

The Relationship Between Board Capital, Firm Performance, and Firm Value : Evidence from Indonesian Firms.

Dwi Nova Wijaya¹, Wendy², Helma Malini³

^{1,2,3} Doctoral Study Program in Management, Faculty of Economics and Business, Tanjungpura University, Pontianak, Indonesia

Abstract: This study examines the influence of board capital and firm performance on the firm value of companies listed on the Indonesia Stock Exchange. Using resource dependence theory and agency theory, this research aims to explore how board capital, which includes networks, education, and professional experience, and firm performance, measured by Return on Assets (ROA), affect firm value. Data were collected from 459 firm-year observations over the period 2014-2022 and analyzed using panel data regression. The results show that board capital and firm performance have a significantly positive effect on overall firm value, particularly in the basic materials sector. However, in the energy sector, board capital exhibits a significantly negative effect. These findings suggest that the magnitude and direction of the influence of board capital and firm performance are highly dependent on industry context. In conclusion, enhancing board capital can be an effective strategy to increase firm value in specific sectors, but it must be accompanied by consideration of relevant industry factors.

Keywords: board capital, firm performance, firm value, Sector Industry

I. Introduction

In the modern business world, firm value has become one of the key indicators used by investors and other stakeholders to assess the health and long-term prospects of a company. Many factors influence firm value, including board capital and firm performance. These two variables play a crucial role in shaping the market's perception of a company's ability to create value for its shareholders.

Board capital refers to the resources, expertise, experience, and networks possessed by members of the board of directors. Previous research has shown that boards with high board capital can provide significant strategic contributions to the company, such as more effective oversight, better strategic advice, and broader access to external resources (Hillman & Dalziel, 2003). In this context, board capital is considered one of the key assets that can enhance firm value by strengthening the foundation of good corporate governance (Jensen & Meckling, 1976).

In addition, firm performance is also a key factor contributing to firm value. Good performance indicates that the company is able to manage its resources efficiently and effectively, which in turn increases investor confidence and raises the company's stock price. Research shows that companies with solid financial performance tend to have higher market value due to lower perceived risk and better growth prospects (Hasanudin et al., 2020).

However, although many studies have examined the relationship between board capital, firm performance, and firm value, the results remain varied. Some studies suggest that board capital and firm performance have a positive impact on firm value (Hillman & Dalziel, 2003), while others find that the impact depends on specific contexts such as industry or market conditions (Duru et al., 2016). In the context of the Indonesian capital market, research on the combined role of board capital and firm performance in enhancing firm value is still relatively limited, indicating the need for further studies to clarify these dynamics.

This study aims to examine in-depth the impact of board capital and firm performance on firm value in companies listed on the Indonesia Stock Exchange. By integrating the perspectives of resource dependency theory and agency theory, this research is expected to provide significant theoretical contributions and valuable practical insights for managers and stakeholders in enhancing firm value through effective board management and firm performance.

II. Literature Review

Board Capital and Firm Value

This study evaluates the relationship between board capital, in terms of their network capital, education, and professional experience, and firm value, proxied by the company's Tobin's Q, in the context of the Indonesian capital market. The theoretical framework is based on the concept of board capital as an organizational input. This concept originates from Pfeffer *et al.* (1978) work in Resource Dependence Theory and attempts to integrate perspectives on information asymmetry in Signaling Theory with resource dependence to explain the role of directors in firm value.

The Resource Dependence Theory proposed by Pfeffer *et al.* (1978) argues that organizations depend on the resources available in their environment to survive and grow. Consequently, a company's value is determined by the extent to which it can acquire and efficiently utilize those resources. In this regard, the role of directors is crucial as they are responsible for identifying, negotiating, and securing these resources. Signaling Theory is rooted in the concept of information asymmetry, where some parties have more or better information than others. In this context, company directors play a key role in communicating or signaling important information about the company to shareholders, investors, and other stakeholders.

The integration of these two theories provides a comprehensive perspective on how directors influence firm value. A good director must not only be able to acquire and manage resources efficiently in line with Resource Dependence Theory but also effectively communicate the company's condition and prospects in accordance with Signaling Theory. When both aspects are well-managed, they help the company achieve optimal performance and increase value for shareholders. This integrative view suggests that a key function of the board of directors is to provide and/or secure resources through relationships with the external environment. By having directors who function to connect the company with its external environment, the board can reduce uncertainty. Directors also provide information to stakeholders.

The concept of board capital is typically defined as the sum of two components: (i) human capital and (ii) relational capital. The former relates to an individual's education, while the latter pertains to their networks and professional experience. These attributes are intrinsic to individuals and emerge as competitive characteristics in the director labor market. Consequently, the set of attributes related to an individual's professional profile becomes a source of director characteristics in terms of the company's profile and ultimately its attractiveness to investors.

