal's wealth.

Due to this conflict of interest, corporate governance mechanisms have emerged as a monitoring tool to lower agency costs and minimize the conflict between the agent and principal [3, 14]. Corporate governance consists of a system, structure, and processes to direct and manage an organization to achieve the organization’s objectives. As part of a strategy to improve the performance of SOEs, the Indonesian government has implemented a GCG mechanism. This mechanism aligns the interests of management and the government, which in turn improves firm performance. This study, proposes a positive relationship between the GCG mechanism and SOE’s performance.

Nevertheless, implementing a system of corporate governance based on Western practices in a nation that is still developing, such as Indonesia, may not be as effective as the agency theory proposes. This situation can be explained using institutional theory. The institutional theory provides a competing viewpoint on corporate governance in SOEs compared to the agency theory, which views corporate governance as a method for reducing agency conflicts and, thus, improving performance. The study of institutional theory [15] demonstrates that organization are susceptible to coercive demands to conform due to politics, resource interdependence, and power dynamics. In the case of SOEs, the implementation of Western corporate governance structures can be influenced by political and regulatory isomorphism. Although this system is intended to be helpful to the economy from a strategic standpoint, its implementation substantially impacts the credibility of organizations that use public funds. Legitimacy is needed for organizations that utilize public funds. Hence, the usefulness of corporate governance in that case is doubtful.

Furthermore, uncertainty and an unclear mission in adopting one system produce a mimetic environment that exerts conformity pressure on firms, according to the institutional theory approach [15]. One instance of this is the implementation of the Anglo-Saxon corporate governance system by Indonesian SOEs. It is unknown whether this system can be successfully applied in this country. Organizations regularly employ comparable approaches to maintain perceived legitimacy, such as implementing a corporate governance framework, even though the implementation goal does not ensure effective operation. Using this competing argument from institutional theory, corporate governance implementation in Indonesia may not produce fruitful results in enhancing SOE’s performance.

Additionally, related to agency conflicts, the managerial diversion argument is derived, which explains the behavior of board members who exploit the company for their own benefit. The profit taken can be in the form of, and is not limited to, using the company's resources for personal gain, entertainment, excessive remuneration, bonuses, and insider trading [16]. Corruption is also included in managerial diversion [17, 18]. This study provides more specific managerial diversion by incorporating board political connections, female board members, board level of education, and their effect on performance.

Previous research revealed managerial diversions in SOEs, such as corruption, using company resources for personal gain, and bribery [19]. Thus, this raises the question of whether there is a relationship between managerial diversion and company performance. As one-state institutions, political
interests strongly influence SOEs [20]. The political background of the board, female board members, and board education became variables to test managerial diversion arguments [13, 21]. Placing board members with a political background in SOEs has become commonplace [20]. The placement of women on the board is part of board diversity, which affects the occurrence of managerial diversion [22]. Research in board education revealed the influence of doctoral education levels and the opportunity to become a board member [23]. The research conducted demonstrated that there exists a relationship between the educational attainment of board members with PhD degrees and the performance of the company. The studies also found that candidates with a Ph.D. have a greater chance of being selected for the board. On this note, this study tests whether a relationship exists between the GCG mechanism and SOE’s performance in Indonesia and whether board diversity underpinned by managerial diversion theory intervenes in such a relationship. According to this research, two competing theories-agency and institutional theories can explain the performance of SOEs in relation to effective corporate governance mechanism.

3. Hypotheses Development

3.1. Good Corporate Governance

The relationship between GCG and performance was proven through empirical studies conducted by some scholars. In the last half-decade, several researchers have presented varying conclusions and perspectives regarding the relationship between effective corporate governance and performance. The assertion from agency theory stresses the possibility of conflicting interests between principals and agents. It suggests that corporate governance mechanisms are required to align their interests and reduce the risk of opportunistic behavior [14]. This theory has significant repercussions for corporate governance and formulating incentive structures and quality assurance procedures within organizations. Thus, strict corporate governance will improve the firm’s performance and attract potential investors [24]. GCG is a mechanism to mitigate agency conflicts, thus decreasing agency costs and enhancing performance.

