

## THE ROLE OF INVESTMENT OPPORTUNITY SET BETWEEN PROFITABILITY AND DEBT POLICY

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ARTICLE HISTORY	ABSTRACT
<p>Received: November 12<sup>th</sup>, 2024 Revised: February 08<sup>th</sup>, 2025 Accepted: March 15<sup>th</sup>, 2025</p> <p><b>Keywords :</b> Profitability Debt Policy Investment Opportunity Set</p>	<p><i>This study aims to analyze the effect of profitability on debt policy in mining sector companies listed on the BEI in 2021-2023 with investment opportunity set as moderating variable. This research method used quantitative methods with the secondary data in the form of financial reports. The sampling technique used purposive sampling with a total sample of 34 mining sector companies listed on the IDX in 2021-2023 that meets with sample criteria. The data obtained was analyzed using the IBM SPSS application tool version 27. Results of this research show that profitability has a negative significant effect on debt policy, while investment opportunity set could not moderate the relationship between profitability on debt policy. The set of investment opportunities owned by mining sector companies could not weaken or strengthen the relationship between the profitability owned and the company's debt policy. The higher of the profitability of a mining sector company, the more it reduces the company's debt level.</i></p>

## INTRODUCTION

Companies with high profitability tend to use less debt because company management can be done through retained earnings (Ambarsari & Hermanto, 2017). Companies that are able to generate large profits have strong internal capabilities to finance their business activities. Based on the Pecking Order Theory, companies with adequate internal funding sources will prefer to use retained earnings rather than take debt (Myers, 1984). This reduces dependence on debt and the risks associated with debt, such as interest and bankruptcy risk. High retained earnings can be used for investment, expansion, or operational financing without having to rely on external debt.

On the other hand, when high profits are used for investment through a set of investment opportunities, it can actually increase the company's debt because the company needs debt to fund larger and more promising investments. Trade Off theory explains that companies will choose a capital structure (a mixture of debt and equity) that minimizes the total cost of capital. If investment opportunities are very large, debt will be more attractive because it can reduce the total cost of capital and increase the value of the company (Modigliani & Miller, 1963).

Indonesia's investment trend is increasing, even mining investment ranks first in investment realization in the fourth quarter of 2022 at IDR 39.8 trillion (BKPM, 2022). The large investment in the mining sector has shown great potential to contribute to driving the regional and national economy. In addition, this sector is also one of the mainstays for labor absorption, state revenues and foreign exchange (Taufikurahman, Firdaus, Ahmad, Febriani, & Permana, 2023). Investment in the mining sector requires large funds, because it involves various stages such as exploration, infrastructure development, and production processes (Mukiat & Asof, 2023). Therefore, with this large

investment, the company needs more funds through debt. The phenomenon of pecking order theory which is contrary to trade off theory in the mining sector is the main objective of this study. Profitability is considered to have a negative effect on debt policy, and with the existence of a set of investment opportunities will weaken the negative relationship because investment opportunities in the mining sector require large funds so that they require debt.

## **LITERATURE REVIEW**

### **Pecking Order Theory**

Pecking Order Theory is a capital structure theory that states that companies have preferences for certain funding sources when making investment decisions. Companies prefer internal funding (retained earnings) first, followed by debt, and finally equity (stock) as the last funding source (Myers, 1984). This theory is rooted in the assumption of information asymmetry between company management and shareholders. Management has more complete information about the condition of the company, so they are more confident in using internal funds. Shareholders, who have limited information, tend to be more wary of external funding, especially equity. Information asymmetry also causes managers to prefer issuing debt rather than new shares. Debt has clearer and more measurable risks, while equity financing can cause a decrease in stock value (Myers & Majluf, 1984).

### **Trade Off Theory**

Trade-off theory is a theory that explains how companies make decisions about their capital structure, by balancing the benefits and costs associated with using debt and equity capital. The theory states that the optimal capital structure is achieved when a company balances the benefits of using debt (such as a tax shield) with the costs arising from the risk of bankruptcy and financial distress. Interest on debt is deductible from taxable income, so the company pays less tax. This is known as a "tax shield". Debt is often easier to obtain than equity capital, especially if the company has sufficient collateral. Trade-off theory suggests that companies should seek an optimal capital structure, which is a capital structure that maximizes the value of the company considering the benefits and costs of using debt. This means that companies must carefully consider how much debt to use and how much equity to retain, to achieve the right balance (Modigliani & Miller, 1963).

### **Profitability**

Profitability is the net result of a series of company policies and decisions. Profitability shows the company's ability to generate profits through sales, assets, or equity. Profitability can also be interpreted as the company's ability to generate net income through its operations. Profitability is a reflection of various decisions made by the company, ranging from asset management, debt, to liquidity, measuring how well the company is able to generate profits or benefits from its business activities, used to analyze the company's financial performance and show how effective the company is in generating profits from each investment made (Brigham & Houston, 2021). Profitability theory emphasizes that high profits are an indicator of strong and sustainable financial

performance. This profit is the result of management efficiency in managing the company's assets, resources, and operations. High profits can also attract investors and increase the company's value in the eyes of the market.

