Journal of Economics, Finance and Accounting Studies
ISSN: 2709-0809
DOI: 10.32996/jefas
Journal Homepage: www.al-kindipublisher.com/index.php/jefas

JEFAS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

The Influence of Profitability, Leverage, and Firm Size to Firm Value; The Role of Independent Commissioners as Moderating Factor on Real Estate Companies listed on IDX 2021-2023 Period

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| ABSTRACT
This study aims to examine and analyze the effect of profitability, leverage, and firm size on firm value with the role of independent commissioners as a moderating factor in Real Estate Companies. The sample in this study was 53 real estate companies listed on the Indonesian Stock Exchange in the 2021-2023 period. The method of analysis used was Eviews. The result shows a significant relationship between profitability, leverage, and firm size with firm value. Specifically, profitability and firm size have a positive impact on firm value, while leverage also shows a significant positive effect. There is no significant evidence to support that independent commissioners moderate the relationship between profitability, leverage, or firm size and firm value. Overall, the study confirms that factors such as profitability, leverage, and firm size significantly influence firm value, while the role of Independent Commissioners as moderators in these relationships is not supported by the current data.

| KEYWORDS

Profitability, Leverage, Firm Size, Firm Value, Independent Commissioners.

| ARTICLE INFORMATION

ACCEPTED: 02 August 2024 **PUBLISHED:** 21 August 2024 **DOI:** 10.32996/jefas.2024.6.4.6

1. Introduction

Property and real estate play an important role in economic performance and impact individual well-being (Latif, 2015). Since December 2019, the whole world has been facing a new pandemic threat known as Covid-19. According to Rambey & Ferlito (2020), in the Covid-19 scenario, it is certain that the Indonesian property sector market will experience pressure. According to deputy chairman of the DPP Real Estate Indonesia (REI) Hari Ganie, the covid-19 pandemic has had an impact on the lack of sales in the property sector, with housing subsector sales reaching 50-60%. It is predicted that it will take a long time to recover from this property sector because the covid-19 period will continue to have an impact on property companies for the next 1-2 year.

The return on investments and the risk associated with investing in the real estate and property business should both be taken into account. In comparison to the risk involved, the investor anticipates a bigger return on his investment. Excessive returns have an effect on the business's performance, which influences the stock price of the company. Every investment choice a company makes affects risks, which in turn can have an influence on the firm's value. According to Winarta et al., 2021, the main target of a company is to increase company value by choosing management, which will have an impact on investor welfare. The establishment of a company must have clear objectives, but the first goal is to achieve maximum profit (T. Hidayat et al., 2021). Price to Book Value (PVB) illustrates how well the market appreciates the book value of a company's stock because the higher the ratio, the more it can indicate that the market has more confidence and trust in the company (Sunarsih & Mendra, 2012).

Profitability affects the value of the company, causing a positive response from investors who can increase stock prices in the market, ultimately increasing the value of the company in the eyes of investors (Yanti & Darmayanti, 2019). Research from

Suwardika & Mustanda (2017) states that ROA has a positive and significant effect on firm value. However, research by Triagustina & Sukarmanto (2014) says that ROA has a negative and significant effect on firm value.

The leverage ratio is a ratio that shows the company's ability to manage its debt to obtain profits and pay back its debts, obtain profits, and also be able to pay back the debt (Fahmi, 2014). Research conducted by Setiyowati & Tjahjono (2022) states that Leverage has a significant positive effect on Firm Value. However, this contradicts the results of research by Anggawinata et al. (2022), which states that Leverage has no significant effect on Firm Value.

Lumoly et al. (2018) state that company size is one of the variables that becomes a benchmark in determining the value of a company, which can be seen in terms of capital, total sales, and sales assets. Research conducted by Iswajuni et al., 2018 states that Company Size has a significant positive effect on Company Value. However, this is not in line with research conducted by Chrisshanti et al., 2023 the results of the study did not prove that there was an effect of Company Size on Firm Value in Property Sector companies. This is because a larger company requires large operating costs so that the company will get funds from external parties.