Furthermore, Choi, et al. [25] and Ko, et al. [26] hinted that GCG practices are related to reduced operational risk incidents, improved performance, and decreased chances of credit default. Thus, the stakeholders feel motivated to associate with the firm and ensure its growth in the future. In addition, GCG is also derived from the board’s ethical commitment to increase the strength of firms’ performance [27]. However, the findings contradict Suhadak, et al. [26] who argue that GCG does not influence firms’ performance. They found that the occurrence of the agency problem is due to the separation of ownership and management functions. Due to the board’s low managerial ownership and limited ability to align with corporate value-driven interests, the independent commissioners selected by shareholders to oversee and guide the company have not effectively fulfilled their roles [28]. Thus, it shows no relation between GCG and firms’ performance.

Another competing explanation that the institutional theory offers is that organizations are susceptible to coercive demands to conform [15]. Political and regulatory isomorphism can have an impact on the adoption of Western corporate governance structures by SOEs [29]. This can substantially impact the credibility of organizations that use public financing to make investments. Furthermore, legitimacy is needed for organizations that utilize public funds. Thus, the usefulness of corporate governance is doubtful, as its adoption can create uncertainty and an unclear mission, leading to a mimetic environment that exerts conformity pressure on individuals. This pressure can lead to adopting comparable approaches, such as implementing a corporate governance framework, even though the implementation goal does not ensure effective operation. Using the competing argument from the institutional theory, GCG implementation in Indonesia may produce less fruitful results in enhancing SOE’s performance.

With the mixed views and justifications from several scholars, the first hypothesis is proposed as follows, consistent with the agency theory:

H: There is a positive relationship between GCG Mechanisms and SOE performance.
3.2. Board Diversity

3.2.1. Board of Directors and Board of Commissioners’ Political Connection

Prior studies have demonstrated that boards’ political connections affect firms’ performance in positive and negative ways. Clean practices by the government and politicians make the company perform well and avoid corruption [30]. Political connection favors certain regulatory conditions and competence to access resources such as documentation and access to confidential information [31]. Consequently, it increases the company’s efficiency, productivity, and performance. Next, political connections play a role in securing funding to invest in Corporate Social Responsibility (CSR) [32]. Hence, the value and performance will increase with the aid of CSR. The additional factor is the ability of politically connected firms to obtain loans with lower interest rates [33]. As a result, the company will increase its cash flow financing ability, thus improving its financial performance.

Board diversity, in the form of political connections, can also negatively influence firm performance. Conflicts of interest existed when the board used political connections in decision-making [34]. When the board makes one-sided decisions in favor of themselves, it leads to corruption and mismanagement, leading to poor financial performance [35, 36]. Corruption is part of managerial diversion [37]. Political connections force companies to incur huge expenses, such as government contractual services, bailout guarantees, and risky lending services [38]. Therefore, huge expenses lead to poor financial performance and reduced earnings management [39]. Weak judicial and unstable political systems lead to low investor confidence [40]. Hence, board political connections may open opportunities for managerial diversion, providing implications for the bad reputation of the company and its performance.

Empirical research has been carried out to understand the relationship between politically connected boards and the performance of SOEs in Indonesia. A survey by Junus, et al. [33] found that SOEs with politically connected boards have worse financial performance than SOEs without such connections. This study was conducted using a dataset of publicly listed SOEs in Indonesia. This study draws the conclusion that politically connected boards may have less effective monitoring and control by the board and may also have fewer incentives to maximize shareholder value [33, 39].

Hence, based on the mixed findings reported above, this study proposed the second and third hypotheses as follows:

H₂: There is a negative relationship between the Board of Director’s political connection and SOE performance.
H₃: There is a negative relationship between the Board of Commissioners’ political connection and SOE performance.

3.2.2. Female Board Members on Board of Directors and Board of Commissioners

Previous studies have shown that female board members influence firm performance. Some scholars found that female board members significantly and positively influence firm performance. The board’s decision-making is enriched through the successful implementation of feminization [41, 42]. By elevating the overall diversity of cognition, knowledge, and expertise, this approach is effective. In addition, female board members facilitated financial statements effectively, managed the equity market without violations, and did not bring any bad news that led to the company’s stock crash [43]. The attributes possessed by female board members will enhance a company’s performance. It is worth noting that women who hold positions on boards are more inclined towards ethical conduct and are less likely to take risks [44]. They pay attention to detail and take fewer risks than men [45]. Hence, it completely eradicates the old philosophy that males are superior to females. Based on the above, female directors tend to perform less managerial diversion as they are more ethical and risk-averse, hence enhancing the performance of SOEs.

