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Determination of Firm Value with Investment Decisions as an Intervening Variable (Case Study at UMA)

Edo Satria[1*], Jubaedah Nawir[2], Sri Mulyantini[3]
[1] Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia, edosatria.academic@gmail.com
[2] Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia, jubaedah@upnvj.ac.id
[3] Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia, sri.mulyantini@upnvj.ac.id

[*]Corresponding Author:edosatria.academic@gmail.com [1]

Abstract: This study aims to examine the influence of company size, profitability, and financial risk on firm value, with investment decisions serving as an intervening variable. The population for this research comprises 105 multi-sector companies listed on the Indonesia Stock Exchange. The study employs a full sampling method, covering the year 2022 with a total of 105 observations. Data were analyzed using cross-sectional regression processed through E-Views version 13. The results reveal the following: (1) Company size negatively affects firm value; (2) Profitability negatively affects firm value; (3) Financial risk positively affects firm value; (4) Investment decisions positively affect firm value; (5) Company size does not indirectly affect firm value through investment decisions; (6) Profitability does not indirectly affect firm value through investment decisions; (7) Financial risk does not indirectly affect firm value through investment decisions.

Keywords: Company Size, Profitability, Financial Risk, Investment Decisions, Firm Value, Unusual Market Activity.

INTRODUCTION

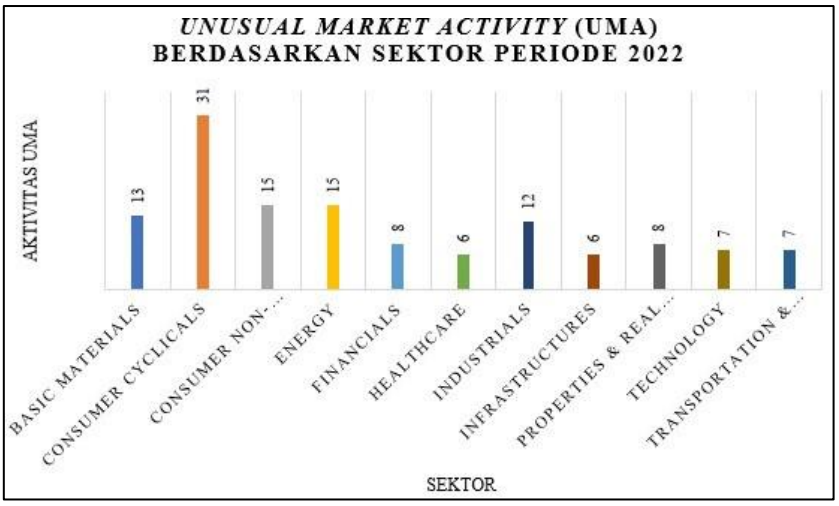
Investment has now penetrated into various sectors, one of which is stock trading on the stock exchange. The Indonesia Stock Exchange (IDX) has an important role in organizing and providing facilities to connect buying and selling offers of various types of securities including shares between market participants (Rinofah, Sari, and Amrina 2022) . So that market participants involved in trading on the stock exchange must ensure that the condition of their company remains strong and has good value, as the value of a company reflects the quality and trust of shareholders in the company's performance (Wijaya, Tania, and Cahyadi 2021) . Some of the factors that contribute to the determination of firm value include firm assets, earnings, growth potential, risk profile, and market conditions. A higher firm value indicates a greater level of confidence from investors and creditors in the firm's ability to generate profits and meet its financial obligations (Ananda and Sari 2023)4

The value of the company cannot be separated from the stock price, because a high and increasing stock price reflects the company's growth opportunities, while a low and decreasing stock price reflects the lack of growth and development of the company. Because stock price is an important factor as an interpretation of firm value (Carolina and Natsir 2022) . So if there is unusual activity in the stock market related to a company, it can be additional information that affects fluctuations in the company's stock price (Permatasari and Tambun 2021) .

The Indonesia Stock Exchange (IDX) defines *Unusual Market Activity* (UMA) as trading activity and/or changes in the price of a security that is considered unusual within a certain period on the stock exchange. According to the exchange's assessment, this has the potential to disrupt the smooth, orderly, fair and efficient trading of securities. The number of companies detected in the UMA list every year, especially in 2022, in various sectors provides a warning to investors to consider all possibilities that may occur in the future before making investment decisions (Indonesia Stock Exchange 2021) .