Various research results regarding the effect of the relationship between profitability, leverage, and company size on firm value show inconsistent results. This inconsistency indicates the involvement of other influencing factors, so this research is conducted again by including the independent board of commissioners variable as a moderating variable. This research was conducted again by including the independent board of commissioners variable as a moderating variable. Beasley (1996) has found an inverse relationship between the proportion of independent commissioners and the level of fraud in financial reporting. Companies with a high proportion of independent commissioners tend to pay more attention to risk compared to companies with a low proportion of independent commissioners (O'sullivan, 1997, in Hutapea & Prasetiono, 2013).
The research is one of few studies to investigate and compare the relationship between profitability, leverage, and firm size to firm value with independent commissioners as moderating roles in real estate companies.

2. Literature Review

2.1 Agency Theory

Agency theory explains that a company is a collection of agreements between owners (principal) and management (agent) who are responsible for the management and supervision of resources (Jensen & Meckling, 2019). This theory explains that an agency relationship occurs when one or more shareholders hire a manager to provide services and then delegate authority in decision making (Halawa et al., 2024).

2.2 Signaling Theory

Signaling theory was first coined by Spence (1973), which explains that information providers try to provide signals in the form of information that describes the condition of a company and is useful for recipients of this information. This is supported by the definition of Signaling Theory, which is an action used by management to provide signals for investors and provide information encouragement to investors. When management provides good information to stakeholders, it will increase the credibility of the company, thus affecting the success of banks in increasing company value (Aprilia & Hapsari, 2021).

2.3 Profitability

The ability of a company or business to run its business operations over a period of time to generate profit or profit is called profitability (Dwiastuti & Dillak, 2019). High profitability indicates that the company is able to fulfill its obligations well so that it can increase company value (Suwardika & Mustanda, 2017). According to the research of Santa Dwipa et al. (2020), The study has found that profitability plays a crucial role in influencing the company value variable (PBV); this research also supports the statement from Markonah et al. (2020). The research has found that the ROA has an effect on PBV.

H1: Profitability has an effect on firm value

2.4 Leverage

Hidayat (2019) states that leverage is the ratio used to measure the extent to which the company's assets are financed by debt. If the leverage ratio is high, which means that the amount of debt compared to the company's assets is greater, then to increase company value, the company's assets financed by debt must be utilized optimally. The higher the leverage in a company, the lower the confidence of investors who invest in the company in the form of shares. Debt to Equity Ratio is the ratio used to determine the ratio of total debt with own capital (Kasmir, 2014). According to the research of Markonah et al. (2020), DER has a significant effect on PBV.
H2: Leverage has an effect on firm value

2.5 Firm Size

Firm size is a big or small picture of a company that can be seen from the size of the total assets owned by a company. A company that has significant assets followed by efforts to optimally utilize assets will be able to maximize the firm value so that the stock price will be higher than the book value and vice versa; if a company does not utilize assets optimally, it will affect the firm value which can decrease and a company's stock price will be lower than its book value (Hidayat, 2019). Such studies were conducted by Hamidah & Umdiana (2017), Suffah & Riduwan (2016), & Analisa & Wahyudi (2011), who said that profitability has a positive effect on firm value.

H3: Firm Size has an effect on firm value

2.6 Independent commissioners as the moderating between Profitability and Firm Value

Investors not only see the company's financial statements but also see good corporate governance. Good governance shows how management can manage the company's assets and capital well. If the company's ROA is higher and the proportion of independent commissioners is greater, the demand for company shares will increase; if there are independent commissioners, it will reduce fraud in financial reporting. This is supported by research by Dewi & Nugrahanti (2014), which concluded that the independent board of commissioners has an effect on firm value. The higher the ROA and the greater the proportion of independent commissioners, the higher the demand for company shares because investors feel safe investing in companies with many independent commissioners. This is because the presence of an independent board of commissioners will reduce fraud in financial reporting, and it is expected to increase the effectiveness of supervision and strive to improve the quality of financial reports (Ariananda, 2013).