The underlying assumption of this study is that the components of board capital, namely networks, education, and professional experience, are exogenous. This means that the appointment of directors with the desired capital, whether from within or outside the organization, is constrained by the availability of alternative or potential candidates who can join the board of directors. This integrated model predicts that board capital is positively related to the provision of resources and the ability to inform directors. Both channels will enhance firm value. Therefore, increasing the board capital of the company becomes a source of director diversity.

Board capital is incorporated into the model as an organizational contract that enhances or reduces the provision of resources. These contracts have a controlling effect. One such effect is the appointment of directors, which increases the efficiency of director oversight and enables the provision of relational resources to the companies they serve as directors. It is expected that directors will bring independent judgment to board decisions. Higher board capital serves as a market signal of strong corporate governance. In this context, external investors associate a strong board with the backgrounds of its members. The transmission mechanism implied by higher board capital—due to higher levels of education, professional experience, and networks among directors—improves overall efficiency in oversight and provides advice to management, ultimately benefiting shareholders. Previous research has empirically revealed a positive relationship between human capital and firm value. Sisodia *et al.* (2021) found a positive relationship between human capital and firm value. Human capital creates value in three ways: first, by better utilizing current growth opportunities; second, by creating future growth opportunities; and finally, by reducing the volatility associated with a company's growth rate. Veltri and Silvestri (2011) also examined the components of human capital, organizational capital, and relational capital in creating firm value. The results showed a significant positive relationship between the value of human capital, organizational capital, and relational capital and firm value. Meanwhile, Jucá and Fishlow (2022) conducted a study on social capital, which refers to company attributes such as trust, citizenship behavior, and relationship networks. The results indicated a positive and significant relationship between social capital and firm value. Additionally, Cline and Yore (2016) reported that the age and experience of the CEO have a positive and significant impact on firm value.

There are views on the impact of board size on firm performance. Some authors argue that a larger board can provide the company with abundant knowledge and expertise, which can enhance firm performance. Additionally, having more directors on the board can increase the board's monitoring capacity and the company's ability to establish external relationships (Lahlou, 2018).

The network capital where a CEO has a political ideology background can reflect their beliefs and values, influencing their managerial actions and decisions. While liberal ideology aligns with openness to uncertainty and tolerance for change, political conservatism involves resistance to change and fear of uncertainty. Some studies have found that higher risk tolerance and greater openness to uncertainty among liberal CEOs are reflected in their strategic decisions, which accelerate cash flows but also increase cash flow volatility. Kashmiri and Mahajan (2017) found that companies led by CEOs with a Democratic tendency have higher stock returns but also higher stock return volatility. Similarly, Unsal *et al.* (2016) found that compared to companies with Democratic CEOs, companies with Republican CEOs experience relatively poorer firm performance, more agency conflicts, and fewer abnormal returns in buy-and-hold strategies.

Network capital where a CEO has a military background. Service in the military can alter an individual's behavior in various ways that may influence their decisions and actions when they later become CEOs. While psychological literature suggests that military service is associated with overconfidence, aggressiveness, and risk-taking behavior, several studies, such as, Benmelech (2015); (Guo et al., 2020; Lin et al., 2021; Wong et al., 2003; Zhang et al., 2022) have found that companies led by CEOs with a military background tend to be less innovative. For instance, Benmelech (2015) found that CEOs with a military background invest less in research and development (R&D) and pursue fewer corporate investments. Another finding by Lin *et al.* (2021) shows that companies led by CEOs with a military background are associated with lower R&D expenditures compared to their non-military counterparts in China. This evidence can be explained by the argument that military training and service emphasize obedience to political authority, duty, dedication, and self-sacrifice, which may lead to a corporate culture that encourages low risk-taking and conservative investment behavior.

Companies with military executives exhibit better sales growth, cost efficiency, and operational performance compared to companies with non-military executives, especially in highly competitive industries. These results are robust when using the PSM method and in the face of changing competitive conditions. Furthermore, we found that military executives influence company performance through stress tolerance and organizational culture. Additionally, executives with military experience are associated with fewer product recalls and workplace safety incidents, and they implement better quality and safety management compared to non-military executives. This relationship is also strongest in highly competitive industries, even with financial constraints, indicating that military executives do not profit at the expense of product quality and workplace safety. Our findings suggest that military experience, as a determinant of managerial traits, consistently influences decision-making and company performance (Hao *et al.*, 2023).

The study conducted by Muravyev and Zakharova (2022) shows that almost all senior directors in Russia have higher education, academic degrees are quite common, while MBA degrees are rarely encountered. Leaders with different levels of education exhibit differences in several key social and demographic attributes. The education of leaders is systematically related to company characteristics, including ownership and management structures. Specifically, senior directors with academic degrees are generally older than others, more often have work experience within government structures, and are frequently appointed in companies with government participation, whereas senior directors with MBA degrees are generally younger and are often selected by companies with foreign participation. Thus, the above arguments support the basic hypothesis:

H₁ : There is a positive and significant relationship between board capital and firm value.

H_{2b} : There is a positive and significant relationship between board capital and firm value in the financial, energy, basic materials, and primary consumer goods sectors.