Stocks listed under *Unusual market activity* (UMA) have experienced a very significant increase in more than 2 days. This significant increase can be defined as rising beyond a certain daily limit or *Auto Reject Upper* (ARA) of 20%, 25%, or 35% per day, depending on the price range of the stock. For stocks that have a price above IDR5,000 per share, the daily increase limit is 20%. Stocks that are in the price range between Rp200 to Rp5,000 per share have a daily increase limit of 25%. Meanwhile, for stocks with prices between IDR50 to IDR200 per share, the daily increase limit is 35%. UMA is also applied to stocks that have experienced an unreasonable decline. For stocks that experience an extreme decline, also known as *Auto Reject Below* (ARB) for more than 2 days, different rules apply depending on the price range of the stock. Stocks priced between IDR50 to IDR200 will be subject to an ARB of 35%. Stocks priced between Rp200 and Rp5,000 will be subject to an ARB of 25%, while stocks priced over Rp5,000 will be subject to an ARA of 20% and an ARB of 20% (Aprilia 2024) .

Based on data obtained from the Indonesia Stock Exchange (IDX) in the period 2022 there were 105 companies that experienced *Unusual market activity* (UMA). This UMA describes stock price movements that are unusual or out of the ordinary, and these events occurred in 11 different sectors with 128 UMA cases.



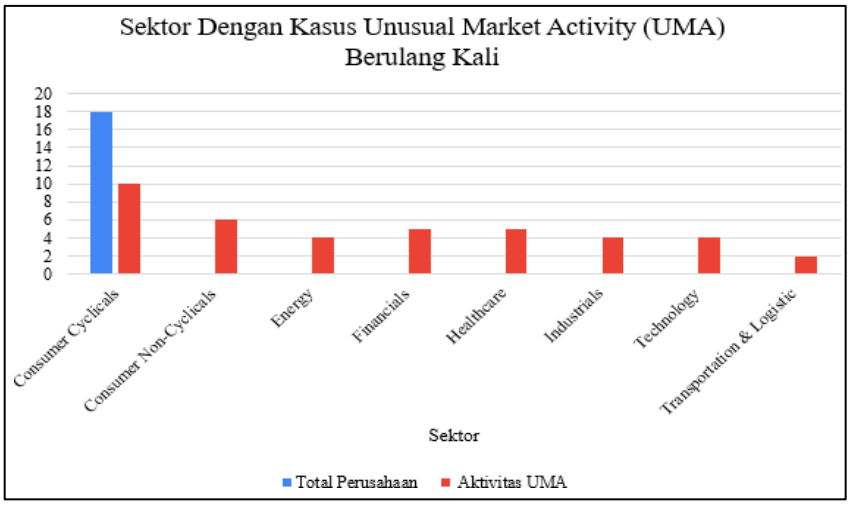
Source: data processed, 2022

Figure 1. *Unusual market activity* (UMA) data by sector for the period 2022

Based on figure 1, *Unusual market activity* (UMA) is not limited to one particular sector, but covers all sectors in the stock market. This makes it imperative to assess in-depth each company in the various sectors. The *Consumer Cyclicals* sector shows the highest UMA activity at 31 cases. The *Consumer Non-Cyclicals* and *Energy* sectors with a total of 15 UMA

cases. Meanwhile, the *Healthcare*, *Infrastructures* and *Transportation Logistics* sectors recorded a lower number of UMA activity of only around 6 or 7 cases.

In addition, it was found that 18 companies experienced repeated *Unusual market activity* (UMA). This suggests a pattern that may be related to specific factors affecting the stock price movements of these companies.



Source: data processed, 2022

Figure 2. Sector Data with Repeated UMA Cases for the Period of 2022

Based on the 18 companies that experienced *Unusual market activity* (UMA) more than once, the *Consumer Cyclicals* sector recorded the most cases with 10 cases indicating significant volatility in this sector. Then *Consumer Non-Cyclicals* with 6 cases, *Financials* and *Healthcare* with 5 cases each, as well as *Industrial*, *Technology* and *Energy* with 4 cases each. Meanwhile, the *Transportation* & *Logistics* sector recorded the lowest UMA cases with only 2 cases. These findings provide deep insights into unusual market movements across different sectors of the economy.

By classifying the industrial sector, it makes it easier for market participants such as companies and investors to assess the company so that it provides opportunities for company growth. Because investment decisions are long-term decisions that involve projections of future business profits (Ananda and Sari 2023) .

So an in-depth analysis of the value of the company's *Unusual market activity* (UMA) is very important for stock exchange players. A good understanding of the factors that influence UMA, whether a decrease or increase in assets, is key to making various decisions including accurate and risk-based corporate operational and investment decisions. Awareness of the complex market dynamics in 2022 will also be the basis for a more targeted and strategic investment policy.

This study will develop several hypotheses as a formulation of the problem as follows, a). Does Company Size have a direct effect on Company Value? b). Does Profitability have a direct effect on Firm Value? c). Does Financial Risk have a direct effect on Firm Value? d). Does Investment Decision have a direct effect on Firm Value? e). Does Company Size affect Firm Value through Investment Decisions? f). Does Profitability affect Firm Value through Investment Decisions? g). Does Financial Risk affect Firm Value through Investment Decisions?