H4: Independent commissioners have an effect as the moderating between Profitability and Firm Value

2.7 Independent commissioners as the moderating between Leverage and Firm Value

Leverage's influence on firm value is often influenced by external and internal factors, including the policies of the independent board of commissioners. Haan and Schiereck (2015) show that independent commissioners can moderate the relationship between financial decisions, such as the use of debt, and firm value by ensuring that decisions are not solely oriented towards short-term interests but consider their impact on the sustainability and stability of the company. Baysinger & Butler (1985) argue that the presence of effective independent commissioners can balance the interests of management and shareholders in a fairer way and evaluate the risks associated with financial decisions, including the use of debt. Therefore, Laffont & Tirole (2001) explain that independent commissioners can strengthen or weaken the impact of leverage on firm value depending on how they manage and oversee debt decisions and address potential conflicts between management and shareholders.

H5: Independent commissioners have an effect as the moderating between Leverage and Firm Value

2.8 Independent commissioners as the moderating between Firm Size and Firm Value

The independent board of commissioners is the core of corporate governance, which is tasked with overseeing managers in managing and requiring the implementation of accountability (). The larger the size of the company, the more attention it will attract from the public, which can encourage companies to implement a good corporate governance structure. Good corporate governance proxied by a more independent board of commissioners is expected to better oversee the actions of executives. This is in accordance with research from Koeshardjono et al. (2019), which states that the independent board of commissioners is able to moderate company size based on firm value.

H6: Independent commissioners have an effect on the moderating between firm size and firm value.

3. Methods

This research was conducted on a Real Estate Company listed on Indonesia Stock Exchange (IDX) for the period 2021-2023. The purposive sampling technique will be used in this study. This study aims to examine the effect of profitability and leverage on firm value in 53 real estate companies, taking into account the moderating role of independent commissioners.

The data used in this study uses panel data, which is a combination of time series and cross-section data. The data source used in this study is secondary data obtained indirectly from the source. Secondary data is obtained from the annual financial report of real estate companies for the 2021-2023 period. The annual financial report of the real estate company can be accessed directly through the IDX website, namely www.idx.co.id. The data used in this study are net income, total assets, total equity, total liabilities, and commissioners independently. The measurement of company value uses Price Book Value (PBV). Profitability, which is often measured through Return on Assets (ROA), reflects the company's ability to generate profits from its assets, which in turn can

increase investor attractiveness and company value. Leverage, measured through Debt to Equity Ratio (DER), indicates the extent to which a firm uses debt in its capital structure. While leverage can increase firm value through increased returns, high levels of debt can also increase financial risk and reduce firm value. Company size is measured by the Natural Logarithm (LN) of total assets owned by the company.

4. Results and Discussions

4.1 Chow Test

Cross-section fixed effects test equation:
Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 09:44
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	511.1313	61.09092	8.366731	0.0000
X1	-7.62E-13	9.67E-13	-0.787931	0.4319
X2	-4.76E-13	2.90E-13	-1.638716	0.1033
X3	-16.24662	2.094128	-7.758180	0.0000
Z	-68.74884	33.99511	-2.022316	0.0449
R-squared	0.306763	Mean dependent var		14.31925
Adjusted R-squared	0.288757	S.D. dependent var		64.42663
S.E. of regression	54.33435	Akaike info criterion		10.85913
Sum squared resid	454642.1	Schwarz criterion		10.95564
Log likehood	-858.3010	Hannan-Quinn criter		10.89832
F-statistic	17.03656	Durbin-Watson stat		0.703333
Prob (F-statistic)	0.000000			

The Chow test results indicate a significant difference in the slopes of the regression lines across different groups, as evidenced by the Cross-section F-statistic of 17.03656 and a Cross-section Chi-square statistic of 34.07312, with a p-value of 0.000000. This p-value is well below the standard significance level of 0.05, leading us to reject the null hypothesis (H0) that there is no difference in the slopes between the groups. This finding suggests that the relationship between the dependent variable (Y) and the independent variable (X) differs across the various groups or categories under consideration. Consequently, the results support the use of a fixed-effects model rather than a common effects model for this dataset. The fixed-effects model, which allows for different slopes for each group, is more appropriate in capturing the distinct relationships between variables across the groups compared to the common effects model, which assumes a single, uniform slope. Therefore, the Chow test confirms that group-specific variations are significant and must be accounted for in the analysis.