### **Investment Opportunity Set**

According to Myers (1997) Investment Opportunity Set (IOS) is an investment decision in the form of a combination of assets owned (assets in place) and future investment options with a positive Net Present Value (NPV) that will affect the company's value. A high IOS indicates greater investment opportunities for the company, which has the potential to increase profitability (Tiara & Muslim, 2023). IOS can affect a company's investment decisions, for example in determining internal or external funding sources. A low IOS can signal to the market that the company has few investment opportunities (Pramiana, Ichsanuddin, & Diah, 2015). IOS is an important concept in investment analysis and financial management, because it describes the investment opportunities available to a company and has an impact on the company's value.

### **Debt Policy**

Debt policy is a policy regarding decisions taken by a company to run its operations using debt or financial leverage (Brigham & Houston, 2021). Several studies also show that the use of debt can provide a positive signal to investors (Kurniawan & Putra, 2019; Hidayat, Yahya, Hardiyanti, & Permatasari, 2022). Investors may assume that companies that use debt have good business prospects and have great growth potential in the future, so they are more willing to invest. The use of debt can also help reduce agency costs, which are costs arising from conflicts of interest between shareholders and company management (Andesta & Iryanto, 2022). Debt can put pressure on management to operate the company efficiently and generate greater profits, thereby reducing the likelihood of agency costs. In addition, the interest paid on debt can also be a tax shield, which is a tax reduction that can be enjoyed by the company (Soerodjo, 2018). This can increase the overall value of the company.

### **Profitability on Debt Policy**

Profitability has a significant positive effect on debt policy (Silalahi, Siahaan, Susanti, & Supitriyani, 2018; Gunawan & Samosir, 2024). Companies that generate significant profits tend to use retained earnings first to finance operations, reducing the need to obtain external funding through debt. Conversely, if profitability is low, the company may lack internal funds and need to use debt to meet financing needs, such as operations or investments. Profitability can also have a negative effect on debt policy (Pidianti & Murtianingsih, 2023; Nafisah, Farida, & Pramesti, 2023). The Pecking Order Theory explains that companies have a preference order in choosing funding sources, where retained earnings (internal funds) are the main choice, followed by debt, and finally issuance of shares. Profitable companies will prefer internal funds for financing, so that debt requirements are lower. High profitability means that the company has a greater cash flow. Greater cash flow allows the company to finance operational and investment activities without having to rely on debt. Companies that have low profitability tend to have a lack of internal funds. To meet operational and investment needs, they will rely

more on debt. Several studies have also shown that profitability does not always affect debt policy (Putri, Miftah, & Anggreini, 2022; Kurniawan, Wijayanti, & Salim, 2023). This may be due to various other factors, such as company size, sales growth, and liquidity. Based on previous theories and research, the following hypothesis can be formulated.

H1: Profitability has a negative effect on the debt policy of the mining sector on the Indonesia Stock Exchange

### **Investment Opportunity Set as a Moderation Between Profitability and Debt Policy**

Companies with high profits can use their money for investment through the Investment Opportunity Set (IOS). Furthermore, companies with higher IOS tend to prefer debt funding (Modigliani & Miller, 1963). This is because they have many promising investment opportunities that can trigger company growth and increase the company's value so that they are considered capable of paying their debts (Veronica, Satriawan, & Dewi, 2022). When companies see promising investment opportunities, they tend to want to take advantage of these opportunities to increase business growth. For this reason, companies often use debt as a source of funding so that they can make larger and faster investments. Companies that have good investment opportunities tend to have higher growth rates (Harahap, Harahap, & Batubara, 2023). Faster growth can increase the value of the company, so investors are more interested in providing loans to the company. With large investment opportunities, companies are more likely to take higher debt risks. This is because companies believe that debt can be used to support investments that generate greater profits in the future. The greater the investment opportunities available, the greater the potential profitability that can be achieved. Good investment opportunities can drive company growth. This growth can then increase revenue and net income, thereby increasing profitability. Companies that have many attractive investment opportunities tend to be more attractive to investors. Investors who believe in the company's growth potential will be more willing to invest, thereby increasing the company's value and profitability (Hidayati & Meidiaswati, 2024). Based on previous theories and research, the following hypothesis can be formulated.