Based on the background and problem formulations described above, the objectives of this study are as follows, a). Test and analyze the effect of Company Size on Company Value b). Test and analyze the effect of Profitability on Company Value. c). Test and analyze the effect of Financial Risk on Firm Value d). Test and analyze the effect of Investment Decisions

on Company Value e). Test and analyze the effect of Company Size on Company Value. on Company Value through Investment Decisions. f). Test and analyze the effect of Profitability on Firm Value through Investment Decisions. g). Test and analyze the effect of Financial Risk on Firm Value through Investment Decisions.

Grand Theory of research

Signaling Theory

The theory proposed by (Spence 1973) and then developed by (Ross 1977) informs those who use information, such as investors, that entities that have data are obliged to convey signals that are in accordance with the condition of the company so that the information can provide benefits to information users.

Pecking Order Theory

The theory that explains the stages of businesses that usually fund their investments by using internal resources first before seeking external funding. because companies are more likely to utilize their own funds when there are growth opportunities before deciding to seek outside funding sources (Myers and Majluf 1984) .

Trade off Theory

The theory introduced by (Eugene F. Brigham and J.F. Houston 2010) explains that companies engage in a compromise between the tax benefits of financing and the potential bankruptcy problems that may arise.

Agency Theory

The theory used to explain and solve problems in the relationship between the company and its agents. An agency relationship is a contract in which the hiring party (*principal*) instructs the hired party (*agent*) to perform certain services in the interest of the hiring party by granting authority to the agent (Jensen and Meckling 1976) .

Company Value

Company value as a description of what a company has achieved in a certain period of time. Then it reflects the company's prospects and expectations about the company's ability to increase its wealth in the future, so the main goal of every company is to have a positive assessment (Pasaribu, Safrida, and Ratna 2022) .

Company Size

The term firm size is used to categorize businesses based on various measures, such as total assets, total sales, market capitalization, and so on. Investors see companies based on their size (Jaya 2020)

Financial Risk

Every firm inevitably faces financial risks, which may include credit risk, liquidity risk, and other risks. The mentioned risks have the potential to affect a firm's performance and value (Jagirani, Lim, and Kosim 2023) .

Investment Decision

Investment decision as an alternative that is chosen to generate income from an asset with the aim of obtaining future profits (Fridana and Asandimitra 2020) .

***Unusual market activity* (UMA)**

This term is a warning by the Indonesia Stock Exchange (IDX) against a security that is suspected of being able to disrupt the smooth, orderly, fair and efficient trading of securities (Rachman 2018) .

Research References

a. (Safaruddin, Nurdin, and Indah 2023)

   The purpose of this study is to examine and explain how company size and capital structure affect the value of companies listed on the Indonesia Stock Exchange. Manufacturing companies listed on the Indonesia Stock Exchange from 2016 to 2020

are the subject of this study. This study shows that firm size has a significant negative effect on firm value, and that investors believe that too large a firm size will reduce management's ability to oversee operational and strategic activities.

b. (Ardianto 2023)
The purpose of this study is to see how profitability and GCG impact the value of good companies in the infrastructure, utilities, and transportation industry listed on the IDX from 2015 to 2019. The results showed that profitability has a negative effect on firm value. This means that when companies lose money, they are more valuable, because shareholders also consider how effectively management invests their funds

c. (Mushofa and Susetyo 2021)
This study aims to examine the effect of ROE and DER on firm value with managerial ownership as a moderating variable in LQ 45 companies listed on the IDX for the 2016-2019 period. The results showed that DER has a positive effect on firm value. So the greater the DER value, the smaller the profit that will be distributed to shareholders, so that it can reduce the stock price concerned.

d. (Chabachib et al. 2020)
This study aims to analyze the effect of company size, investment opportunities, sales growth on firm value, and capital structure. The data used is in the form of financial statement data for manufacturing companies during the 2014-2018 period. Based on the results of hypothesis testing *Investment Opportunity Set* (IOS) has a significant positive impact on firm value. So a company with high growth potential has a large investment opportunity so that it will require sufficient funds.

Hypothesis

In *Signaling Theory*, information that produces positive signals, such as information about business growth, makes investors more likely to maintain their investment in the company. Conversely, if the information provided by managers produces negative signals, investors will look for other companies that have more positive information (Ross 1977) .

Research by Nurdin et al. (2023) shows that company size has a significant negative effect on firm value, and that investors believe that too large a company size will reduce management's ability to oversee operational and strategic activities.

Based on this perspective, the hypothesis about firm size and firm value is as follows:

H_1: *Firm Size* has a negative effect on *Firm Value.*

Pecking Order Theory describes the stages at which businesses typically fund their investments by using internal resources first before seeking external funding (Myers and Majluf 1984) .

