THE EFFECT OF INVESTMENT DECISIONS, FUNDING DECISIONS, AND FIRM SIZE ON FIRM VALUE WITH PROFITABILITY AS AN INTERVENING VARIABLE IN PROPERTY & REAL ESTATE SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE 2022–2024 PERIOD

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Abstract

This study aims to analyze the effect of Investment Decisions, Funding Decisions, and Firm Size on Firm Value with Profitability as an intervening variable in Properties & Real Estate sector companies listed on the Indonesia Stock Exchange for the 2022–2024 period. This research uses an associative method with a quantitative approach. The research sample consists of 75 companies with 225 observations selected using purposive sampling techniques. The data were analyzed using panel data regression and the Sobel Test with the assistance of EViews 13. The results show that Investment Decisions, Funding Decisions, and Firm Size simultaneously have a significant effect on Profitability. Partially, Investment Decisions and Firm Size have a positive and significant effect on Profitability, while Funding Decisions have a negative and significant effect on Profitability. Investment Decisions, Funding Decisions, Firm Size, and Profitability simultaneously also have a significant effect on Firm Value. Partially, Investment Decisions, Funding Decisions, and Profitability have a positive and significant effect on Firm Value, while Firm Size has a negative and significant effect. The Sobel Test results indicate that Profitability is able to significantly mediate the effect of Investment Decisions, Funding Decisions, and Firm Size on Firm Value. These findings emphasize that the company's ability to generate profits plays an important role in explaining the relationship between financial decisions and firm size on Firm Value.

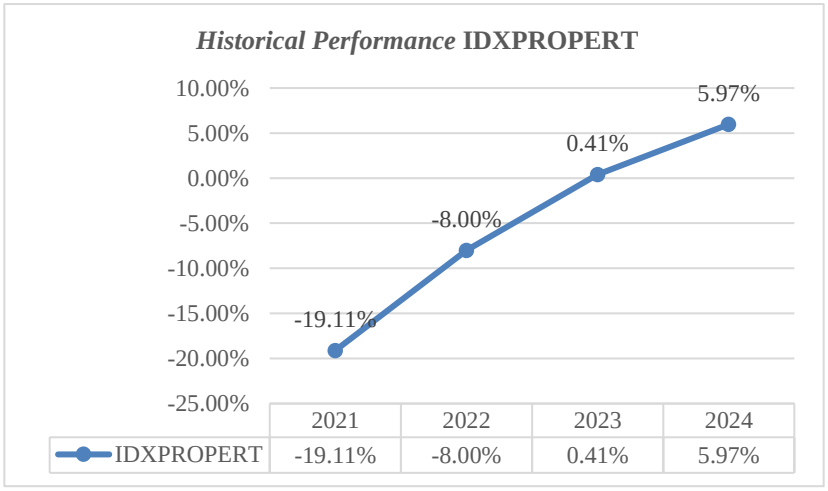
Keywords: Investment Decisions, Funding Decisions, Firm Size, Firm Value, Profitability

INTRODUCTION

The Indonesian capital market has shown increasing development in recent years. The Financial Services Authority recorded that the market capitalization of the Indonesia Stock Exchange reached IDR 12,191 trillion in 2024, representing a growth of 5.05% compared to the previous year. The number of listed companies also reached 943 issuers in 2024. This condition indicates an increase in corporate activities in obtaining funding through the capital market. In publicly listed companies, firm value is an indicator that reflects market perceptions of the company's condition. Firm value is measured using Price Book Value (PBV), which is the comparison between the market price of shares and the book value of the company (Sutrismi et al., 2023). Factors influencing firm value include investment decisions, funding decisions, and firm size (Agustin & Amanah, 2025). Ravelino et al. (2024) also state that funding decisions are related to changes in firm value. In addition, Suharti et al. (2025) demonstrate that firm size has a relationship with firm value.

One sector experiencing growth in the Indonesian capital market is the Properties & Real Estate sector. Septi & Nugroho (2025) state that this sector is closely related to the construction, building materials, financial services, and labor sectors. Statistics Indonesia recorded that the real estate sector contributed IDR 520.7 trillion to Indonesia's Gross Domestic Product in 2024 with an annual growth of 2.5%. In addition, the property sector contributed approximately 7.2% of total national investment realization or IDR 122.9 trillion in 2024. The number of issuers in the Properties & Real Estate sector on the Indonesia Stock Exchange increased from 85 issuers in 2022 to 93 issuers in 2023 and remained at 93 issuers in 2024.

Figure 1. Performance of the Properties & Real Estate Sector Index (IDXPROPERT) Period 2021–2024



Source: www.idx.co.id (2026)

The development of the Properties & Real Estate sector during the 2021–2024 period showed fluctuating conditions. Based on Figure 1, the Performance of the Properties & Real Estate Sector Index (IDXPROPERT) showed a recovery trend during the 2021–2024 period. In 2021, it experienced a decline of -19.11% and began to recover to -8.00% in 2022. In 2023, the index started to grow by 0.41% and increased to 5.97% in 2024. Bank Indonesia data also showed that residential property sales growth in the fourth quarter of 2022 was

4.54%, lower than the third quarter of 2022 at 13.58%. Variations in company conditions can also be observed from differences in stock prices, total assets, total liabilities, and net income among issuers in the Properties & Real Estate sector during the research period.

These conditions indicate variations in firm value within the Properties & Real Estate sector associated with corporate financial decisions and the ability to generate profits. Research data indicate that companies with large total assets do not always have high firm value. In addition, companies with high debt levels also show different firm value conditions during the research period. These variations indicate that investment decisions, funding decisions, firm size, and profitability have different relationships with firm value in the Properties & Real Estate sector. Agustin & Amanah (2025) state that investment decisions affect firm value. Ravelino et al. (2024) demonstrate that funding decisions are related to firm value. Suharti et al. (2025) also state that firm size has a relationship with firm value.