Contrary to this, previous research shows that female board members do not significantly influence firm performance. Gender is not an issue in electing and hiring the board of directors [46]. Regardless of gender, the company treats them equally and ensures their performance meets the objectives—next, the lack of experience as female board members. Most are first-time directors who play little role in
Male board members play a crucial part in ensuring that the company’s performance remains unaffected. This, in turn, keeps the company’s performance on the right track. With the mixed findings reported pertaining to the association of female board members with the company’s performance, two hypotheses are proposed as follows:

H₄: There is a positive relationship between the number of female Board of Directors and SOE performance.

H₅: There is a positive relationship between the number of female Board of Commissioners and SOE performance.

3.2.3. Board of Directors and Board of Commissioners’ Education

Several scholars found that board diversity education positively and significantly influences firms’ performance. Companies that have a greater number of owners or directors with degrees from universities tend to be more efficient in their operations and experience more growth. Companies that have a greater number of owners or directors with degrees from universities tend to be more efficient in their operations and experience more growth [48]. This indication leads to firms growing more in terms of turnovers. Having boards with higher education makes them dominate their voices in companies’ strategies, policies, and decisions [49]. Hence, these attributes make companies spearhead growth and lead towards better performance. Managerial knowledge and experience are crucial for firms’ performance [50]. Higher education backgrounds possessed by board members make companies more competitive [51]. Therefore, the company needs highly educated board members to ensure they can deliver on the firm’s performance.

However, several scholars discovered that board diversity education is negatively related to firm performance. This occurrence is due to the erroneous belief of some companies that a low education background leads to better performance [52]. A company with a highly educated board of directors may harm the company’s performance because of the overconfidence biases of educated board members [53]. Additionally, Gounopoulos, et al. [54] hinted that highly educated board members manipulate stock prices as another practice of managerial diversion. This action is particularly severe in situations characterized by more significant uncertainty and considerable information asymmetry between firms as issuers and potential investors. Hence, it will lead to unsold stocks and a decline in firm performance.

On the other hand, Hosny and Elgharbawy [55] demonstrated no significant relationship between board education and firm performance. It means that board members’ educational backgrounds do not determine firms’ performance. With the different findings and justifications presented, there are two hypotheses proposed:

H₆: There is a positive relationship between the Board of Director’s education and SOE performance.

H₇: There is a positive relationship between the Board of Commissioner’s education and SOE performance.

3.3. Moderating Role of Board Diversity Mechanism

Board diversity has been tested as a moderating variable or delivered a moderating effect by some scholars for the past few years. For example, Akinyomi, et al. [56] found that Chief Executive Officer (CEO) duality has a negative impact on firm performance and that board diversity moderates this relationship by reducing the negative impact of CEO duality on firm performance in Nigeria. Board diversity is also used as a moderating variable in Hassan, et al. [57] and Kamardin and Ahmad [58], who suggest that having a diverse board can help enhance the positive association of CSR with firm performance in Malaysia.

From the above, having a diverse board can help mitigate the adverse effects of certain governance structures, enhance the positive effects of CSR on firm performance, and promote more socially responsible practices in companies. This current study proposes that board diversity can positively or negatively affect the relationship between GCG and SOEs’ performance. The managerial diversion arguments can explain this occurrence.
3.3.1. Political Connection

According to prior studies, the political connection of board diversity moderates the relationship between corporate governance and other variables. For example, in the case of the association between corporate governance and information asymmetry [59]. The evidence shows that more information is disclosed by firms with better governance and political connections. Additionally, political connections reduce the positive relationship between green innovation and financial performance [60]. The strict policy that encourages firms to appoint non-political individuals as board members enhances the performance of the firm.