Research (Ardianto 2023) shows that profitability has a negative effect on firm value. This means that when companies lose money, they are more valuable, because shareholders also consider how effectively management invests their funds

So the hypothesis that can apply to the analysis of profitability on firm value is:

H_2: Profitability has a negative effect on *Firm Value.*

Trade off theory outlines that companies trade off the tax benefits of funding with the problems arising from potential bankruptcy (Eugene F. Brigham and J.F. Houston 2010) .

Research (Mushofa and Susetyo 2021) shows that DER has a positive effect on firm value. The greater the DER value, the smaller the profit that will be distributed to shareholders, so that it can reduce the share price concerned.

So the hypothesis on the analysis of financial risk on firm value is:

H_3: Financial Risk (*Leverage*)has a positive effect on *Firm Value.*

Agency Theory reveals that the principles used to explain and overcome problems in the relationship between the company and its agents (Jensen and Meckling 1976) .

Research (Chabachib et al. 2020) whose hypothesis testing results *Investment Opportunity Set* (IOS) has a significant positive impact on firm value. So a company with high growth potential has a large investment opportunity so that it will require sufficient funds.

So the hypothesis in the analysis of investment decisions on firm value is:

H_4: Investment Decision has a positive effect on *Firm Value*.

In *Signaling Theory*, information that produces positive signals, such as information about business growth, makes investors more likely to maintain their investment in the company. Conversely, if the information provided by the manager produces a negative signal, investors will look for other companies that have more positive information (Ross 1977) . Then:

H_5: *Firm Size* indirectly affects *Firm Value* through Investment Decision.

Pecking Order Theory describes the stage at which businesses typically fund their investments by using internal resources first before seeking external funding (Myers and Majluf 1984) . Then :

H_6: Profitability indirectly affects *Firm Value* through Investment Decision.

Agency theory reveals that the principles used to explain and solve problems in the relationship between the company and its agents. An agency relationship is a contract in which the hiring party (*principal*) instructs the hired party (*agent*) to perform certain services in the interest of the hiring party by granting authority to the agent (Jensen and Meckling 1976) . Then :

H_7: Financial risk indirectly affects *Firm Value* through Investment Decision.

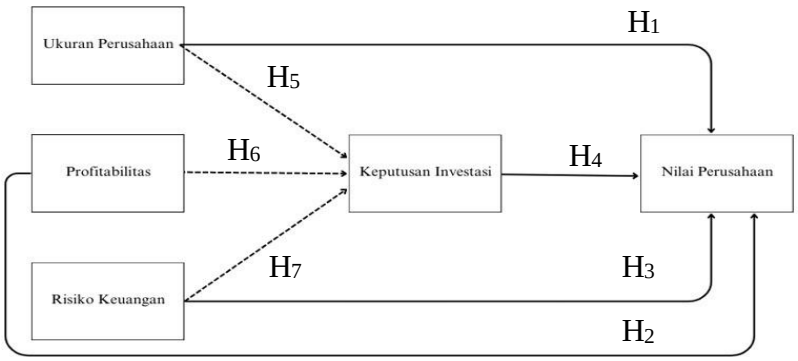


Figure 3. Framework of Thought

METHOD

This research uses various matrices in calculating and formulating population and sample data.

Table 1. Operational Matrix of Research Variables

Operasional Variabel	Variabel	Ukuran	Rumusan Ukuran
Variabel Independen (X)	Ukuran Perusahaan	*Size*	$Ukuran\ Perusahaan = Ln\ (Total\ Asset)$
	Profitabilitas	*Return on Asset* (ROA)	$Return\ on\ Asset = \frac{Laba\ Bersih\ Setalah\ Pajak}{Total\ Asset} x100\%$
	Risiko Keuangan	*Debt to Equtiy Ratio* (DER) *(X3)*	$Debt\ to\ Equity\ Ratio = \frac{Total\ Hutang}{Total\ Ekuitas}$
Variabel Dependen (Y)	Nilai Perusahaan	*Price to Book Value (PBV)*	$Price\ to\ Book\ Value = \frac{Market\ Price\ Per\ Share}{Book\ Value\ Per\ Share}$
Variabel Intervening (Z)	Keputusan Investasi	*Investment Opportunity Set* (IOS)	$MVBVA = \frac{[(Total\ Asset - Total\ Equity) + (Listed\ Share\ x\ Market\ Price)]}{Total\ Asset}$

Population

The population in this study consisted of multi-sector companies that experienced *Unusual Market Activity* (UMA) cases listed on the Indonesia Stock Exchange (IDX) for the period 2022.

Sample

The research uses the *full sampling* method, namely all members of the population will be sampled in the study consisting of 105 companies.

Data Collection Technique

Data Type

The type of data used in this study is quantitative data. -The data used is in the form of financial statements or *annual reports* from each multi-sector company with *Unusual Market Activity* (UMA) cases listed on the Indonesia Stock Exchange in 2022.