Previous studies have shown differing results regarding the influence of the research variables on firm value. Agustin & Amanah (2025) found that investment decisions have a positive and significant effect on firm value, whereas Kanahaya and Laksono (2024) showed that investment decisions have no effect on firm value. Ravelino et al. (2024) stated that funding decisions have a positive and significant effect on firm value, while Hidayat (2024) showed that funding decisions have no significant effect on firm value. Suharti et al. (2025) found that firm size affects firm value, whereas Ramadani et al. (2025) showed that Firm Size has no effect on firm value. These differences in findings indicate the existence of a research gap in the relationship between investment decisions, funding decisions, firm size, and firm value.

This study positions profitability as an intervening variable in the relationship between investment decisions, funding decisions, firm size, and firm value. Profitability describes the company's ability to generate profit from its operational activities. Brigham & Houston (2018) state that profitability is related to the company's future prospects. In this study, profitability is measured using Return on Assets (ROA), investment decisions are measured using Total Asset Growth (TAG), funding decisions are measured using Debt to Equity Ratio (DER), firm size is measured using the natural logarithm of total assets, and firm value is measured using Price Book Value (PBV). This study focuses on Properties & Real Estate sector companies listed on the Indonesia Stock Exchange during the 2022–2024 period.

Based on empirical phenomena and differences in the results of previous studies, this study aims to analyze the effect of investment decisions, funding decisions, and firm size on firm value and profitability in Properties & Real Estate sector companies listed on the Indonesia Stock Exchange during the 2022–2024 period. This study also aims to analyze the role of profitability in mediating the relationship between investment decisions, funding decisions, firm size, and firm value.

REVIEW OF LITERATURE

Signalling Theory

According to Spence (1973) in Imanullah & Syaichu (2023), signalling theory is a signal or indication in which the sender of information attempts to convey relevant information that can be utilized by the recipient. Furthermore, the recipient will adjust their actions based on the understanding of the signals provided. According to Ghozali (2020), signalling theory explains the actions taken by the signaler to influence the behavior of the

signal recipient. According to Brigham & Houston (2019), signalling theory is an action carried out by company management that provides guidance or signals to investors regarding how the company views its future prospects. Based on the definitions above, it can be concluded that signalling theory is information or actions possessed by the company that become one of the references for prospective investors or signal recipients in assessing the company's prospects.

Investment Decisions

Investment decisions are financial management decisions in selecting projects or assets expected to provide optimal future benefits, either in the form of income or increased capital value (Supeno et al., 2025). Investment decisions are also viewed as the allocation of company resources into various forms of investment by considering the level of risk and expected return in order to increase firm value (Djauzie, 2024). Toyibah and Ruhiyat (2023) state that investment decisions are related to the relationship between risk and investment returns that affect investor assessments of the company. In this study, investment decisions are measured using Total Asset Growth (TAG). Datar (2017) states that asset growth is calculated through a comparison of current year total assets with previous year total assets to indicate the company's asset growth rate from period to period. Supeno et al. (2025) explain that asset growth reflects the company's investment activities in managing its available resources.

The relationship between investment decisions and profitability is explained in the study by Hairudin et al. (2022), which shows that investment decisions have a positive and significant effect on profitability. The study also shows that investment decisions have a positive and significant effect on firm value and profitability has a positive and significant effect on firm value. In addition, profitability is stated to be able to mediate the effect of investment decisions on firm value.

Funding Decisions

Funding decisions are company decisions in determining the sources of funds used to finance operational and investment activities, whether originating from internal capital or debt (Hidayat, 2024). Hasan et al. (2022) define funding decisions as financial decisions related to the selection of company funding sources to finance operational and investment activities. Funding decisions in this study are measured using Debt to Equity Ratio (DER). Kasmir (2023) states that DER is a ratio used to compare total liabilities with total equity. This ratio indicates the proportion of funds originating from creditors compared to the company's own capital.

The relationship between funding decisions and profitability is demonstrated in the study by Kurniawan & Widyawati (2024), which states that funding decisions have a negative effect on profitability. The study also shows that funding decisions have a positive effect on firm value and profitability is able to mediate the effect of funding decisions on firm value. Meanwhile, the study by Qurrota'ani and Hariyanto (2021) shows that funding decisions have no significant effect on firm value.

Firm Size

Firm size describes the scale of a company, which can be observed through total assets, total sales, and the amount of capital utilized by the company (Dewi and Praptoyo, 2022). Suharti et al. (2025) state that firm size reflects the company's ability to manage its available resources and indicates the company's financial condition. firm size in this study is measured

using the natural logarithm of total assets (Ln Total Asset). Brigham & Houston (2018) state that firm size is determined through asset size measured using the natural logarithm of total company assets.

The relationship between firm size and profitability is demonstrated in the study by Kurniawan and Widyawati (2024), which states that firm Size has a positive effect on profitability and a positive effect on firm value. The study also shows that profitability is unable to mediate the effect of Firm size on firm value. The study by Perdana & Adityaputra (2024) shows that firm size has a positive but insignificant effect on profitability and a negative and significant effect on firm value. In addition, profitability is stated to be able to mediate the effect of firm size on firm value.

Profitability

Profitability is a ratio used to assess the company's ability to generate profit within a certain period (Kasmir, 2023). Fahmi (2020) states that profitability measures the effectiveness of company management in generating profits related to sales and company investments. Profitability in this study is measured using Return on Assets (ROA). Kasmir (2023) states that ROA is a ratio showing the return generated from the use of all company assets. This ratio is used to measure the company's ability to generate profit through the utilization of its assets.