A previous study tested the relationship between GCG, political connection, and performance. Karaman, et al. [61] found that GCG weakens the relationship between board diversity, political connection, and performance. It indicates weak corporate governance, characterized by an ineffective board of directors. Almarayeh, et al. [62] used political connection as the moderating variable between governance and performance. It was the influence of board members and politicians that could either strengthen or weaken the governance and performance. On the other hand, Brooks and McGuire [63] tested political connection as the moderating effect between corporate social responsibility and future bankruptcy. It shows that political connections weaken the relationship, reducing future bankruptcy and increasing CSR. In addition, political connection is also tested as a moderating variable in the relationship between related party transactions and firm performance. During times of political instability, politicians have been found to utilize related party transactions, resulting in the expropriation of some firms [64].

Hence, the two hypotheses are proposed as:

1. The Board of Directors’ political connection moderates the relationship between GCG mechanism and SOE performance.
2. The Board of Commissioners’ political connection moderates the relationship between GCG mechanisms and SOE performance.

3.3.2. Female Members of the Board of Directors’ and Board of Commissioners

Prior research indicates that the relationship between the female board and firm performance is moderated by GCG. Nevertheless, some prior studies utilize female board directors as a proxy for board diversity as a moderating effect. For instance, Gómez-Bezares, et al. [65] revealed that female board members reduced the association between pay-gap and the performance of the company. Moreover, Jhunjhunwala, et al. [47] demonstrated that board diversity in the form of female directors has negatively moderated the relationship between innovation and firms’ value. The reason for this occurrence is that female boards are not credible in marketing innovation, and they lack experience in complex business decision-making. Therefore, the two hypotheses proposed are:

1. Female members on the Board of Directors moderate the relationship between GCG and SOE performance.
2. Female members on the Board of Commissioners moderate the relationship between GCG mechanisms and SOE performance.

3.3.3. Board of Directors and Board of Commissioners’ Education

A review of prior literature found a lack of empirical research that examined whether GCG moderates the relationship between education’s board diversity and firm performance. Al Matari and Mgammal [66] demonstrated that board members’ education is associated with the firm’s performance. A similar study was conducted by Hatane, et al. [67] where education board diversity is utilized as a moderating variable in place of GCG. Hatane, et al. [67] found that education has negatively moderated the relationship between working capital and the firm’s performance. This is because personnel with better education provide greater strategic resources and more effective monitoring to mitigate agency conflicts. Based on the argument above, the hypotheses are proposed as follows:
**H1**: Board of Directors’ education moderates the relationship between GCG mechanisms and SOE performance.

**H2**: Board of Commissioners’ education moderates the relationship between GCG mechanisms and SOE performance.

### 4. Research Method

#### 4.1. Sample

This study focuses on all 118 state-owned companies in Indonesia from 2012 to 2019. The data was collected from annual audited financial reports during this period. These reports are considered secondary data. The population of interest comprises all 118 Indonesian SOEs, and data processing occurs annually, aligned with the publication timeline of each company’s financial statements. Of the 118 SOEs, 20 are listed on the Indonesia Stock Exchange. The research spans from 2012 to 2019. The year 2012 was chosen as the starting point because regulations mandating SOE companies to assess the implementation of GCG were introduced. The study concludes in 2019 because the available annual reports serve as the estimated data source, extending to that year. As of the completion of this analysis, only 77 out of the 118 companies have conducted and reported their GCG scores.

<table>
<thead>
<tr>
<th>No.</th>
<th>SOEs</th>
<th>Total</th>
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<tbody>
<tr>
<td>1</td>
<td>Report GCG score assessment</td>
<td>77</td>
</tr>
<tr>
<td>2</td>
<td>Report with a different method (ACGS)</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Not reporting GCG score assessment</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>118</td>
</tr>
</tbody>
</table>

The final sample of the study is presented in Table 1. The study’s final sample consists of 77 SOE companies, of which 20 are listed and the remaining 57 are non-listed.

#### 4.2. Measurements of Variables

This study investigates the relationship between a company’s GCG score and financial performance. Data on financial and corporate governance variables were manually collected from the annual reports of SOEs from 2012 to 2019. The study employs Return on Assets (ROA) as the performance metric, with ROA calculated by dividing net income by total assets. In this analysis, ROA is the dependent variable, while the GCG score is the independent variable, representing corporate governance mechanisms. The GCG score for SOEs encompasses various governance aspects, such as the commitment to sustainable implementation by companies, shareholders, the board of commissioners, directors, disclosure, and transparency, as detailed in Table 1[9]. The MSOE of Indonesia administers this scoring system, allowing this research to assess GCG implementation in SOEs through the government’s scoring mechanism.