Firm Performance and Firm Value

Firm performance is the result of management's success in financial aspects. Firm performance can be measured through the company's efficiency or the input-output ratio. In this study, firm performance is assessed using the Return on Assets (ROA) ratio. ROA indicates the company's ability to manage its assets efficiently to generate profits or returns for shareholders. The financial performance of a company is highly influenced by how management manages the company's finances and conducts its activities effectively. Therefore, company management needs to improve their ability to manage the company to maximize firm value (Irman *et al.*, 2020; Sulbahri *et al.*, 2021).

Several research findings indicate that there is a positive relationship between firm performance and firm value. The study conducted by Soewarnoa and Ramadhanb (2020) on companies listed on the IDX revealed that firm performance can increase firm value. Furthermore, the findings of Bambang *et al.* (2017) found that firm performance, as proxied by ROA, has a significantly negative impact on firm value. In addition, Nurhayati *et al.* (2021) showed that firm performance, as proxied by ROA, moderates the relationship between accounting conservatism and capital structure in influencing firm value, as proxied by Tobin's Q. Then, Santi Novita (2020) who examined and analyzed the mediating effect of firm performance on ownership structure towards firm value, found that firm performance positively affects firm value and mediates the relationship between ownership concentration and firm value.

The study conducted by Hamdani and Hatane (2017) shows that there is a positive and significant influence of firm performance on firm value. Ramadhany *et al.* (2021) found that financial performance fully mediates the effect of green innovation on firm value. In line with this, the research conducted by Hasanudin *et al.* (2020) found that firm performance impacts the firm value of oil and gas mining companies in Indonesia.

Various studies suggest that firm performance has a significant impact on firm value. Firm performance, often measured by ROA, can influence firm value both directly and as a mediating variable in the relationship between other factors, such as ownership structure, accounting conservatism, and green innovation, with firm

value. Therefore, improving firm performance can be an effective strategy to enhance firm value. Companies with strong performance tend to have higher firm value. This is because companies that generate high profits and operate efficiently tend to be more attractive to investors. Investors view such companies as profitable investments, which can lead to increased demand for the company's shares. This can drive up the stock price, thereby increasing the firm's value. Based on the above explanation, the following hypothesis can be proposed :

H_{2a} : Firm performance has a positive and significant impact on firm value.

H_{2b} : Firm performance has a positive and significant impact on firm value in the financial, energy, basic materials, and primary consumer goods sectors.

III. Methodology

This study employs a quantitative approach to examine the relationship between board capital, firm performance, and firm value. The study focuses on companies listed on the Indonesia Stock Exchange (IDX) during the period from 2014 to 2022. The analysis method used is panel data regression to analyze the influence of the independent variables, namely board capital and firm performance, on the dependent variable, which is firm value.

The research data was collected from secondary sources, primarily from annual reports and financial statements of companies listed on the Indonesia Stock Exchange (IDX). The research sample includes 459 firm-year observations selected through purposive sampling, based on specific criteria such as the availability of complete data for the variables being studied.

Table 1 presents the operational variables used in the study. Firm Value is measured using the Tobin's Q ratio, which is calculated by dividing the sum of the market value of equity and company debt by total assets. Board Capital is measured through three indicators: Network Capital, which includes the number of directors with experience in various organizations such as political parties, ministries, or the military; Educational Capital, which considers the CEO's highest level of education; and Experience Capital, which involves the CEO's certifications and academic experience. Firm Performance is measured using Return on Assets (ROA), which is calculated by dividing net income for the year plus comprehensive income by the company's total assets.

Table 1. Operational Variables

No	Variable	Indicator	Source
1	Firm Value	$Tobin's\ Q = \frac{(stock\ price\ X\ number\ of\ outstanding\ shares) + d}{total\ assets}$	Chang and Lee (2022)
3	Board Capital	<ol style="list-style-type: none"> 1. <u>Network Capital</u> <ul style="list-style-type: none"> • Number of Directors • Number of directors who have previously been members of political parties, representative councils, regional representative assemblies, international organizations, ministries, or regional heads • Number of directors who have previously served as military officers or police officers. 2. <u>Education Capital</u> <ul style="list-style-type: none"> • CEO's highest level of education 3. <u>Experience Capital</u> <ul style="list-style-type: none"> • CEO's certifications • CEO's academic experience 	Kontesa et al. (2020)
6	Firm Performance	$ROA = profit\ for\ the\ year / total\ assets$	Buallay (2019); (Maait, 2023)

Panel data regression analysis is used to evaluate the relationships between variables. Model selection is based on tests such as the Hausman test to determine whether a fixed effects or random effects model is more appropriate. This method allows for the control of unobserved heterogeneity and takes into account factors that do not change over time, which may affect the research results.