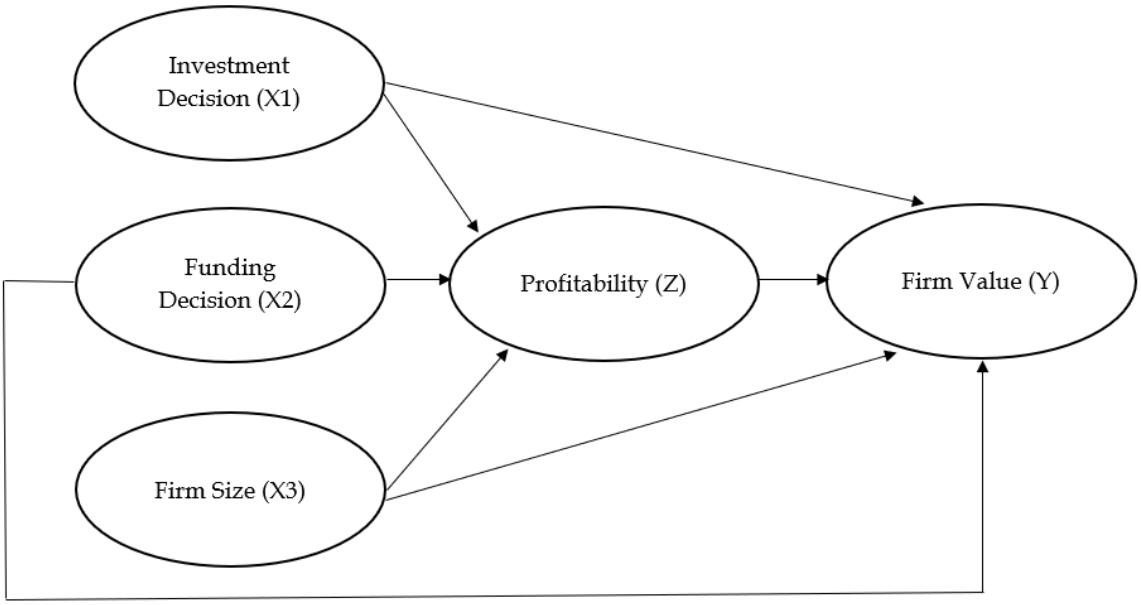
Profitability is positioned as an intervening variable connecting investment decisions, funding decisions, and firm size to firm value. The study by Hairudin et al. (2022) shows that profitability is able to mediate the effect of investment decisions on firm value. The study by Kurniawan & Widyawati (2024) shows that profitability is able to mediate the effect of funding decisions on firm value, but is unable to mediate the effect of firm size on firm value. Meanwhile, the study by Perdana & Adityaputra (2024) shows that profitability is able to mediate the effect of firm size on firm value, but is unable to mediate the effect of capital structure on firm value.

Firm Value

Firm value is a representation of the company's market value related to investor perceptions of the company's stock price (Dewi et al., 2019). Brigham & Houston in Sagita et al. (2023) state that firm value is interpreted as the company's market value reflected through an increase in the company's stock price. Firm value in this study is measured using Price Book Value (PBV). Brigham & Houston (2018) state that PBV is a ratio comparing the market price per share with the book value per share of the company. Sihombing et al. (2025) explain that the PBV value is used to indicate the stock price position based on the company's market value and book value.

Firm value is positioned as the dependent variable influenced by investment decisions, funding decisions, firm size, and profitability. The study by Hairudin et al. (2022) shows that investment decisions and profitability have a positive and significant effect on firm value. The study by Kurniawan & Widyawati (2024) shows that firm size, funding decisions, and profitability affect firm value. Meanwhile, the study by Qurrota'ani & Hariyanto (2021) shows that investment decisions and funding decisions have no significant effect on firm value.

Figure 2. Conceptual Framework



Research Hypotheses

H1: Investment Decisions (X1) affect Profitability (Z).
H2: Funding Decisions (X2) affect Profitability (Z).
H3: Firm Size (X3) affects Profitability (Z).
H4: Investment Decisions (X1) affect Firm Value (Y).
H5: Funding Decisions (X2) affect Firm Value (Y).
H6: Firm Size (X3) affects Firm Value (Y).
H7: Profitability (Z) affects Firm Value (Y).
H8: Profitability (Z) mediates the effect of Investment Decisions (X1) on Firm Value (Y).
H9: Profitability (Z) mediates the effect of Funding Decisions (X2) on Firm Value (Y).
H10: Profitability (Z) mediates the effect of Firm Size (X3) on Firm Value (Y).

RESEARCH METHOD

This study uses a quantitative method with an associative research type to analyze the effect of investment decisions, funding decisions, and firm size on firm value with profitability as an intervening variable. The quantitative method is used to test the relationships between variables through statistical analysis based on numerical data (Sugiyono, 2024). The independent variables in this study consist of investment decisions measured using Total Asset Growth (TAG) (Datar, 2017), funding decisions measured using Debt to Equity Ratio (DER) (Kasmir, 2023), and firm size measured using Ln Total Asset (Brigham & Houston, 2018). The intervening variable uses Return on Assets (ROA) (Kasmir, 2023), while the dependent variable uses Price Book Value (PBV) (Brigham & Houston, 2018).