Data Source

The resulting data source comes from the company's financial statements that have been audited by auditors in multi-sector companies with *Unusual Market Activity* (UMA) cases listed on the Indonesia Stock Exchange in 2022.

Data Collection

Documentation is carried out by using secondary data collection through the financial statements of multi-sector companies with *Unusual Market Activity* (UMA) cases listed on the Indonesia Stock Exchange. *Library research*, which is a step to bring together various materials that have a connection with the object and topic of the research.

Data Analysis Techniques and Hypothesis Testing

Data Analysis Technique

Although the data analysis method used in this study is regression analysis with a *cross section* model, researchers processed the required data through the Microsoft Excel 2016 program and the *Econometric Views* program (EViews version 13).

Descriptive Data Analysis

Descriptive analysis in this study will use variables including Company Size (Ln Total Assets), Profitability (ROA), Financial Risk (Leverage), Investment Decision (IOS), and Company Value (PBV).

Regression Analysis of *Cross Section* Data

The cross section regression equation model that uses intervening variables in this study can be explained as follows:

First Equation:

$$IOS = \alpha + \beta1.SIZE + \beta2.ROA + \beta3.DER + \varepsilon$$

Where:

α	: Constant (*intercept*)
β1...β3	: Regression coefficient (*slope*)
IOS	: *Investment Opportunity Set*
SIZE	: Company Size
ROA	: *Return on Asset*
DER	: *Debt to Equity Ratio*
ε	: *Error term*

Second equation:

$$PBV = \alpha + \beta1.SIZE + \beta2.ROA + \beta3.DER + \beta4.SIZE.IOS + \beta5.ROA.IOS + \alpha.$$
$$B6.DER.IOS + \varepsilon$$

Where:

α	: Constant (*intercept*)
β1...β3	: Regression coefficient (*slope*)
PBV	: *Price to Book Value*
SIZE	: Company Size
ROA	: *Return on Asset*
DER	: *Debt to Equity Ratio*
IOS	: *Investment Opportunity*
ε	: *Error term*

Classical Assumption Test

In regression analysis of cross section data, the classical assumption test is an important step to ensure the fit of the regression model with the observed data. The classical assumption test is important to ensure the reliability of the regression analysis results, as violation of these assumptions can lead to misinterpretation or inaccurate estimates.

Hypothesis Testing

Partial Test (t Test)

Partial test is used to measure the extent of the impact of the influence of an independent variable partially in influencing the dependent variable.

Simultaneous F Test

The simultaneous F test is carried out to determine the extent of the joint influence of the independent variable on the dependent variable.

Determination Coefficient Test

The Coefficient of Determination (R^2) test is carried out to measure the ability of the independent variable to explain the variation in the dependent variable.

Sobel Test

The mediation hypothesis can be tested using the Sobel Test. The use of the Sobel Test is done by testing the strength of the indirect effect of variable X (independent) on variable Y (dependent) through variable Z (intervening).

RESULTS AND DISCUSSION

This study uses the dependent variable, namely PBV. Using three independent variables, namely SIZE, ROA and DER. As well as MBVA as an intervening variable

Table 2. Descriptive Statistics Results

	PBV	SIZE	ROA	DER	MBVA
Mean	1.861619	27.21429	1.360667	0.756857	1.745619
Maximum	76.500000	32.570000	61.350000	41.650000	115.460000
Minimum	-55.08000	21.450000	-759.2100	-18.94000	-1.530000
Std. Dev.	11.333059	1.920844	75.680978	4.992682	13.914539
Observations	105	105	105	105	105

Regression Analysis of Cross Section Data (Sub-Structural Stage 1)

Table 3. Regression Results of Sub-Structural Cross Section Data (Stage 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.696645	4.926061	0.141420	0.8878
SIZE	-0.025121	1.488594	-0.016876	0.9866
ROA	-0.005357	0.001393	-3.846245	0.0002
DER	-0.033038	0.043616	-0.757481	0.4505

Based on the results of the cross section data regression analysis in Table 3, the resulting regression equation is as follows:

MBVA = 0.696645 - 0.025121*SIZE - 0.005357*ROA - 0.033038*DER

Hypothesis Testing (Stage 1)

The t test conducted at stage 1 of multi-sector companies with *unusual market activity* (UMA) cases to determine the partial effect of independent variables (X) intervening variables (Z).