An independent assessor appointed by the board of SOE is responsible for performing a GCG execution valuation every two years in accordance with the MSOE degree number PER-01/MBU/2011 [8]. A choice is given to the Board of Directors of an SOE to engage a government agency capable of GCG score valuation to perform the duty. The rigid and time-consuming procurement process drives the recommendation of a direct appointment. The Badan Pengawas Keuangan dan Pembangunan (Finance and Development Supervisory Agency) is the government agency tasked with performing GCG score valuation. Following the process set by the MSOE, the GCG score is applied to measure the GCG of SOEs, and the components of the GCG score are demonstrated in Table 2.
Eight additional independent variables could impact performance. The variables BOD_POL and BOC_POL, respectively, identify board of directors (BOD) and board of commissioners (BOC) members with political backgrounds. These individuals may be bureaucrats or state officials holding official positions on the board. According to the World Bank report titled "Bureaucrats in Business: The Economics and Politics of Government Ownership" [68, 69], bureaucrats and politicians are considered equivalent. This classification is applied to boards with some political background. The variables BOD_F and BOC_F, respectively, represent the percentage of women on the BOD and BOC. The variables BOD_EDU and BOC_EDU, respectively, represent members of the BOD and BOC who have earned PhDs.

The debt-to-equity ratio (DER) and asset growth are control variables in this study. Control variables are included to ensure that the impact of independent variables on dependent variables is not influenced by unexplored external factors [70]. These variables were demonstrated to affect dependent variables significantly in the estimation and help maintain the integrity of the analysis.

4.3. Equation Model

The primary purpose of this study is to investigate the relationship between the GCG and board diversity: political connection, female members, and education of BOC, BOD, and SOEs’ performance. The equation model of this study is:

\[ ROA_{it} = C + \beta_1 \text{GGC}_{it} + \beta_2 \text{BOD}_\text{Pol} + \beta_3 \text{BOC}_\text{Pol} + \beta_4 \text{BOD}_F + \beta_5 \text{BOC}_F + \beta_6 \text{BOD}_\text{Ed} + \beta_7 \text{BOC}_\text{Ed} + \beta_8 \text{GGC} \times \text{BOD}_\text{Pol} + \beta_9 \text{GGC} \times \text{BOC}_\text{Pol} + \beta_{10} \text{GGC} \times \text{BOD}_F + \beta_{11} \text{GGC} \times \text{BOC}_F + \beta_{12} \text{GGC} \times \text{BOD}_\text{Ed} + \beta_{13} \text{GGC} \times \text{BOC}_\text{Ed} + \beta_{14} \text{DER} + \beta_{15} \text{Asset\_growth}_{it} + \epsilon_{it} \]

Where ROA is Return on Assets Company i and year t. C is Constant. GCG is Good Corporate Governance Mechanism. BOD_Pol is BOD with political background. BOC_Pol is BOC with political background. BOD_F is BOD Female. BOC_F is BOC Female. BOD_Ed is BOD with doctoral education. BOC_Ed is BOC with doctoral education. GCG*BOD_Pol is BOD with political background moderates the relationship between GCG score and performance. GCG*BOC_Pol is BOC with political background that moderates the relationship between GCG score and performance. GCG*BOD_F is Female BOD moderates the relationship between GCG score and performance. GCG*BOC_F is Female BOC moderates the relationship between GCG score and performance. GCG*BOD_Ed is BOD education moderates the relationship between GCG score and performance. GCG*BOC_Ed is BOC education that moderates the relationship between GCG score and performance. DER is Debt-to-Equity Ratio. Asset_growth is Assets Growth. \( \epsilon \) is Error term.

5. Results

5.1. Descriptive Statistics

Referring to Table 3, the average Return on Assets (ROA) of Indonesian SOEs reporting Good GCG scores from 2012 to 2019 is 0.06, or 7%, ranging from -31% to +20%. Notably, PT Angkasa Pura I (Persero) achieved the highest ROA, managing airports in the eastern region and enjoying a monopoly in airport management. Conversely, PT Merpati Nusantara Airlines (MNA) had the lowest average
ROA and declared bankruptcy in 2022 due to mismanagement. The average GCG score for reporting SOEs is 86.26, predominantly falling within the 'excellent' category (60.04 to 100), with 60% classified as 'excellent' and none as 'not good enough' or 'bad.'