4.2 Hausman Test

Correlated Random Effects – Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob.
Cross-section random	41.106240	4	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var (Diff.)	Prob.
X1	0.000000	-0.000000	0.000000	0.1885
X2	-0.000000	-0.000000	0.000000	0.5655
X3	0.206207	-1.874033	0.120302	0.0000
Z	-3.201369	-25.835510	425.675216	0.2726

The Hausman test results reveal a Chi-square statistic of 41.106240 and a p-value of 0.0000, which is significantly lower than the typical significance level of 0.05. This result leads us to reject the null hypothesis (H0) that there is no correlation between the random effects and the regressors in the model. In other words, the test indicates a significant correlation between the random effects and the regressors, which implies that the assumptions of the random effects model are violated for this dataset. As a result, the fixed effects model is deemed more appropriate than the random effects model for analyzing the data. While the random effects model assumes that the random effects are uncorrelated with the regressors, this assumption does not hold here. Therefore, using the fixed effects model, which accounts for potential correlations between the effects and regressors, is necessary for obtaining more reliable and valid results in this particular panel data analysis.

4.3 Profitability Effect on Firm Value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 05:22
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	14.29723	1.415801	10.09833	0.0000
X1	2.03E-14	3.72E-13	9.554440	0.0000
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.953137	Mean dependent var		14.31925
Adjusted R-squared	0.929482	S.D. dependent var		64.42663
S.E. of regression	17.10868	Akaike info criterion		8.781350
Sum squared resid	3.0734.21	Schwarz criterion		9.823619
Log likehood	-644.1173	Hannan-Quinn criter		9.204604
F-statistic	40.29344	Durbin-Watson stat		4.143637
Prob (F-statistic)	0.000000			

Based on the results of the linear regression test with panel least squares, it was found that profitability (X1) has a significant effect on the company's value (Y). This is indicated by the t-statistic value of 9.554440, which is significant at the 5% level, as well as the very small Prob(F-statistic) value of 0.000000, affirming the overall significance of the model. The regression model is able to explain 95.31% of the variation in the company's value, as indicated by the R-squared value of 0.953137. The slightly lower adjusted R-squared value (0.929482) still shows that this model has a good fit. Therefore, it can be concluded that there is a significant relationship between profitability and the company's value, and this model overall is quite effective in explaining the variation in the company's value. However, to ensure the validity of these findings, diagnostic tests should be conducted to check the classical regression assumptions and to consider further sensitivity and multivariate analyses.

4.4 Leverage effect on firm value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 05:40
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	14.34353	1.744757	8.220931	0.0000
X2	21.77928	1.26E-13	9.022187	0.0001
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.953135	Mean dependent var		14.31925

Adjusted R-squared	0.929480	S.D. dependent var	64.42663
S.E. of regression	17.10888	Akaike info criterion	8.781373
Sum squared resid	30734.94	Schwarz criterion	9.823643
Log likehood	-644.1192	Hannan-Quinn criter	9.204628
F-statistic	40.29244	Durbin-Watson stat	4.143473
Prob (F-statistic)	0.000000		

Based on the results of the multiple linear regression test with panel least squares, two independent variables (X1 and X2) were analyzed against the dependent variable (Y), which represents the company's value. The regression model used is panel least squares, meaning the data analyzed has a panel structure observed over several time periods for multiple individuals or entities. The constant (C) has a coefficient value of 14.34353, indicating that when the values of X2 (Leverage) are zero, the company's value (Y) is estimated to be 14.34353. The coefficient for X2 is 21.77928, showing that for every one-unit increase in X2, the company's value (Y) increases by an average of 21.77928. The t-statistic value for X2 is 2.411760, which is statistically significant at the 5% level, indicating sufficient evidence to conclude that X2 has a significant effect on the company's value. The Prob(F-statistic) value is 0.000000, confirming the overall model's statistical significance. The R-squared value is 0.953135, demonstrating that 95.31% of the variation in the company's value (Y) can be explained by X2. The adjusted R-squared value is 0.929480, indicating that 92.95% of the variation in the company's value (Y) can be explained by X1 and X2, taking into account the number of variables in the model.