Results and Discussion

Based on the descriptive statistics in Table 2, the firm value has an average of 1.39 with a standard deviation of 1.49. The median value is 1.04. This indicates that most firm values are around 1.04, although there are some extreme values that cause the average to be higher. The highest firm value is 12.26 and the lowest is 0.34, indicating a fairly wide range. The relatively large standard deviation suggests that there is considerable variation in firm value within the sample.

The average board capital is 2.53 with a standard deviation of 0.48. The median of 2.48 confirms a normal distribution of the data. The minimum and maximum values are not too far apart, at 1.45 and 4.16, respectively. This indicates that the variation in board capital within the sample is relatively low. Firm performance has an average value of 0.05 with a standard deviation of 0.10. The median of 0.03 is slightly lower than the mean, suggesting that much of the data may be distributed at values lower than the average. The minimum firm performance is -0.64, and the maximum is 0.67, indicating a fairly wide range from negative to positive.

Table 2. Descriptive Statistics Test

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
Firm Value	1.39	1.04	12.26	0.34	1.49	459
Board Capital	2.53	2.48	4.16	1.45	0.48	459
Firm Performance	0.05	0.03	0.67	-0.64	0.10	459

Source : Secondary Data Processed in 2024

Table 3 shows that Board Capital (BC) has a significant effect with a p-value of 0.0099, which is less than 0.05, and a positive coefficient value of 0.0488, indicating that an increase in the competence of the board of directors enhances firm value, consistent with theoretical expectations. Furthermore, firm performance (ROA) has a significant positive effect with a p-value of 0.0203 and a coefficient value of 0.7055. This aligns with the hypothesis that good performance within a company positively impacts firm value.

Table 3. Regression Test Results of the Main Estimation Model

Variable	Firm Value (FV)	
Board Capital (BC)	0.0099	***
	0.0488	
Firm Performance (FP)	0.0203	**
	0.7055	
Constant	1.2467	
Observations	459	
Std. Error		
Prob(F-statistic)	0.0000	
F-statistic	33.5358	
R ²	0.7932	

***p < 0.01, **p < 0.05, *p < 0.1

Based on the statistical analysis results in Table 4, the impact of board capital and firm performance on firm value varies across different industry sectors. In the financial sector, board capital has a coefficient of 0.6553 but is not statistically significant, indicating that the network, education, and experience of the board of directors do not have a significant impact on firm value. In contrast, firm performance, with a coefficient of 0.0001 significant at the 1% level, has a positive and significant impact on firm value, indicating that the better the firm's performance, the higher the firm value in this sector. The R-squared (R²) value of 0.8353 indicates that 83.53% of the variation in firm value can be explained by this model.

In the energy sector, board capital has a coefficient of 0.0273 and is significant at the 5% level, indicating a positive and significant impact on firm value, while firm performance, with a coefficient of 0.1082, is not significant, suggesting that firm performance does not have a significant impact on firm value in the energy sector. The R-squared (R²) value of 0.5619 indicates that 56.19% of the variation in firm value can be explained by this model.

In the basic materials sector, board capital with a coefficient of 0.0236 and firm performance with a coefficient of 0.0004 are both significant at the 5% () and 1% (*) levels, indicating that both variables have a positive and significant impact on firm value. The R-squared (R²) value of 0.7757 indicates that 77.57% of the variation in firm value can be explained by the model used.

Meanwhile, in the primary consumer goods sector, board capital has a coefficient of 0.5205 but is not statistically significant, indicating that board capital does not have a significant impact on firm value. Firm performance in this sector has a coefficient of 0.0978 and is significant at the 10% level, indicating a positive impact but with a lower level of significance. The R-squared (R²) value of 0.8046 indicates that 80.46% of the variation in firm value in this sector can be explained by the model.

Overall, these results indicate that the impact of board capital and firm performance on firm value is highly dependent on the industry sector, with firm performance tending to be more significant in the financial and basic materials sectors, while board capital shows a significant impact in the energy and basic materials sectors.

Table 4. Regression Test Results of the Industry Sector Estimation Model

Variable	Financial Sector		Energy Sector		Basic Materials Sector		Primary Consumer Goods Sector
	Firm (FV)	Value	Firm (FV)	Value	Firm (FV)	Value	Firm Value (FV)
Board Capital (BC)	0.6553		0.0273	**	0.0236	**	0.5205
	-0.0019		-0.3433		0.5436		0.1919
Firm Performance (FP)	0.0001	***	0.1082		0.0004	***	0.0978
	2.1787		-0.5113		3.9953		1.922
Constant	1.0419		1.9844		37.338		366.429
Observations	117		108		63		54
Std. Error							
Prob(F-statistic)	0.0000		0.0000		0.0000		0.0000
F-statistic	37.7726		10.1491		22.4403		25.2515
R2	0.8353		0.5619		0.7757		0.8046

***p < 0.01, **p < 0.05, *p < 0.1

Board Capital and Firm Value

The results of the hypothesis testing in this study are consistent with the proposed hypothesis (H_{1a}), where board capital has a positive and significant impact on firm value. The board capital possessed by the company's board of directors and commissioners, which includes networks, education, and experience, has been shown to have a significant positive impact on firm value. This indicates that the higher the board capital possessed by the company's board members, the higher the firm's value. Board capital reflects the intellectual and social capital of the company's board members. Intellectual capital includes the level of education, financial and industry knowledge, and relevant professional experience. Social capital encompasses the business and political connections of the board members. Thus, high board capital enables the company's board to contribute more effectively to strategic decision-making and management oversight.