Considering financial metrics, the average Debt-to-Equity Ratio (DER) for all SOEs is 2.18, or 218%, indicating debts are twice the capital. PT Inti stands out with a maximum DER of 36.82, or 3,682%, correlating with its lowest average ROA of -31%. In contrast, PT Boma Bisma Indra (Persero) has a negative DER due to cumulative losses. Listed SOEs show a minimum DER of 0.01 or 1% and a maximum of 11.39 or 1,139%. The average Asset growth for reporting SOEs from 2012-2019 was 19%.

Examining political backgrounds, the average percentage of Board of Directors (BOD) members with political ties is 12%, while for the Board of Commissioners (BOC), it is 80%. Some SOEs, like PT Asabri (Persero), faced a major corruption case in 2020 with an entirely politically affiliated board. Nevertheless, PT Asabri (Persero) had a high GCG score (90.04) and a 3% ROA from 2012 to 2019. PT Sarinah (Persero) boasts a 100% female BOD, showcasing diversity. The average highest educational levels for BOD and BOC members are a Master's and a PhD, respectively, among the 77 reporting SOEs.

This data concurs with previous research, such as Apriliyanti and Kristiansen [12] highlighting Indonesian SOEs as substantial debtors. The findings showcase Indonesian SOEs’ diverse performance and governance landscape, ranging from financial successes to mismanagement and corruption.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std.dev.</th>
</tr>
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<tbody>
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<td>ROA</td>
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<td>-0.31</td>
<td>0.34</td>
<td>0.07</td>
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<td>GCG</td>
<td>86.26</td>
<td>60.04</td>
<td>99.77</td>
<td>6.92</td>
</tr>
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<td>DER</td>
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<td>-10.50</td>
<td>36.82</td>
<td>3.51</td>
</tr>
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<td>0.22</td>
</tr>
<tr>
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<td>1.00</td>
<td>0.23</td>
</tr>
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<td>BOC_POL</td>
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<td>0.00</td>
<td>1.00</td>
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</tr>
<tr>
<td>BOD_F</td>
<td>0.08</td>
<td>0.00</td>
<td>1.00</td>
<td>0.15</td>
</tr>
<tr>
<td>BOC_F</td>
<td>0.09</td>
<td>0.00</td>
<td>0.67</td>
<td>0.15</td>
</tr>
<tr>
<td>BOD_EDU</td>
<td>3.32</td>
<td>2.00</td>
<td>4.00</td>
<td>0.49</td>
</tr>
<tr>
<td>BOC_EDU</td>
<td>3.75</td>
<td>2.00</td>
<td>4.00</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Note: ROA is return on assets; ROE is return on equity; GCG is good corporate governance mechanism; BOD_Pol is BOD with political background; BOC_Pol is BOC with political background; BOD_F is BOD female; BOC_F is BOC female; BOD_S3 is BOD with doctoral education; BOC_S3 is BOC with doctoral education; DER is debt to equity ratio; assets growth is assets growth.

5.2. Regression Results

The Jarque-Bera test, which confirmed the normal distribution of residuals (JB = 2.89, p = 0.24), validated Feasible Generalized Least Squares (FGLS) as the full model after applying various tests. No violation of multicollinearity was found (Variance of Inflation scores < 10). Analyzing direct relationships as demonstrated in Table 4, GCG had a negative significant effect on ROA (β = -0.0009, p < 0.005), while ASSET had a positive significant effect (β = 0.0131, p < 0.001). Companies with BOD members holding PhDs showed better ROA (β = 0.068, p = 0.005), contrasting with BOC members, where those without PhDs had a better ROA (β = -0.068, p = 0.005). Regarding moderating variables, BOC with political connections weakened the negative relationship between GCG and performance (β = 0.0016, p < 0.005). Results remained consistent when regressions were performed without moderating variables. The Adjusted R² value for the full model indicates that independent variables can explain 71.90% of the dependent variable's distribution. Similarly, using ROE as an alternative performance measure yielded consistent results.
### Table 4.
FGLS regression result.