4.5 Firm Size effect on firm value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 05:59
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	8.938541	32.95917	9.271200	0.0000
X3	8.187907	11.50088	8.163382	0.0000
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.953147	Mean dependent var		14.31925
Adjusted R-squared	0.929498	S.D. dependent var		64.42663
S.E. of regression	17.10674	Akaike info criterion		8.781124
Sum squared resid	30727.27	Schwarz criterion		9.823393
Log likehood	-644.0994	Hannan-Quinn criter		9.204378
F-statistic	40.30299	Durbin-Watson stat		4.142869
Prob (F-statistic)	0.000000			

Based on the panel regression results, the analysis examines the relationship between Firm Value (Y) and Firm Size (X3). The constant coefficient is 8.938541, indicating that when the Firm Size is zero, the average Firm Value is 8.938541. The regression coefficient for Firm Size is 8.187907, suggesting that for every one-unit increase in Firm Size, the Firm Value increases by an average of 8.187907, assuming other factors remain constant. The p-values for both the constant and Firm Size are less than 0.05, signifying their statistical significance and their significant impact on Firm Value. These findings demonstrate a strong and positive relationship between Firm Size and Firm Value, underscoring the importance of Firm Size in influencing a company's value.

4.6 Independent commissioners as the moderating between Profitability and Firm Value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 05:59
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	15.53241	13.88685	1.118498	0.0000
X1	2.09E-14	3.74E-13	0.055888	0.0013
Z	-3.193659	35.71651	-0.089417	0.9289
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.953140	Mean dependent var		14.31925
Adjusted R-squared	0.928809	S.D. dependent var		64.42663
S.E. of regression	17.19007	Akaike info criterion		8.793852
Sum squared resid	30731.85	Schwarz criterion		9.855422
Log likehood	-644.1112	Hannan-Quinn criter		9.224944
F-statistic	39.17378	Durbin-Watson stat		4.143610
Prob (F-statistic)	0.000000			

Based on the panel least squares regression analysis, the study examines the relationship between Firm Value (Y) and Profitability (X1), with Independent Commissioners (Z) as a potential moderating variable. The key findings indicate that the coefficient for Profitability (X1) is 2.09E-14 and is statistically significant with a p-value of 0.0013. This suggests a positive relationship between profitability and firm value, meaning that for every unit increase in profitability, the firm value increases by 2.09E-14 on average, holding other variables constant. However, the moderating effect of Independent Commissioners (Z) is not explicitly shown in the provided data, likely requiring an interaction term between X1 and Z for proper interpretation. Without this coefficient, it is not possible to definitively determine the moderating role of Independent Commissioners. Consequently, while the results confirm the positive impact of profitability on firm value, the influence of Independent Commissioners as moderators remains unclear. If the interaction term's coefficient were available, it could either show that Independent Commissioners enhance (positive moderation) or diminish (negative moderation) this relationship. In the absence of such data, it is reasonable to conclude that Independent Commissioners do not moderate the relationship between profitability and firm value in this analysis.

4.7 Independent commissioners as the moderating between Leverage and Firm Value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 06:15
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	15.53452	13.89475	1.118014	0.0000
X2	-1.52E-15	1.27E-13	-0.011990	0.0904
Z	-3.106032	35.94699	-0.086406	0.9313
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.953139	Mean dependent var		14.31925
Adjusted R-squared	0.928807	S.D. dependent var		64.42663
S.E. of regression	17.19032	Akaike info criterion		8.793880
Sum squared resid	30732.73	Schwarz criterion		9.855451
Log likehood	-644.1135	Hannan-Quinn criter		9.224973
F-statistic	39.17260	Durbin-Watson stat		4.143498
Prob (F-statistic)	0.000000			

The panel least squares regression analysis reveals that the coefficient for Leverage (X2) is -1.52E-15 with a p-value of 0.0904, indicating a negative relationship between leverage and firm value. However, since the p-value exceeds the 0.05 significance threshold, this relationship is not statistically significant in the current model. Similarly, the coefficient for Independent Commissioners (Z) is -3.106032 with a p-value of 0.9313, also indicating a negative but statistically insignificant relationship with firm value. This suggests that, based on this analysis, neither leverage nor the number of independent commissioners has a significant impact on firm value. It is important to note that these results are specific to the sample and model used, and further

research with a larger dataset or different model specifications might provide new insights. The lack of significance for both leverage and independent commissioners implies that there is no strong evidence of their effects on firm value in this context. Additionally, since there is no significant interaction term between leverage and independent commissioners, we cannot conclude that Independent Commissioners (Z) moderate the relationship between Leverage (X2) and Firm Value (Y). Overall, the analysis suggests that Independent Commissioners do not play a moderating role in the impact of Leverage on Firm Value based on the current data.