According to resource dependence theory, the company's board can help provide critical resources for the company, such as access to information, capital, and potential business partners (Pfeffer & Salancik, 2003). Therefore, greater board capital will enhance the board's ability to perform this resource provision role, which in turn can improve the company's performance and market valuation. Additionally, a board with higher board capital is also considered more capable of effectively carrying out monitoring and advisory functions for management (Minichilli *et al.*, 2012; Sisodia *et al.*, 2021). This is because they have a better understanding of business operations and can provide more valuable strategic advice to the company's management. With more effective monitoring and advisory functions, management will make better decisions in the interest of shareholders and other stakeholders.

A board with extensive social capital will assist the company in securing critical resources such as public policy support, business contracts, and strategic corporate partners. These strong political and business connections directly impact the company's profitability and market valuation. Additionally, a board with relevant professional and industry experience will be better equipped to analyze potential market expansion opportunities for the company. They can also provide more accurate strategic advice in the development of the company's products and services. Thus, it can be concluded that high board capital essentially enhances the board's ability to perform its three key roles: resource provision, monitoring and advisory functions, and network and linkage capabilities (Minichilli *et al.*, 2012).

This role ultimately leads to improved operational and financial performance for the company, as reflected in higher market valuation. The importance of balancing board composition is evident, where the aspects of

independence and diversity of board members' characteristics need to be considered alongside enhancing intellectual and social capital. At excessive levels of board capital, the board tends to be dominated by members with homogeneous backgrounds and viewpoints. This can reduce the independence of perspectives and the board's ability to effectively perform its monitoring functions. Therefore, in addition to efforts to increase board capital, companies need to ensure optimal diversity, independence, and cohesiveness among board members. This will enable the board to perform its functions more effectively, ensuring a balanced approach to maximizing firm value (Arayssi *et al.*, 2020; Sisodia *et al.*, 2021).

This study also analyzed the impact of board capital on firm value across four major industry sectors: basic materials, energy, finance, and primary consumer goods (H_{1b}). The study found variations in the direction and significance of the impact across these sectors. Specifically, board capital was found to have a positive and significant relationship with firm value in the basic materials sector. The higher the competence and capital held by the board of directors and commissioners, the higher the market valuation of companies in the basic materials sector. On the other hand, in the energy sector, board capital was found to have a negative and significant impact on firm value. This means that the greater the intellectual capital and connections of the board, the lower the equity valuation of energy companies.

In the financial services sector, which includes banking and other financing institutions, the impact of board capital on firm value becomes insignificant. Similarly, in the primary consumer goods sector, such as food and beverages, cosmetics, and automotive, board capital does not significantly correlate with corporate valuation. The differences in research results across industry sectors may be attributed to several factors. First, the characteristics and dynamics of each industry sector may influence how board capital contributes to the creation of firm value. The basic materials sector, for example, is highly dependent on the availability of natural resources and operational efficiency. In this context, the network, education, and experience capital of the board of directors can play a crucial role in accessing the necessary resources, optimizing production processes, and navigating industry challenges.

Thus, strong board capital can directly contribute to the enhancement of firm value in the basic materials sector. On the other hand, the energy sector may face different dynamics. The energy industry is often influenced by external factors such as government regulations, commodity price fluctuations, and global trends in energy transition. In this complex environment, board capital may not be sufficient to overcome existing challenges and may even become a burden for the company. For instance, a board of directors with high educational and experiential capital may tend to make more conservative or low-risk decisions, which could hinder the company's ability to adapt to rapid industry changes. As a result, the impact of board capital on firm value in the energy sector becomes negative.

Additionally, operational aspects such as cost efficiency and physical asset management are far more determinant of success. Consequently, the contribution of board capital to value creation is limited and may even be counterproductive if it leads to excess capacity, reducing efficiency. In the financial sector and the primary consumer goods sector, the lack of a significant impact of board capital on firm value can be attributed to industry-specific factors. In the financial sector, regulatory and risk factors limit the role of board capital in corporate valuation. Compliance and prudential banking practices are far more crucial than board expertise. The financial sector is heavily regulated and closely monitored by financial authorities. In this context, regulatory compliance and prudent risk management may be more important than board capital in creating firm value. Additionally, the financial sector is highly dependent on investor and customer trust, which may be more influenced by factors such as financial performance, brand reputation, and service quality than the composition of the board of directors.