The research data uses secondary data in the form of annual financial statements of companies in the Properties & Real Estate sector listed on the Indonesia Stock Exchange for the 2022–2024 period through documentation techniques. The research population consists of 93 companies, and the research sample is 75 companies selected using purposive sampling based on the criteria of companies that have gone public before 2022 and published complete

financial statements during the study period. Data analysis is carried out using panel data regression with Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) approaches (Basuki & Prawoto, 2022). Model selection is conducted through the Chow Test, Hausman Test, and Lagrange Multiplier Test (Basuki & Prawoto, 2022). Hypothesis testing is carried out through simultaneous tests (F-test), partial tests (t-test), coefficient of determination (R^2), as well as the Sobel Test to measure the mediating effect of profitability on the relationship between independent variables and firm value.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis includes Investment Decisions (TAG), Funding Decisions (DER), Firm Size (SIZE), Firm Value (PBV), and Profitability (ROA), as presented in Table 1.

Table 1. Descriptive Statistics Test

	TAG	DER	SIZE	ROA	PBV
Mean	0.027967	0.385182	28.43067	0.016282	0.699522
Median	0.005340	0.477060	28.30102	0.008660	0.489230
Maximum	0.589860	7.306100	31.96206	0.428330	34.81653
Minimum	-0.418960	-76.75140	24.38909	-0.186950	-55.10037
Std. Dev.	0.113579	5.296377	1.697724	0.065244	4.495974
Skewness	1.532596	-13.81179	-0.075965	1.629830	-6.567267
Kurtosis	9.593290	201.7956	2.354541	12.70235	121.3002
Jarque-Bera	495.6269	377650.7	4.122182	982.1334	132819.9
Probability	0.000000	0.000000	0.127315	0.000000	0.000000
Sum	6.292580	86.66595	6396.901	3.663340	157.3925
Sum Sq. Dev.	2.889653	6283.560	645.6278	0.953514	4527.888
Observations	225	225	225	225	225

Source: Processed Data EViews 13, 2026

Based on Table 1, this study uses 225 observations from 75 Properties & Real Estate sector companies during the 2022–2024 period.

1) Investment Decisions (TAG) have a minimum value of -0.418960, a maximum of 0.589860, a mean of 0.027967, and a standard deviation of 0.113579.
2) Funding Decisions (DER) have a minimum value of -76.75140, a maximum of 7.306100, a mean of 0.385182, and a standard deviation of 5.296377.
3) Firm Size (SIZE) has a minimum value of 24.38909, a maximum of 31.96206, a mean of 28.43067, and a standard deviation of 1.697724.
4) Profitability (ROA) has a minimum value of -0.186950, a maximum of 0.428330, a mean of 0.016282, and a standard deviation of 0.065244.

5) Firm Value (PBV) has a minimum value of -55.10037, a maximum of 34.81653, a mean of 0.699522, and a standard deviation of 4.495974.

The presence of extreme values in several variables led to the application of winsorization at the 5th and 95th percentiles. This procedure was carried out by replacing extreme values at those percentile limits without reducing the number of observations, thereby minimizing potential bias and distortion in the regression analysis.

Table 2. Descriptive Statistics Test (Winsorization)

	TAG	DER	SIZE	ROA	PBV
Mean	0.023868	0.730092	28.43637	0.014231	0.780564
Median	0.005344	0.477062	28.30102	0.008662	0.489226
Maximum	0.243587	2.917085	31.13613	0.109329	3.282660
Minimum	-0.112824	0.010319	25.46180	-0.073199	0.042045
Std. Dev.	0.081483	0.739289	1.610678	0.045523	0.833775
Skewness	0.937458	1.620966	-0.017804	0.201504	1.816933
Kurtosis	4.101324	5.120993	2.003200	2.726331	5.564416
Jarque-Bera	44.32709	140.7069	9.326980	2.224775	185.4488
Probability	0.000000	0.000000	0.009433	0.328773	0.000000
Sum	5.370190	164.2706	6398.182	3.201942	175.6269
Sum Sq. Dev.	1.487244	122.4268	581.1193	0.464211	155.7203
Observations	225	225	225	225	225

Source: Processed Data EViews 13, 2026

Based on Table 2, the descriptive statistics after the winsorization process include 225 observations from 75 Properties & Real Estate sector companies during the 2022–2024 period.

1) Investment Decisions (TAG) have a minimum value of -0.112824, a maximum of 0.243587, a mean of 0.023868, and a standard deviation of 0.081483.
2) Funding Decisions (DER) have a minimum value of 0.010319, a maximum of 2.917085, a mean of 0.730092, and a standard deviation of 0.739289.
3) Firm Size (SIZE) has a minimum value of 25.46180, a maximum of 31.13613, a mean of 28.43637, and a standard deviation of 1.610678.
4) Profitability (ROA) has a minimum value of -0.073199, a maximum of 0.109329, a mean of 0.014231, and a standard deviation of 0.045523.
5) Firm Value (PBV) has a minimum value of 0.042045, a maximum of 3.282660, a mean of 0.780564, and a standard deviation of 0.833775.

Panel Data Regression Model Selection

The selection of the panel data regression model was conducted for two equations: (1) the model examining the effect of TAG, DER, and SIZE on ROA, and (2) the model examining the effect of TAG, DER, SIZE, and ROA on PBV. The estimation model was determined using the Chow Test, Hausman Test, and Lagrange Multiplier Test.

a. Chow Test

The Chow Test is used to choose between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). A probability value > 0.05 indicates CEM, while a probability value < 0.05 indicates FEM. The test results are presented in Tables 3 and 4.

Table 3. Chow Test (ROA Model)

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.066455	(74,147)	0.0000
Cross-section Chi-square	250.689780	74	0.0000

Source: Processed Data EViews 13, 2026

Based on Table 3, the probability value of the Chow Test for the ROA model is 0.0000 < 0.05, indicating that the selected model is the Fixed Effects Model (FEM). Therefore, further testing is conducted to determine the best panel data regression model.