<table>
<thead>
<tr>
<th>Variables</th>
<th>FGLS full coefficient</th>
<th>t-statistic</th>
<th>FGLS reduced coefficient</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>ROA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.058</td>
<td>17.890**</td>
<td>0.137</td>
<td>8.156**</td>
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<tr>
<td>GCG</td>
<td>-0.001</td>
<td>-2.152*</td>
<td>-0.001</td>
<td>-5.329**</td>
</tr>
<tr>
<td>DER</td>
<td>-0.000</td>
<td>-0.434</td>
<td>-0.000</td>
<td>-0.121</td>
</tr>
<tr>
<td>Asset_growth</td>
<td>0.013</td>
<td>2.782*</td>
<td>0.005</td>
<td>3.630**</td>
</tr>
<tr>
<td>BOD_Pol</td>
<td>0.008</td>
<td>0.801</td>
<td>0.014</td>
<td>1.562</td>
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<tr>
<td>BOC_Pol</td>
<td>0.002</td>
<td>0.262</td>
<td>0.005</td>
<td>0.871</td>
</tr>
<tr>
<td>BOD_F</td>
<td>-0.006</td>
<td>-0.561</td>
<td>-0.009</td>
<td>-1.110</td>
</tr>
<tr>
<td>BOC_F</td>
<td>0.008</td>
<td>0.835</td>
<td>0.014</td>
<td>0.835</td>
</tr>
<tr>
<td>BOD_S3</td>
<td>0.007</td>
<td>1.867*</td>
<td>0.008</td>
<td>1.867*</td>
</tr>
<tr>
<td>BOC_S3</td>
<td>-0.007</td>
<td>-2.062*</td>
<td>-0.008</td>
<td>-2.062*</td>
</tr>
<tr>
<td>GCG*BOD_Pol</td>
<td>0.002</td>
<td>1.315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCG*BOC_Pol</td>
<td>-0.002</td>
<td>-1.925*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCG*BOD_F</td>
<td>-0.001</td>
<td>-0.867</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCG*BOC_F</td>
<td>0.000</td>
<td>0.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCG*BOD_PhD</td>
<td>0.000</td>
<td>0.733</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCG*BOC_PhD</td>
<td>0.000</td>
<td>-0.864</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R-square</td>
<td>0.719</td>
<td></td>
<td>0.767</td>
<td></td>
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<tr>
<td>F statistic</td>
<td>15.847</td>
<td></td>
<td>16.595</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>597</td>
<td></td>
<td>597</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** ** and * represent statistical significance at 1 and 5 percent, respectively. Denotation is the same as in Table 3.

#### 6. Discussion

The panel data regression results (Table 4) show that putting in place GCG mechanisms (as shown by the GCG score) is negatively linked to performance as measured by the return on assets (ROA). Despite the study positing a positive relationship, the findings reveal the opposite, suggesting an unexpected negative correlation. Thus, hypothesis 1 is not supported. Theoretically, agency theory suggests corporate governance is the mechanism to solve agency conflicts, thus enhancing performance. Nevertheless, this empirical research shows no such evidence. Institutional theory can explain this phenomenon. The agent carries out principal regulation solely to fulfill obligations without regard to the company’s benefits. In institutional theory, this agent attitude reveals the existence of coercive isomorphism, namely the pressure from the principal on the agent [15]. The institutional theory argues that the company will follow an entrenched, specific pattern or culture [29]. In the context of SOEs, the pattern followed is non-reserve compliance with the provisions of the dominant shareholders [71, 72]. In the context of institutional theory, Indonesian SOEs experience coercive isomorphism, normative isomorphism, and mimetic isomorphism. Coercive isomorphism is the observance of regulations set by the government, while normative isomorphism is the pressure of the environment on fellow SOEs [15]. Therefore, assessing GCG through GCG score is merely compliance instead of reflecting the system’s effectiveness.

Additionally, the study investigates the influence of various governance factors on SOE performance. Findings reveal that the political connections of the Board of Directors and the Board of Commissioners do not significantly impact SOEs' performance, contradicting some previous claims, such as in Barraza, et al. [34] and El-Chaarani and Lombardi [38]. The lack of conflict of interest, no substantial financial burden, and the influence of a poor legal system are reasons opposing the expected negative effects. However, these results are supported by Hemdan, et al. [73]. The government and politicians do not interfere with company operations or decision-making matters. Moreover, the study
finds that female members on the Board of Directors or Board of Commissioners do not significantly influence SOEs' performance. The lack of gender-based biases in board selection and the relative inexperience of female members contribute to this result, aligning with the findings of Jhunjhunwala, et al. [47] and Shukeri and Alfardy [46].