Meanwhile, the primary consumer goods sector includes companies that produce and sell essential products such as food, beverages, and household items. Demand for these products tends to be stable and less sensitive to economic changes. In this context, factors such as operational efficiency, product innovation, and marketing strategies may be more important in creating firm value than board capital. Consumers are more concerned with the quality, price, and availability of products than the composition of the company's board of directors. In the well-established consumer goods sector, where the board's contribution is largely substituted by the internal management's ability in value creation, board capital may actually substitute the role of internal management in mature and saturated consumer goods sectors. This means that strategic tasks and resource provision can be managed internally without heavily relying on the board. Consequently, excessive board capital may create agency problems and reduce firm value.

Thus, the magnitude and direction of the impact of board capital are highly dependent on the industry context and the level of dynamism within each sector. Industry dynamism, which indicates how quickly technological changes and business model innovations occur within a particular industry, has been shown to moderate the effect of board capital on firm value. In industries with high levels of dynamism, such as information technology, e-commerce, fintech, and similar sectors, there is often the phenomenon of disruptive technology and intense competition between companies. In such conditions, the contribution of the board in providing

strategic advice and intellectual resources is crucial for companies to adapt and grow sustainably. Therefore, board capital has a greater and more significant impact on increasing firm value in industries with high levels of dynamism.

Conversely, in traditional industries such as mining, which rely more on physical assets, the level of business dynamism and competition is relatively low. The role of board capital in creating firm value becomes much more limited. Furthermore, an excess of board capabilities in these sectors may even be counterproductive if it hinders the operational efficiency of the company. Thus, the magnitude and direction of the impact of board capital are heavily influenced by the industry context in which the company operates.

Firm Performance and Firm Value

The hypothesis testing results in this study align with the proposed hypothesis (H2a), where the findings indicate that firm performance, measured by return on assets (ROA), has a positive and significant impact on firm value. This means that the higher the financial performance of the company, the higher its market value. These findings are consistent with signaling theory, which suggests that positive information related to firm performance sends a positive signal to the market, subsequently influencing investors' expectations regarding the company's future prospects. If investors perceive the company's prospects as favorable, the demand for the company's stock will increase, ultimately driving up the stock price and firm value.

A high return on assets (ROA) indicates the company's ability to generate substantial profit from sales and invested capital. This will increase investor confidence in the company's future prospects of delivering returns. Additionally, a high ROA ratio demonstrates the management's success in efficiently and profitably managing the company's resources, thereby providing high returns for shareholders (Setianingrum, 2022). Consequently, the market will respond positively to this good performance, leading to an increase in stock prices and firm value. Therefore, overall, good financial performance as indicated by a high ROA ratio serves as a signal to investors that the company is well-managed, thus projecting a very positive future outlook. This condition encourages investors to buy the company's stock, resulting in an increase in stock prices and market value (Setianingrum, 2022).

Another finding of this study is that the impact of firm performance on firm value varies across the four industry sectors analyzed. More specifically, the test results show that for the financial sector, the basic materials sector, and the primary consumer goods sector, firm performance has a positive and significant impact on firm value. Meanwhile, in the energy sector, firm performance actually has a negative and significant impact on firm value (H_{2b}). These results indicate that improvements in financial performance in the financial, basic materials, and primary consumer goods sectors will be positively received by the market, leading to an increase in stock prices and firm value. Conversely, in the energy sector, improvements in financial performance have a negative impact on the firm's value. The differences in results across sectors may be influenced by the specific characteristics and conditions of each sector.

In the financial and primary consumer goods sectors, the demand for products/services tends to remain stable throughout the year, so improvements in firm performance are directly positively received by the market. Additionally, companies in these sectors tend to have strong capital, enabling them to consistently enhance their performance even in less favorable economic conditions. This is different from the energy sector, which is heavily influenced by fluctuations in global energy prices and demand. Improvements in the financial performance of energy companies are usually followed by increased production and supply, while demand does not always rise in tandem. This can trigger a decline in energy prices, meaning that improvements in firm performance are not directly followed by an increase in the company's value. Moreover, investors also tend to respond negatively to companies in the energy sector due to issues such as environmental concerns, carbon emissions, etc.

Energy sector companies that increase fossil energy production are often perceived as further damaging the environment. This makes investors reluctant to buy the company's shares, even if its financial performance improves. Therefore, it can be concluded that the positive relationship between financial performance and firm value applies only to certain sectors with conducive and stable market characteristics. In contrast, in the energy sector, which is highly dependent on global market fluctuations, improvements in financial performance may even have a negative impact on firm value due to less enthusiastic investor responses driven by global market conditions or social and environmental issues associated with this sector.

IV. Conclusion

Based on the research findings, it can be concluded that board capital and firm performance have a significant impact on firm value in Indonesia. Board capital, which includes the intellectual and social capital of the board of directors, has been proven to have a positive influence on overall firm value, particularly in the basic materials sector. This indicates that the competence and experience of the board of directors play a crucial role in enhancing company valuation, especially in resource-dependent industries.