Table 4. Chow Test (PBV Model)

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.526935	(74,146)	0.0000
Cross-section Chi-square	230.667713	74	0.0000

Source: Processed Data EViews 13, 2026

Based on Table 4, the probability value of the Chow Test for the PBV model is 0.0000 < 0.05, indicating that the selected model is the Fixed Effect Model (FEM). Therefore, further testing is conducted to determine the best panel data model.

b. Hausman Test

The Hausman Test is used to choose between the Fixed Effect Model (FEM) and the Random Effect Model (REM). A probability value > 0.05 indicates REM, while a probability value < 0.05 indicates FEM. The test results are presented in Tables 5 and 6.

Table 5. Hausman Test (ROA Model)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.588447	3	0.6620

Source: Processed Data EViews 13, 2026

Based on Table 5, the probability value of the Hausman Test for the ROA model is 0.6620 > 0.05, indicating that the selected model is the Random Effect Model (REM). Therefore, the Lagrange Multiplier (LM) Test is conducted to determine the best model.

Table 6. Hausman Test (PBV Model)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.590198	4	0.6286

Source: Processed Data EViews 13, 2026

Based on Table 6, the probability value of the Hausman Test for the PBV model is 0.6286 > 0.05, indicating that the selected model is the Random Effect Model (REM). Therefore, the Lagrange Multiplier (LM) Test is conducted.

c. Lagrange Multiplier Test

The Lagrange Multiplier (LM) Test is used to choose between the Common Effect Model (CEM) and the Random Effect Model (REM). A probability value > 0.05 indicates CEM, while a probability value < 0.05 indicates REM. The test results are presented in Tables 7 and 8.

Table 7. Lagrange Multiplier Test (ROA Model)

	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	56.43809 (0.0000)	1.495767 (0.2213)	57.93386 (0.0000)

Source: Processed Data EViews 13, 2026

Based on Table 7, the probability value of the Lagrange Multiplier Test for the ROA model is 0.0000 < 0.05, indicating that the selected model is the Random Effect Model (REM).

Table 8. Lagrange Multiplier Test (PBV Model)

	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	45.70852 (0.0000)	0.616107 (0.4325)	46.32463 (0.0000)

Source: Processed Data EViews 13, 2026

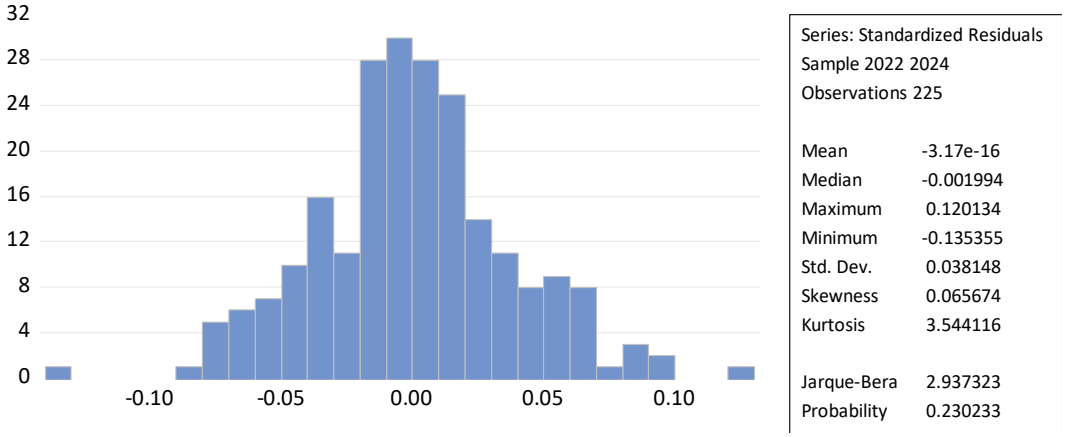
Based on Table 8, the probability value of the Lagrange Multiplier Test for the PBV model is 0.0000 < 0.05, indicating that the selected model is the Random Effect Model (REM). The results of the Chow, Hausman, and LM tests indicate that REM is the most appropriate model for both the ROA and PBV models. REM is estimated using the Generalized Least Squares (GLS) method; therefore, classical assumption testing focuses on multicollinearity. The GLS approach can accommodate heteroskedasticity and autocorrelation according to the structure of the error components and produces estimators that are BLUE (Gujarati & Porter, 2009).

Classical Assumption Test

a. Normality Test

The normality test is conducted using the Jarque-Bera test to assess the distribution of residuals. Residuals are considered normally distributed if the probability value > 0.05 and not normally distributed if < 0.05. The test results are presented in Tables 9 and 10.

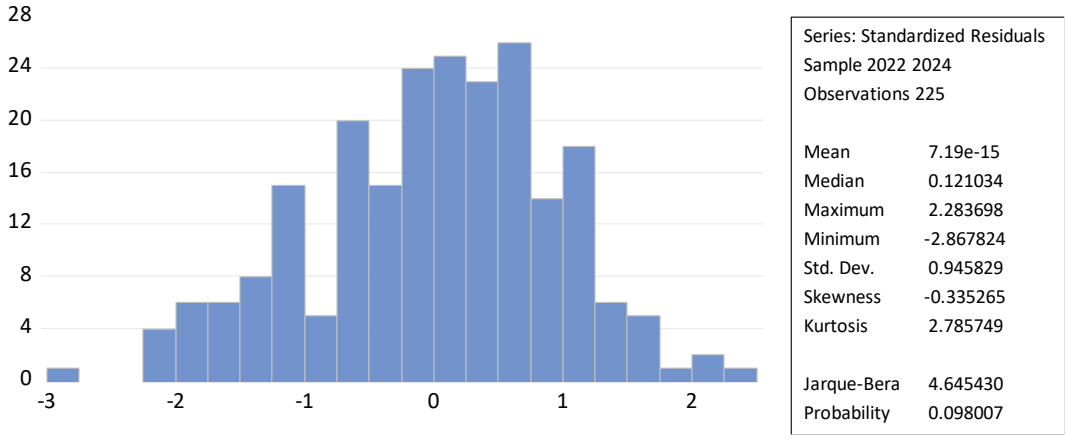
Table 9. Normality Test (ROA Model)