Table 4. Sub-Structural t-test results (Stage 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.696645	4.926061	0.141420	0.8878
SIZE	-0.025121	1.488594	-0.016876	0.9866
ROA	-0.005357	0.001393	-3.846245	0.0002
DER	-0.033038	0.043616	-0.757481	0.4505

Referring to table 4 above, the effect of the independent variables on the intervening variables partially is as follows:

a. The t value of the SIZE (X1) variable is -0.016876 ≤ the t table value of 1.98326 or the Prob. value of 0.9866 ≥ 0.05 and the direction of the coefficient is negative, so Ha is

rejected and H0 is accepted, meaning that company size has no effect on investment decisions of multi-sector companies with UMA cases for the 2022 period.

b. The t value of the Profitability variable count (X2) of -3.846245 ≤ the t table value of 1.98326 or the Prob. value of 0.0002 ≤ 0.05 and the direction of the negative coefficient, then H0 is rejected and Ha is accepted, meaning that profitability affects the investment decisions of multi-sector companies with UMA cases for the 2022 period.
c. The t value of the DER variable count (X3) of -0.757481 ≤ the t table value of 1.98326 or the Prob. value of 0.4505 ≥ 0.05 and the direction of the negative coefficient, then Ha is rejected and H0 is accepted, meaning that financial risk has no effect on investment decisions of multi-sector companies in the UMA case for the 2022 period.

Simultaneous F Test (Stage 1)

The stage 1 simultaneous F test on multi-sector companies with UMA cases is conducted to determine the simultaneous influence of independent variables (X) including company size, profitability, and financial risk on intervening variables (Z), namely investment decisions as the dependent variable in the test model in stage 1.

Table 5. Simultaneous Sub-Structural F Test Results (Stage 1)

R-squared	0.143323	Mean dependent var	0.685619
Adjusted R-squared	0.117877	S.D. dependent var	1.089663
S.E. of regression	1.023427	Akaike info criterion	2.921541
Sum squared resid	105.7876	Schwarz criterion	3.022644
Log likelihood	-149.3809	Hannan-Quinn criter.	2.962510
F-statistic	5.632468	Durbin-Watson stat	1.916708
Prob(F-statistic)	0.001306		

Based on table 5, it can be explained that the results of the F test at stage 1 show the calculated F value of 5.632468> F table 2.46 and the Prob. (F-statistic) value of 0.001306 <0.05, then H0 is rejected and Ha is accepted, meaning that the variable company size, profitability and financial risk simultaneously affect the investment decisions of multi-sector companies with cases of *unusual market activity* for the period 2022.

R2 Determiansi Coefficient Test (Stage 1)

From table 5 above, it can be seen that the Adjusted R Square value is 0.117877 or 11.7877% The coefficient of determination shows that the independent variable is able to explain the profitability variable by 11.7877% while the remaining 0.882123 which means that 88.2123% is explained by other factors outside the model.

Regression Analysis of Cross Section Data (Sub-Structural Stage 2)

Table 6. Sub-Structural Cross Section Regression Results (Stage 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.114452	1.073098	1.970418	0.0518
SIZE	-0.078330	0.039331	-1.991538	0.0494
ROA	-0.013968	0.006463	-2.161243	0.0333
DER	0.072541	0.015338	4.729591	0.0000
MBVA	0.256973	0.030488	8.428624	0.0000

Based on the results of the regression analysis of cross section data in Table 6, the resulting regression equation is as follows:

PBV = 2.114452 - 0.078330*SIZE - 0.013968*ROA + 0.072541*DER + 0.256973*MBVA

The explanation is as follows:

a. The constant coefficient value of 2.114452 or 211.4452% means that without the SIZE variable (X1), ROA variable (X2) DER variable (X3), and MBVA (Z), the firm value variable (Y) will increase by 211.4452%.
b. The beta coefficient value of the SIZE (X1) variable is -0.078330 or 7.833% if the value of the other variables is constant and the X1 variable increases by 1%, the PBV (Y) variable will decrease by 7.833%...
c. The beta coefficient value of the ROA (X2) variable is -0.013968 or -1.3968% if the value of the other variables is constant and the X2 variable increases by 1%, the PBV (Y) variable will decrease by 1.3968%.
d. The beta coefficient value of the DER variable (X3) is 0.072541 or 7.2541% if the value of the other variables is constant and the X2 variable has increased by 1%, the PBV variable (Y) will increase by 7.2541%...
e. The beta coefficient value of the MBVA variable (Z) is 0.256973 or 25.6973% if the value of other variables is constant and variable Z has increased by 1%, the PBV variable (Y) will increase by 25.6973%.