On the other hand, firm performance, as measured by Return on Assets (ROA), also has a positive and significant impact on firm value, especially in the financial and primary consumer goods sectors. Improved financial performance sends a positive signal to the market, ultimately boosting investor confidence and the market value of the company.

However, this research also found variations in impact across sectors. For example, board capital shows a negative impact on firm value in the energy sector, which may be due to complex industry dynamics and external challenges. Meanwhile, in the financial services sector, the influence of board capital on firm value is not significant, indicating that regulatory and risk factors are more decisive in this sector.

The implications of these findings are that companies should pay attention to the composition and quality of the board of directors as a strategic asset in creating firm value, especially in dynamic and competitive industries. In certain sectors, increasing board capital can be an effective strategy to enhance firm value, but in other sectors, management needs to consider other more relevant factors.

Suggestions for future research include further exploring how industry dynamics and market conditions moderate the impact of board capital and firm performance on firm value, as well as considering other factors such as regulatory policies and social issues that may influence research outcomes. Future research could also expand the scope of analysis to other sectors or use more specific variables to deepen the understanding of the determinants of firm value in Indonesia.

References

- [1] Arayssi, M., Jizi, M., & Tabaja, H. H. (2020). The impact of board composition on the level of ESG disclosures in GCC countries. *Sustainability Accounting, Management and Policy Journal*, 11(1), 137-161. <https://doi.org/10.1108/sampj-05-2018-0136>
- [2] Bambang, S., Elen, P., & Sri, S. (2017). Working Capital, Firm Performance, and Firm Value: An Empirical Study in Manufacturing Industry on Indonesia Stock Exchange. *Economics World*, 5(5). <https://doi.org/10.17265/2328-7144/2017.05.007>
- [3] Benmelech, E. (2015). *Military CEOs* (Vol. 117). <https://doi.org/10.1016/j.jfineco.2014.04.009>
- [4] Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, 30(1), 98-115. <https://doi.org/10.1108/meq-12-2017-0149>
- [5] Chang, Y.-J., & Lee, B.-H. (2022). The Impact of ESG Activities on Firm Value: Multi-Level Analysis of Industrial Characteristics. *Sustainability*, 14(21). <https://doi.org/10.3390/su14211444>
- [6] Cline, B. N., & Yore, A. S. (2016). Silverback CEOs: Age, experience, and firm value. *Journal of Empirical Finance*, 35, 169-188. <https://doi.org/10.1016/j.jempfin.2015.11.002>
- [7] Duru, A., Iyengar, R. J., & Zampelli, E. M. (2016). The dynamic relationship between CEO duality and firm performance: The moderating role of board independence. *Journal of Business Research*, 69(10), 4269-4277. <https://doi.org/10.1016/j.jbusres.2016.04.001>
- [8] Guo, S., Zan, B., Sun, Y., & Zhang, M. (2020). Effects of top managers' military experience on technological innovation in the transition economies of China. *Technological Forecasting and Social Change*, 153. <https://doi.org/10.1016/j.techfore.2020.119909>
- [9] Hamdani, Y., & Hatane, S. E. (2017). Pengaruh Wanita Dewan Direksi terhadap Firm Value melalui Firm Performance sebagai Variabel Intervening. *Business Accounting Review*, 5.
- [10] Hao, Y., Li, J., Ni, J., & Yin, Z. (2023). Can military executives improve corporate performance? Evidence from industrial competitive pressure. *Pacific-Basin Finance Journal*, 79, 102052. <https://doi.org/https://doi.org/10.1016/j.pacfin.2023.102052>
- [11] Hasanudin, H., Nurwulandari, A., Adnyana, I. M., & Loviana, N. (2020). The Effect of Ownership and Financial Performance on Firm Value of Oil and Gas Mining Companies in Indonesia. *International Journal of Energy Economics and Policy*, 10(5), 103-109. <https://doi.org/10.32479/ijeep.9567>
- [12] Hillman, & Dalziel. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *Academy of Management Review*, 28(3), 383-396. <https://doi.org/10.5465/amr.2003.10196729>
- [13] Irman, M., Purwati, A. A., & Juliyanti. (2020). Analysis On The Influence Of Current Ratio, Debt to Equity Ratio and Total Asset Turnover Toward Return On Assets On The Otomotive and Component Company That Has Been Registered In Indonesia Stock Exchange Within 2011-2017. *International Journal of Economics Development Research*, 1.
- [14] Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*.
- [15] Jucá, M. N., & Fishlow, A. (2022). The Impact of Social Capital on Firm Value. *Contemporary Economics*, 16(2), 182-194. <https://doi.org/10.5709/ce.1897-9254.476>