Source: Processed Data EViews 13, 2026

Based on Table 9, the Jarque-Bera probability value for the ROA model is 0.230233 > 0.05. Thus, the residuals of the ROA model are normally distributed.

Table 10. Normality Test (PBV Model)



Source: Processed Data EViews 13, 2026

Based on Table 10, the Jarque-Bera probability value for the PBV model is 0.098007 > 0.05. Thus, the residuals of the PBV model are normally distributed.

b. Multicollinearity Test

The multicollinearity test is conducted using a Correlation Matrix. A correlation value between independent variables of < 0.90 indicates no multicollinearity, while a value > 0.90 indicates the presence of multicollinearity. The test results are presented in Tables 11 and 12.

Table 11. Multicollinearity Test (ROA Model)

	TAG	DER	SIZE
TAG	1.000000	-0.056810	0.056507
DER	-0.056810	1.000000	0.293610
SIZE	0.056507	0.293610	1.000000

Source: Processed Data EViews 13, 2026

Based on Table 11, all correlation values among independent variables in the ROA model are below 0.90. Thus, the ROA model does not experience multicollinearity.

Table 12. Multicollinearity Test (PBV Model)

	TAG	DER	SIZE	ROA
TAG	1.000000	-0.056810	0.056507	0.413564
DER	-0.056810	1.000000	0.293610	-0.206372
SIZE	0.056507	0.293610	1.000000	0.263249
ROA	0.413564	-0.206372	0.263249	1.000000

Source: Processed Data EViews 13, 2026

Based on Table 12, all correlation values among independent variables in the PBV model are below 0.90. Thus, the PBV model does not experience multicollinearity.

Research Hypothesis Test

a. Panel Data Regression

Panel data regression combines time series data and cross-sectional data. The results of the panel data regression analysis are presented in Tables 13 and 14.

Table 13. Panel Data Regression Results (ROA Model)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.236878	0.066706	-3.551063	0.0005

TAG	0.186028	0.031384	5.927487	0.0000
DER	-0.017127	0.004532	-3.779105	0.0002
SIZE	0.009114	0.002372	3.842618	0.0002

Source: Processed Data EViews 13, 2026

Based on Table 13, the panel data regression equation for the ROA Model using the Random Effect Model (REM) is:

$$ROA = -0.236878 + 0.186028\ TAG - 0.017127\ DER + 0.009114\ SIZE + \varepsilon$$

The interpretation of the equation is as follows:

1) A constant of -0.236878 indicates that when TAG, DER, and SIZE are zero, ROA is -0.236878.
2) The TAG coefficient of 0.186028 indicates that an increase in TAG by one unit increases ROA by 0.186028.
3) The DER coefficient of -0.017127 indicates that an increase in DER by one unit decreases ROA by 0.017127.
4) The SIZE coefficient of 0.009114 indicates that an increase in SIZE by one unit increases ROA by 0.009114.

Table 14. Panel Data Regression Results (PBV Model)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.921094	1.674271	4.731071	0.0000
TAG	1.710412	0.860763	1.987088	0.0482
DER	0.578443	0.116271	4.974961	0.0000
SIZE	-0.324123	0.059856	-5.415080	0.0000
ROA	4.455299	1.714997	2.597847	0.0100

Source: Processed Data EViews 13, 2026

Based on Table 14, the panel data regression equation for the PBV Model using the Random Effect Model (REM) is:

$$PBV = 7.921094 + 1.710412\ TAG + 0.578443\ DER - 0.324123\ SIZE + 4.455299\ ROA + \varepsilon$$

The interpretation of the equation is as follows:

1) A constant of 7.921094 indicates that when TAG, DER, SIZE, and ROA are zero, PBV is 7.921094.
2) The TAG coefficient of 1.710412 indicates that an increase in TAG by one unit increases PBV by 1.710412.
3) The DER coefficient of 0.578443 indicates that an increase in DER by one unit increases PBV by 0.578443.
4) The SIZE coefficient of -0.324123 indicates that an increase in SIZE by one unit decreases PBV by 0.324123.
5) The ROA coefficient of 4.455299 indicates that an increase in ROA by one unit increases PBV by 4.455299.

b. Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to measure the ability of independent variables to explain the variation in the dependent variable. The closer the value is to 1, the greater the model's ability to explain the dependent variable. The test results are presented in Tables 15 and 16.

Table 15. Coefficient of Determination (R^2) (ROA Model)

R-squared	0.211677	Mean dependent var	0.006947
Adjusted R-squared	0.200976	S.D. dependent var	0.030037
S.E. of regression	0.026849	Sum squared resid	0.159313
F-statistic	19.78067	Durbin-Watson stat	1.572081
Prob(F-statistic)	0.000000		

Source: Processed Data EViews 13, 2026

Based on Table 15, the R-squared value is 0.211677 and the Adjusted R-squared value is 0.200976.