On the other hand, the education level of the Board of Directors is found to significantly and positively influence SOEs' performance, consistent with various studies such as Brahma, et al. [74] and El-Khatib and Joy [75]. Having a board of directors with higher academic qualifications lets them control company plans, policies, and decisions. As a result, these characteristics propel the organizations towards growth and greater performance. Management expertise and experience are essential to the functioning of businesses. However, the education level of the Board of Commissioners is observed to have a significant negative impact, contrary to prior research, possibly due to misconceptions and overconfidence biases. The study contradicts the findings of Hosny and Elgharbawy [55].

Additionally, the research explores the moderating effects of political connections, gender diversity, and education levels on the relationship between GCG and SOEs' performance. The Board of Directors' political connections do not significantly moderate this relationship. The lack of interference by politicians in company operations is highlighted, supporting Almarayeh, et al. [62] and Cheikh and Louki [64]. However, the Board of Commissioners' political connections weaken it, supporting the managerial diversion theory. Managers may make decisions not in the company's and its shareholders' best interests, leading to misallocation of company resources, which can negatively impact financial performance. Finally, the education levels of the Board of Directors and Board of Commissioners do not significantly moderate the relationship between GCG and SOEs' performance, contrary to some previous research. The study contributes by challenging and partially filling the existing research gap.

7. Conclusion

This study aims to examine the relationship between GCG and board diversity and the performance of SOEs in Indonesia, where board diversity is tested as a moderating variable. The study differs from others as it utilizes the GCG score obtained from the Ministry of SOEs as a proxy for implementing GCG. This study discovered that implementing GCG is negatively related to the performance of SOEs. In addition, the board of directors' and board of commissioners' education levels are found to be negatively related to the company's performance. Besides, other board diversity variables, such as boards with political connections and women on board, are found not to be related to the company's performance. Among the moderating variables, the Board of Commissioners' political connection significantly weakened the relationship between GCG and SOEs' performance.

Institutional theory explains the negative relationship between implementing GCG and the performance of state-owned companies from coercive and mimetic perspectives. The phenomenon often happens in a developing country when a new system is adopted without fully understanding its mission. Additionally, the significant role of the Board of Commissioners' political connection as a moderating variable supports the conjecture of the managerial diversion perspective. The proof is that agents control and attempt to self-enrich through diversion. This study raises concerns about the risk of the corporate governance structure in Indonesia devolving into a mere rubber stamp rather than effectively fulfilling its role as a check and balance. Adopting management diversion in Indonesian SOEs contributes to this potential danger. This perspective aligns with the concept of mimetic isomorphism within institutional theory. Stakeholders such as shareholders, investors, and capital market regulators are highlighted as practitioners who should pay increased attention to the risk of managerial diversion. The study offers potential contributions to ongoing research discussions, shedding light on Indonesian SOEs' characteristics and corporate governance practices. Furthermore, it advances understanding by exploring how the Western corporate governance system operates in emerging nations with diverse cultures and environments.

This research is confined to SOEs in Indonesia, with the primary limitation revolving around data availability. Inconsistencies in reporting GCG score assessments by some SOEs, including non-
responsiveness to data requests, pose challenges. The study's measurement of GCG is also restricted to the GCG score submitted to Indonesia's MSOE. The findings prompt questions regarding the assessment method's reliability, despite its certification by the Ministry.

Since this study focuses solely on one nation, a valuable avenue for future research would involve cross-national comparisons, particularly within the Asian region. Examining the reliability of the GCG score as a method for assessing corporate governance could be a fruitful direction for further investigation. Subsequent research might involve comparisons with private companies within specific industries and expand its scope to regional SOEs and economic cooperation communities, such as member countries of the Association of Southeast Asian Nations (ASEAN), the European Union, the North American Free Trade Area (NAFTA), and the Asia-Pacific Economic Association (APAEA).

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The authors declare that they have no competing interests.

**Authors’ Contributions:**
All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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