- [16] Kashmiri, S., & Mahajan, V. (2017). Values That Shape Marketing Decisions: Influence of CEOs' Political Ideologies on Innovation Propensity, Shareholder Value, and Risk. *Journal of Marketing Research*, 54. <https://doi.org/10.1509/jmr.14.0110>
- [17] Kontesa, M., Lako, A., & Wendy, W. (2020). Board capital and earnings quality with different controlling shareholders. *Accounting Research Journal*, 33(4/5), 593-613. <https://doi.org/10.1108/arj-01-2020-0017>
- [18] Lahlou, I. (2018). The Impact of Corporate Board Characteristics on Firm Value: A Literature Survey. In *Corporate Board of Directors* (pp. 1-27). https://doi.org/10.1007/978-3-030-05017-7_1
- [19] Lin, L., Nguyen, N. H., Young, M., & Zou, L. (2021). Military executives and corporate outcomes: Evidence from China. *Emerging Markets Review*, 49. <https://doi.org/10.1016/j.ememar.2020.100765>
- [20] Maait, M. A. M. (2023). Measuring the Technical and Financial Performance for Misr Insurance Company after Merge. *Scientific Journal for Financial and Commercial Studies and Research*, 4. <https://cfdjournals.ekb.eg/>
- [21] Minichilli, A., Zattoni, A., Nielsen, S., & Huse, M. (2012). Board task performance: An exploration of micro-and macro-level determinants of board effectiveness. *Journal of Organizational Behavior*, 33(2), 193-215.
- [22] Muravyev, A., & Zakharova, A. (2022). Ceo Education in Russia: First Systematic Evidence and A Research Agenda. *Russian Management Journal*, 20. <https://doi.org/10.21638/spbu18.2022.103>
- [23] Nurhayati, I., Sudiyatno, B., Puspitasari, E., & Basiya, R. (2021). Moderating effect of firm performance on firm value: Evidence from Indonesia. *Problems and Perspectives in Management*, 19(3), 85-94. [https://doi.org/10.21511/ppm.19\(3\).2021.08](https://doi.org/10.21511/ppm.19(3).2021.08)
- [24] Pfeffer, Jeffrey, Salancik, & R, G. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. <https://ssrn.com/abstract=1496213>
- [25] Pfeffer, J., & Salancik, G. R. (2003). The External Control. *The Sociology of Organizations: Classic, Contemporary, and Critical Readings*, 233.
- [26] Ramadhany, A. A., Fadlilah, A. H., Richmayati, M., Mustika, I., & Nabella, S. D. (2021). The Mediation Effect Firm Performance on Green Innovation and Firm Value: Evidence the Mining Industry. *Turkish Journal of Computer and Mathematics Education*, 12.
- [27] Santi Novita, M. S. (2020). Ownership Structure, Firm Value and Mediating Effect of Firm Performance. *Jurnal Akuntansi*, 24(2). <https://doi.org/10.24912/ja.v24i2.692>
- [28] Setianingrum, F. (2022). *Pengaruh Kinerja Keuangan, Good Corporate Governance dan Corporate Social Responsibility Terhadap Nilai Perusahaan (Studi Empiris Pada Perusahaan Sektor Consumer Non-Cyclicals Yang Terdaftar Di Bursa Efek Indonesia Tahun 2018-2020) UPN" Veteran Yogyakarta*].
- [29] Sisodia, G., Jadiyahappa, N., Joseph, A., & McMillan, D. (2021). The relationship between human capital and firm value: Evidence from Indian firms. *Cogent economics & finance*, 9(1). <https://doi.org/10.1080/23322039.2021.1954317>
- [30] Soewarno, N., & Ramadhanb, A. H. A. (2020). The Effect of Ownership Structure and Intellectual Capital on Firm Value with Firm Performance as an Intervening Variable. *International Journal of Innovation, Creativity and Change*, 10(12).
- [31] Sulbahri, R. A., Syamsurijal, Fuadah, L. L., & Sidiq, S. a. (2021). Effect of Sustainable Report (CSR) on Return on Asset (ROA), Return on Equity (ROE) and Good Corporate Governance (GCG) (Empirical Study on Banking Companies for the 2016-2019 Period. *Advances in Economics, Business and Management Research*, 210.
- [32] Unsal, O., Hassan, M. K., & Zirek, D. (2016). Corporate lobbying, CEO political ideology and firm performance. *Journal of Corporate Finance*, 38, 126-149. <https://doi.org/10.1016/j.jcorpfin.2016.04.001>
- [33] Veltri, S., & Silvestri, A. (2011). Direct and indirect effects of human capital on firm value: evidence from Italian companies. *Journal of Human Resource Costing & Accounting*, 15(3), 232-254. <https://doi.org/10.1108/14013381111178596>
- [34] Wong, L., Bliese, P., & McGurk, D. (2003). Military leadership: A context specific review. *The Leadership Quarterly*, 14(6), 657-692. <https://doi.org/10.1016/j.leaqua.2003.08.001>
- [35] Zhang, Z., Zhang, B., & Jia, M. (2022). The military imprint: The effect of executives' military experience on firm pollution and environmental innovation. *The Leadership Quarterly*, 33(2), 101562. <https://doi.org/https://doi.org/10.1016/j.leaqua.2021.101562>