Hypothesis Testing (Stage 2)

The t test conducted at stage 2 of multi-sector companies with Unsual Market Activity (UMA) cases to determine the partial effect of independent variables (X) including company size, profitability, financial risk, and intervening variables (Z), namely investment decisions on the dependent variable (Y), namely firm value. The results of the stage 2 t test on multi-sector companies with UMA cases using Eviews 13 software are as follows:

Table 7. Sub-Structural t-test results (Stage 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.114452	1.073098	1.970418	0.0518
SIZE	-0.078330	0.039331	-1.991538	0.0494
ROA	-0.013968	0.006463	-2.161243	0.0333
DER	0.072541	0.015338	4.729591	0.0000
MBVA	0.256973	0.030488	8.428624	0.0000

Based on table 7 above, the effect of independent and intervening variables on the dependent variable partially is as follows:

a. The t value of the SIZE (X1) variable is -1.991538 ≤ the t table value of 1.98326 or the Prob. value of 0.0494 ≤ 0.05 and the direction of the negative coefficient, then H0 is rejected and Ha is accepted, meaning that company size has an effect on firm value.
b. The t value of the Profitability variable count (X2) of -2.161243 ≤ the t table value of 1.98326 or the Prob. value of 0.0333 ≤ 0.05 and the direction of the negative coefficient, then H0 is rejected and Ha is accepted, meaning that profitability has an effect on firm value.
c. The t value of the DER variable count (X3) of 4.729591 ≥ the t table value of 1.98326 or the Prob. value of 0.0000 ≤ 0.05 and the direction of the coefficient is positive, then H0 is rejected and Ha is accepted, meaning that financial risk has a positive effect on firm value.

d. The t value of the MBVA variable count (Z) of 8.428624 ≥ the t table value of 1.98326 or the Prob. value of 0.0000 ≤ 0.05 and the direction of the coefficient is positive, then H0 is rejected and Ha is accepted, meaning that investment decisions have a positive effect on firm value.

Simultaneous F Test (Stage 2)

The stage 2 simultaneous F test on multi-sector companies *with unusual market activity* (UMA) *cases* is conducted to determine the joint influence of the dependent variable (company size, profitability, financial risk), the intervening variable (investment decision) on the dependent variable (firm value).

Table 8. Simultaneous Sub-Structural F Test Results (Stage 2)

R-squared	0.683640	Mean dependent var	0.729817
Adjusted R-squared	0.656130	S.D. dependent var	1.190105
S.E. of regression	0.697882	Akaike info criterion	2.203353
Sum squared resid	44.80765	Schwarz criterion	2.436384
Log likelihood	-102.2693	Hannan-Quinn criter.	2.297691
F-statistic	24.85097	Durbin-Watson stat	1.919708
Prob(F-statistic)	0.000000		

Based on table 8, the calculated F value is 24.85097 < F table 2.46 and the Prob value. 0.000000 < 0.05, then H0 is rejected and Ha is accepted, meaning that company size, profitability, financial risk and investment decisions together have an effect on firm value.

R2 Coefficient of Determination Test (Stage 2)

From table 12 above, it can be seen that the Adjusted R Square value is 0.656130 or 65.613%. The coefficient of determination shows that the independent variables consisting of company size, profitability, and company size, as well as the intervening variable, namely investment decisions, are able to explain the firm value variable by 65.613%, while the remaining 0.34387 which means that 34.387% is explained by other factors outside the model.

Sobel Test

The sobel test is used to test the strength of the indirect effect of the independent variable (X) on the dependent variable (Y) through the intervening variable (Z).

Sobel test of the effect of company size (X1) on firm value (Y) through investment decisions (Z).

$$Z = \frac{ab}{\sqrt{(b^2 SEa^2) + (a^2 SEb^2)}}$$

$$Z = \frac{(-0.025121)\ x\ 0.256973}{\sqrt{(0.256973^2\ x\ 1.488594^2) + (-0.025121^2 x\ 0.030488^2)}}$$

$$Z = \frac{-0.006455418733}{\sqrt{(0.1463280273 + 0.0000005865860338)}}$$

$$Z = \frac{-0.006455418733}{\sqrt{0.1463286139}}$$

$$Z = \frac{-0.006455418733}{0.3825292327}$$

$$Z = -0.016875622$$

The sobel test result is -0.016875 ≤ 1.983264 with a significant level of 5%, then Ha is rejected and H0 is accepted, meaning that company size has no effect on firm value through investment decisions.

Sobel test of the effect of profitability (X2) on firm value (Y) through investment decisions (Z).

$$Z = \frac{ab}{\sqrt{(b^2 SEa^2) + (a^2 SEb^2)}}$$

$$Z = \frac{(-0.005357)\ x\ 0.256973}{\sqrt{(0.256973^2\ x\ 0.001393^2) + (-0.005357^2 x\ 0.030488^2)}}$$

$$Z = \frac{-0.001376604361}{\sqrt{(0.0000001281377879 + 0.00000002667479953)}}$$

$$Z = \frac{-0.001376604361}{\sqrt{0.0000001548125874}}$$

$$Z = \frac{-0.001376604361}{0.0003934623075}$$

$$Z = -3.498694373$$

ł with a significant level of 5%, so Ha is rejected has no effect on firm value through investment