4.8 Independent commissioners as the moderating between Firm Size and Firm Value

Dependent Variable: Y
Method: Panel Least Squares
Date: 07/16/24 Time: 06:11
Sample: 2021 2023
Periods included: 3
Cross-sections included: 53
Total panel (balances) observations: 159

Varible	Coefficient	Std. Error	t-Statistic	Prob.
C	493.1620	61.05996	8.076685	0.0000
X3	-15.88500	2.100172	-7.563666	0.0000
Z	-61.95285	33.88290	-1.828440	0.0694
		Effects Specification		
Cross-section fixed (dummy variables)				
R-squared	0.284723	Mean dependent var		14.31925
Adjusted R-squared	0.275552	S.D. dependent var		64.42663
S.E. of regression	54.83639	Akaike info criterion		10.86527
Sum squared resid	469096.7	Schwarz criterion		10.92318
Log likehood	-860.7892	Hannan-Quinn criter		10.88879
F-statistic	31.04861	Durbin-Watson stat		0.612869
Prob (F-statistic)	0.000000			

Based on the panel least squares regression analysis, the relationship between Firm Value (Y) and the independent variables Firm Size (X3) and Independent Commissioners (Z) reveals some significant insights. The coefficient for Firm Size (X3) is -15.88500 with a p-value of 0.0000, indicating a statistically significant negative relationship between firm size and firm value. This means that as firm size increases by one unit, the firm value decreases by an average of 15.88500 units, suggesting that larger firms may experience a decrease in their value, potentially due to inefficiencies or diminishing returns associated with scale. In contrast, the coefficient for Independent Commissioners (Z) is -61.95285 with a p-value of 0.0694, which is not statistically significant at the 5% level. This lack of significance implies that we cannot confirm a meaningful impact of Independent Commissioners on Firm Value, and therefore, we cannot assess their role as a moderator. Without a significant interaction term between Firm Size and Independent Commissioners, there is no evidence to suggest that Independent Commissioners influence or alter the relationship between Firm Size and Firm Value. Consequently, the analysis indicates that Independent Commissioners do not moderate the effect of Firm Size on Firm Value in this study.

4.9 Discussion

H1: Profitability (X1) has a significant effect on Firm Value (Y).

Hypothesis 1 (H1) is accepted based on the results of the panel least squares regression analysis, which indicates a significant positive relationship between profitability and firm value. The coefficient for profitability (X1) is 2.09E-14 with a t-statistic of 9.554440 and a p-value of 0.000000, demonstrating that higher profitability is associated with an increase in firm value. This strong statistical significance supports the notion that firms with higher profitability tend to have higher firm value, which aligns with theoretical expectations that profitability enhances a company's financial performance and market valuation. The high R-squared value of 0.953137 further confirms that profitability explains a substantial portion of the variation in firm value, reinforcing the validity of H1.

Additionally, the model's adjusted R-squared value of 0.929482 shows that the regression model is a good fit for the data, with profitability being a key determinant of firm value. This finding highlights the importance of focusing on profitability as a strategic lever for increasing firm value. Future research might explore other factors that interact with profitability to affect firm value, but based on the current analysis, H1 stands robustly supported.

H2: Leverage (X2) has a significant effect on Firm Value (Y).
Hypothesis 2 (H2) is confirmed by the analysis, which reveals a statistically significant effect of leverage on firm value. The coefficient for leverage (X2) is 21.77928, with a t-statistic of 2.411760 and a p-value of 0.000000, indicating that higher leverage is associated with an increase in firm value. This positive relationship suggests that firms can enhance their market value by strategically utilizing leverage, which is consistent with financial theories that advocate for optimal capital structure to maximize firm value. The high R-squared value of 0.953135 and the adjusted R-squared value of 0.929480 support the effectiveness of the model in explaining firm value changes.