1) The R-squared value indicates that TAG, DER, and SIZE are able to explain 21.17% of the variation in ROA, while the remaining 78.83% is explained by other variables outside the model.
2) The Adjusted R-squared value indicates that after adjusting for the number of independent variables, TAG, DER, and SIZE are able to explain 20.10% of the variation in ROA, while the remaining 79.90% is explained by other variables outside the model.

Table 16. Coefficient of Determination (R^2) (PBV Model)

R-squared	0.188511	Mean dependent var	-0.401523
Adjusted R-squared	0.173756	S.D. dependent var	0.768047
S.E. of regression	0.698139	Sum squared resid	107.2276
F-statistic	12.77661	Durbin-Watson stat	1.839741
Prob(F-statistic)	0.000000		

Source: Processed Data EViews 13, 2026

Based on Table 16, the R-squared value is 0.188511 and the Adjusted R-squared value is 0.173756.

1) The R-squared value indicates that TAG, DER, SIZE, and ROA are able to explain 18.85% of the variation in PBV, while the remaining 81.15% is explained by other variables outside the model.
2) The Adjusted R-squared value indicates that after adjusting for the number of independent variables, TAG, DER, SIZE, and ROA are able to explain 17.38% of the variation in PBV, while the remaining 82.62% is explained by other variables outside the model.

c. Simultaneous Test (F-statistic Test)

Based on Table 15, the F-statistic value of the ROA model is 19.78067 with a probability of 0.000000 < 0.05. Thus, TAG, DER, and SIZE simultaneously have a significant effect on ROA. Based on Table 16, the F-statistic value of the PBV model is 12.77661 with a probability of 0.000000 < 0.05. Thus, TAG, DER, SIZE, and ROA simultaneously have a significant effect on PBV.

d. Partial Test (t-statistic Test)

t-test (ROA Model)

Based on Table 13, the t-test results for the ROA model are as follows:

1) TAG has a coefficient of 0.186028 with a probability of 0.0000 < 0.05, indicating a positive and significant effect on ROA. Thus, H1 is accepted.
2) DER has a coefficient of -0.017127 with a probability of 0.0002 < 0.05, indicating a negative and significant effect on ROA. Thus, H2 is accepted.

3) SIZE has a coefficient of 0.009114 with a probability of 0.0002 < 0.05, indicating a positive and significant effect on ROA. Thus, H3 is accepted.

t-test (PBV Model)

Based on Table 14, the t-test results for the PBV model are as follows:

1) TAG has a coefficient of 1.710412 with a probability of 0.0482 < 0.05, indicating a positive and significant effect on PBV. Thus, H4 is accepted.
2) DER has a coefficient of 0.578443 with a probability of 0.0000 < 0.05, indicating a positive and significant effect on PBV. Thus, H5 is accepted.
3) SIZE has a coefficient of -0.324123 with a probability of 0.0000 < 0.05, indicating a negative and significant effect on PBV. Thus, H6 is accepted.
4) ROA has a coefficient of 4.455299 with a probability of 0.0100 < 0.05, indicating a positive and significant effect on PBV. Thus, H7 is accepted.

e. Sobel Test

The Sobel test is used to examine the significance of the indirect effects of TAG, DER, and SIZE on PBV through ROA as an intervening variable. The calculations were performed using a Sobel Test Calculator, with the results presented in Tables 17, 18, and 19.

1) The effect of Investment Decisions on Firm Value through Profitability.

Table 17. Sobel Test

Input		Test statistic	Std. Error (Sab)	p-value
a 0.186028	Sobel test	2.37936136	0.34833312	0.01734267
b 4.455299	Aroian test	2.35145576	0.35246692	0.01870011
s_a 0.031384	Goodman test	2.40828463	0.34414967	0.01602768
s_b 1.714997				

Source: Processed Data, 2026

Based on Table 17, the Sobel test statistic value is 2.37936136 with a p-value of 0.01734267 < 0.05. Thus, ROA significantly mediates the effect of TAG on PBV, so H8 is accepted.

2) The Effect of Funding Decisions on Firm Value through Profitability

Table 18. Sobel Test

Input		Test statistic	Std. Error (Sab)	p-value
a -0.017127	Sobel test	-2.14081451	0.0356434	0.032289
b 4.455299	Aroian test	-2.09166298	0.03648098	0.03646867
s_a 0.004532	Goodman test	-2.19360229	0.03478566	0.02826401
s_b 1.714997				

Source: Processed Data, 2026

Based on Table 18, the Sobel test statistic value is -2.14081451 with a p-value of 0.032289 < 0.05. Thus, ROA significantly mediates the effect of DER on PBV, so H9 is accepted.

3) The Effect of Firm Size on Firm Value through Profitability

Table 19. Sobel Test

Input		Test statistic	Std. Error (Sab)	p-value
a 0.009114	Sobel test	2.15211049	0.0188678	0.03138865
b 4.455299	Aroian test	2.10376897	0.01930136	0.0353986

s_a 0.002372	Goodman test	2.20394531	0.01842405	0.02752819
s_b 1.714997				

Source: Processed Data, 2026

Based on Table 19, the Sobel test statistic value is 2.15211049 with a p-value of 0.03138865 < 0.05. Thus, ROA significantly mediates the effect of SIZE on PBV, so H10 is accepted.