on firm value (Y) through investment

$$Z = \frac{ab}{\sqrt{(b^2 SEa^2) + (a^2 SEb^2)}}$$

$$Z = \frac{(-0.033038)\ x\ 0.256973}{\sqrt{(0.256973^2\ x\ 0.043616^2) + (-0.033038^2 x\ 0.030488^2)}}$$

$$Z = \frac{-0.008489873974}{\sqrt{(0.000125622276\ + 0.000001014577833)}}$$

$$Z = \frac{-0.008489873974}{\sqrt{0.0001266368538}}$$

$$Z = \frac{-0.008489873974}{0.01125330413}$$

$$Z = -0.7544338868$$

The sobel test result is -0.754433 ≤ 1.983264 with a significant level of 5%, then Ha is rejected and H0 is accepted, meaning that company size has no effect on firm value through investment decisions**.**

Discussion

The Effect of Company Size on Company Value

The results show that company size has a negative effect on the value of multi-sector companies with the UMA case for the 2022 period, so the first hypothesis is accepted. Because the larger the size of the company, investors will not pay attention to the company, this is because investors believe that a company size that is too large will reduce management's ability to oversee operational and strategic activities.

With these findings in accordance with Agency *Theory*, namely the principles used to explain and overcome problems in the relationship between the company and its agents. Likewise, this study also supports research (Safaruddin, Nurdin, and Indah 2023) showing that size has a negative effect on firm value. And the data shows that more than 100 large-scale companies with total assets above 10 billion.

The Effect of Profitability on Company Value

The results show that profitability has a negative effect on the value of multi-sector companies in the case of the 2022 period, so the second hypothesis is accepted. This is because

the higher the profitability, the lower the company value. With increasing profitability, it means increasing profits, increasing profits, retained earnings will also be greater, so that little profit is given to shareholders and minimal funds are spent on corporate investment. In the end, it will have an impact on the response of investors who think that the company is not doing anything, thus affecting the company's value.

With this finding in accordance with *Pecking Order Theory* that companies are more likely to utilize their own funds when there are growth opportunities before deciding to seek outside funding sources. The results of this study also support Ardianto's research (2023) which reveals that profitability has a negative influence on firm value. Based on empirical conditions, >50% of companies are able to generate profits with a total of 72 companies having positive profitability in the 2022 period.

The Effect of Financial Risk on Firm Value

The results show that financial risk positively affects the value of multi-sector companies with the UMA case for the 2022 period, so the third hypothesis is accepted. This means that debt can be an alternative funding source for companies besides equity. With debt, companies can obtain additional funds to fund investment projects that can increase firm value.

As the core of *Trade-off Theory*, if the company is unable to manage funding from debt properly, there will be a risk of bankruptcy even though the company gets tax deduction benefits from the interest incurred. These results support previous research conducted by Mushofa & Susetyo (2021) which shows that financial risk through the calculation of Debt to Equity (DER) has a positive effect on firm value. based on empirical conditions, it is found that debt is in ideal conditions in the 2022 period where there are more than> 50% of companies have ideal debt with a total of 73 companies.

The Effect of Investment Decisions on Firm Value

The results show that investment decisions have a positive effect on the value of multi-sector companies with the UMA case for the 2022 period, so the fourth hypothesis is accepted. Because the investment decision is able to generate higher returns than a safe interest rate with acceptable risk.

This is in line with *Agency Theory*, which reveals that the principles used to explain and overcome problems in the relationship between the company and its agents. As research by Chabachib et al. (2020) that IOS has a significant positive impact on firm value. Real conditions of more than> 50% of companies are able to generate profits with a total of 82 companies having a good opportunity to make investment decisions in the 2022 period.

The Effect of Company Size, Profitability, Financial Risk on Firm Value Through Investment Decisions

The results show that firm size, profitability, financial risk have no effect on firm value through multi-sector investment decisions with UMA for the 2022 period, so the fifth, sixth, and seventh hypotheses are rejected.

CONCLUSION

Based on the results, firm size and profitability show a negative influence on firm value, while financial risk and investment decisions have a positive influence on multi-sector firm value in the case of UMA during the period 2022. However, firm size, profitability, and financial risk show no influence on firm value through investment decisions. These findings are consistent with several financial theories such as *Agency Theory*, *Pecking Order Theory*, and *Trade-off Theory*, and support the results of previous studies. Overall, the financial factors

analyzed have a significant impact on firm value directly, although not through the investment decision mechanism. There are recommendations that can be given. Theoretically, this study contributes to the development of financial science, especially in understanding the factors that affect firm value. Practically, potential investors and investors are advised to consider company size, profitability, and financial risk before investing, especially in companies that experience UMA. Companies are also advised to improve operational efficiency, manage debt well, and pay more attention to earnings and dividend policies to attract investors. These findings are expected to be taken into consideration for companies in making strategic decisions to improve company performance and value.

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