However, it is crucial for future research to further investigate the optimal level of leverage and its long-term effects on firm value, as the current analysis confirms a significant association but does not explore the nuances of leverage's impact across different financial contexts. The acceptance of H2 underscores the importance of leverage management as a critical factor in enhancing firm value.

H3: Firm Size (X3) has a significant effect on Firm Value (Y).
Hypothesis 3 (H3) is supported by the panel least squares regression results, which indicate a significant positive effect of firm size on firm value. The coefficient for firm size (X3) is 8.187907 with a p-value less than 0.05, showing that as firm size increases, the firm value also increases. This finding aligns with the theory that larger firms often benefit from economies of scale, greater market power, and increased investor confidence, all of which contribute to higher firm value. The statistical significance of the results, along with the strong model fit as indicated by the R-squared value of 0.953137, confirms that firm size is a crucial determinant of firm value. This positive relationship suggests that growing a company's scale can lead to enhanced firm value, which is valuable information for managers aiming to increase their firm's market valuation. Future studies could explore the potential non-linear effects of firm size on firm value, but for the current analysis, H3 is affirmed as a significant and positive factor.

H4: Independent Commissioners (Z) moderate the relationship between Profitability (X1) and Firm Value (Y).
Hypothesis 4 (H4) is rejected based on the analysis, which indicates that Independent Commissioners do not moderate the relationship between profitability and firm value. Although the coefficient for profitability is statistically significant, the data does not show significant interaction effects between Independent Commissioners and profitability. The absence of a significant interaction term means there is no evidence that Independent Commissioners alter the impact of profitability on firm value. This result implies that the presence of Independent Commissioners does not enhance or weaken the relationship between profitability and firm value, as proposed by H4. Further investigations might explore different types of moderators or consider a broader range of factors to better understand the dynamics between profitability and firm value. For now, H4 is rejected, and the analysis confirms that Independent Commissioners do not play a moderating role in this specific context.

H5: Independent Commissioners (Z) moderate the relationship between Leverage (X2) and Firm Value (Y).
Hypothesis 5 (H5) is also rejected based on the results of the regression analysis. The data shows that neither the coefficient for leverage nor the coefficient for Independent Commissioners is statistically significant, and there is no significant interaction term between leverage and Independent Commissioners. This indicates that Independent Commissioners do not moderate the relationship between leverage and firm value as hypothesized. The findings suggest that the role of Independent Commissioners in altering the effects of leverage on firm value is not supported by the current data. Future research could explore other potential moderators or use alternative methodological approaches to further investigate the interaction between leverage and firm value. As it stands, H5 is not supported, and there is no evidence that Independent Commissioners influence the relationship between leverage and firm value.

H6: Independent Commissioners (Z) moderate the relationship between Firm Size (X3) and Firm Value (Y).
Hypothesis 6 (H6) is rejected according to the regression analysis results, which show that Independent Commissioners do not moderate the relationship between firm size and firm value. The coefficient for Independent Commissioners is not statistically significant, and there is no significant interaction term between firm size and Independent Commissioners. This finding indicates that Independent Commissioners do not influence or alter the impact of firm size on firm value, as suggested by H6. This result highlights that the moderating role of Independent Commissioners in the relationship between firm size and firm value does not hold true in this study. Future research might consider different variables or interaction effects to explore how firm size and governance mechanisms affect firm value. For now, H6 is rejected, and the current data does not support the hypothesis that Independent Commissioners moderate the firm size-firm value relationship.

5. Conclusion

The results of the panel least squares regression analysis reveal that hypotheses H1, H2, and H3 are accepted, demonstrating a significant relationship between profitability, leverage, and firm size with firm value. Specifically, profitability and firm size have a positive impact on firm value, while leverage also shows a significant positive effect. Conversely, hypotheses H4, H5, and H6 are rejected, as there is no significant evidence to support that Independent Commissioners moderate the relationship between profitability, leverage, or firm size and firm value. Overall, the study confirms that factors such as profitability, leverage, and firm size significantly influence firm value, while the role of Independent Commissioners as moderators in these relationships is not supported by the current data. These findings offer insights into managerial practices aimed at enhancing firm value and suggest that future research should explore alternative moderating variables or different model specifications.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

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