Discussion

a. The Effect of Investment Decisions on Profitability

The t-test results indicate that Investment Decisions (TAG) have a positive and significant effect on Profitability (ROA), with a regression coefficient of 0.186028 and a probability value of 0.0000 < 0.05. This finding demonstrates that the greater the investment undertaken by a company through an increase in productive assets, the greater its ability to generate profits. This result is consistent with Hairudin et al. (2022), who found that investment decisions have a positive and significant effect on profitability.

b. The Effect of Funding Decisions on Profitability

The t-test results indicate that Funding Decisions (DER) have a negative and significant effect on Profitability (ROA), with a regression coefficient of −0.017127 and a probability value of 0.0002 < 0.05. This finding suggests that a higher level of corporate debt financing tends to reduce the company's profitability. This result is consistent with Perdana and Adityaputra (2024), who demonstrated that capital structure has a negative and significant effect on profitability.

c. The Effect of Firm Size on Profitability

The t-test results indicate that Firm Size (SIZE) has a positive and significant effect on Profitability (ROA), with a regression coefficient of 0.009114 and a probability value of 0.0002 < 0.05. This finding demonstrates that the larger the company, the greater its ability to generate profits. This result is consistent with Kurniawan and Widyawati (2024), who found that firm size has a positive effect on profitability.

d. The Effect of Investment Decisions on Firm Value

The panel data regression results indicate that Investment Decisions (TAG) have a positive and significant effect on Firm Value (PBV), with a coefficient of 1.710412 and a probability value of 0.0482 < 0.05. This finding suggests that asset growth sends a positive signal regarding the company's future prospects, thereby increasing investor confidence and Firm Value (PBV). However, this result differs from the findings of Qurrota'ani and Hariyanto (2021), who reported that investment decisions do not have a significant effect on firm value.

e. The Effect of Funding Decisions on Firm Value

The t-test results indicate that Funding Decisions (DER) have a positive and significant effect on Firm Value (PBV), with a regression coefficient of 0.578443 and a probability value of 0.0000 < 0.05. This finding demonstrates that the greater the funding decisions undertaken through the optimal use of debt, the higher the firm value. This result is consistent with Kurniawan and Widyawati (2024), who found that Funding Decisions have a positive effect on firm value.

f. The Effect of Firm Size on Firm Value

The t-test results indicate that Firm Size (SIZE) has a negative and significant effect on Firm Value (PBV), with a regression coefficient of −0.324123 and a probability value of 0.0000 < 0.05. This finding suggests that an increase in firm size tends to be accompanied by a decrease in firm value. This result is consistent with Perdana and Adityaputra (2024), who found that firm size has a negative and significant effect on firm value.

g. The Effect of Profitability on Firm Value

The t-test results indicate that Profitability (ROA) has a positive and significant effect on Firm Value (PBV), with a regression coefficient of 4.455299 and a probability value of 0.0100 < 0.05. This finding demonstrates that the greater the company's ability to generate profits through the effective utilization of its assets, the higher its value in the eyes of investors. This result is consistent with Hairudin et al. (2022), who found that profitability has a positive and significant effect on firm value.

h. The Effect of Investment Decisions on Firm Value through Profitability

The results of Sobel Test show a Sobel test statistic of 2.37936136 and a p-value of 0.01734267 < 0.05. Therefore, Profitability (ROA) significantly mediates the effect of Investment Decisions (TAG) on Firm Value (PBV). This finding indicates that investment decisions not only directly affect firm value but also indirectly influence it through improvements in corporate profitability. This result is consistent with Hairudin et al. (2022), who found that profitability mediates the effect of investment decisions on firm value.

i. The Effect of Funding Decisions on Firm Value through Profitability

The Sobel test results indicate that Profitability (ROA) significantly mediates the effect of Funding Decisions (DER) on Firm Value (PBV), with a Sobel test statistic of −2.14081451 and a p-value of 0.032289 < 0.05. This finding suggests that an increase in debt utilization may reduce Profitability (ROA) because of higher financial expenses. Nevertheless, Profitability (ROA) remains a significant mechanism through which Funding Decisions (DER) affect Firm Value (PBV). This result is inconsistent with Perdana and Adityaputra (2024), who found that profitability does not mediate the effect of capital structure on firm value.

j. The Effect of Firm Size on Firm Value through Profitability

The results of Sobel Test indicate that Profitability (ROA) significantly mediates the effect of Firm Size (SIZE) on Firm Value (PBV), with a Sobel test statistic of 2.15211049 and a p-value of 0.03138865 < 0.05. This finding demonstrates that a large asset base can increase Firm Value (PBV) when those assets are managed effectively to generate Profitability (ROA). However, this result differs from the findings of Kurniawan and Widyawati (2024), who reported that profitability does not mediate the effect of firm size on firm value.

CONCLUSION

This study examined the effects of Investment Decisions, Funding Decisions, and Firm Size on Firm Value, with Profitability serving as an intervening variable, among properties and real estate companies listed on the Indonesia Stock Exchange during the 2022–2024 period. The findings demonstrate that Investment Decisions and Firm Size have positive and significant effects on Profitability, whereas Funding Decisions have a negative and significant effect on Profitability. Regarding Firm Value, Investment Decisions, Funding Decisions, and Profitability have positive and significant effects, whereas Firm Size has a

negative and significant effect. Profitability is also proven to significantly mediate the effects of Investment Decisions, Funding Decisions, and Firm Size on Firm Value.

The findings indicate that an increase in Firm Value within the properties and real estate sector is determined not only by investment and Funding Decisions but also by the company's ability to manage its assets effectively to generate profits. The use of debt may directly increase Firm Value; however, it may simultaneously reduce Profitability because of higher financing costs. Firm Size is also not necessarily perceived positively by the market when asset growth is not accompanied by efficient asset management. Therefore, companies should prioritize productive investments, maintain an optimal financing structure, and improve the effectiveness of asset utilization.

Future studies are recommended to extend the observation period, include a broader range of business sectors, and incorporate other variables, such as liquidity, dividend policy, corporate growth, business risk, and corporate governance. The use of alternative measurement proxies may also be considered to obtain more comprehensive findings.

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