H2: Investment Opportunity Set can weaken the relationship between profitability and debt policy

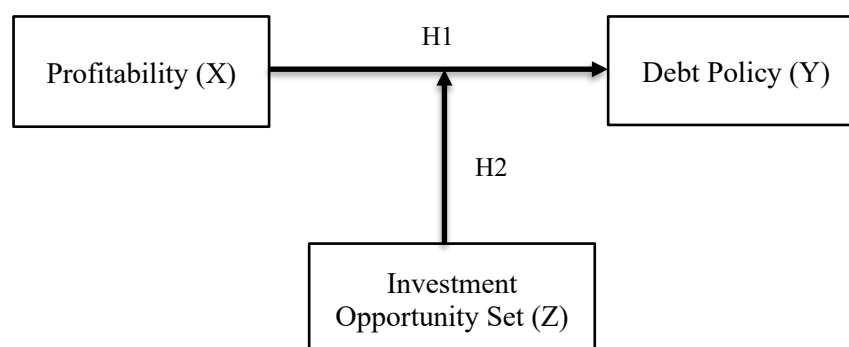


Figure 1. Conceptual Framework

## METHODS

The type of research used in this study is quantitative research. According to Sugiyono (2020) the quantitative method can be interpreted as a research method based on the philosophy of positivism, used to research on a specific population or sample, data collection using research instruments, quantitative/statistical data analysis with the aim of describing and testing the hypothesis that has been determined. The population in this study is 64 companies in the mining sector listed on the Indonesia Stock Exchange (IDX) in 2021-2023. The sampling method used in this study is a non-probability sampling method. The sample determination technique used in this study is purposive sampling. A total of 34 samples were collected that met the researcher's criteria.

Table 1. Definition of Operational Variables

No	Variable	Definition	Measurement	Scale
1	Profitability (X)	Profitability is the net result of a series of company policies and decisions. Profitability shows the company's ability to generate profits through sales, assets, or equity.	$\frac{\text{Return On Asset Net Income}}{\text{Total Assets}}$	Ratio
2	Debt Policy (Y)	Debt policy is a policy regarding decisions taken by a company to run its operations using debt or financial leverage	$\frac{\text{Debt of Equity Ratio Total liabilities}}{\text{Total equity}}$	Ratio
3	Investment Opportunity Set (Z)	Investment Opportunity Set (IOS) is an investment decision in the form of a combination of assets owned (assets in place) and future investment options with a positive Net Present Value (NPV) that will affect the company's value.	$\frac{\text{MVBVA Total Market Value of Assets}}{\text{Total Book Value of Assets}}$	Ratio

Source: (Myers S. , 1997) and (Brigham & Houston, 2021)

## RESULTS

### Descriptive Statistics

In this descriptive statistical analysis, the IBM SPSS application program version 27 was used. The results of the analysis can be seen in table 3 as follows:

Table 2. Descriptive Statistics

Variables	N	Min	Max	Mean	Std. Deviation
Profitability	34	0,0023	0,2869	0,092342	0,0693347
Debt Policy	34	0,1576	1,936	0,723495	0,5084228
Investment Opportunity Set	34	0,3112	2,3765	1,170300	0,4657523

### Normality Test

The normality test in this study is using statistical analysis, namely Kolmogorov-Smirnov and graph analysis, Normal Probability Plot (P-Plot). Here are the results of the Kolmogorov-Smirnov normality test:

Table 3. Normality Test

		Unstandardized Residual
N		34
Normal Parameters	Mean	0,0000000
	Std. Deviation	0,30924122
Most Extreme Differences	Absolute	0,123
	Positive	0,123
	Negative	-0,118
Test Statistic		0,123
Asymp. Sig. (2-tailed)		0,182
Monte Carlo Sig. (2-tailed <sup>d</sup> )	Mr.	0,181
	99% Confidence	Lower
	Interval	Bound
		Upper
		Bound
		0,191

The value of Asymp. Sig. (2-tailed)  $0,182 > 0,05$  or which means greater than 0,05, it can be concluded that the data is normally distributed and meets the assumption of data normality.

### Heteroscedasticity Test

In this study, the heteroscedasticity problem was detected using the graph analysis method. This chart method is done by looking at the scatterplot chart between SRESID and ZPRED. The following are the results of the heteroscedasticity test in this study:

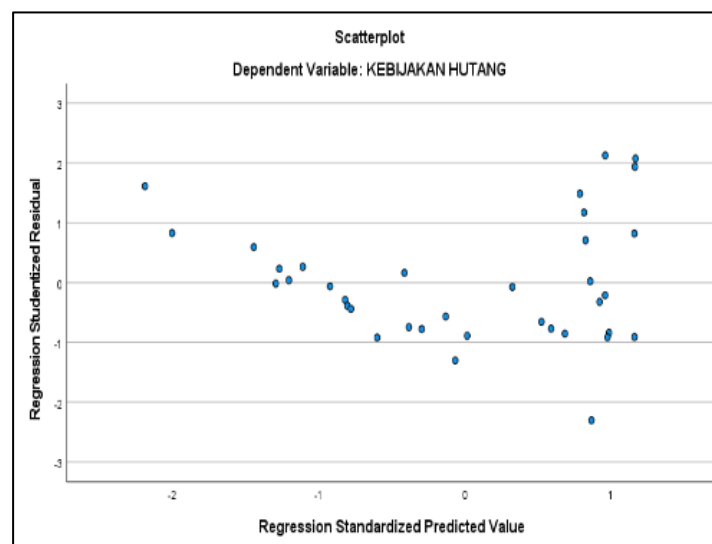


Figure 2. Heteroscedasticity Test

Based on the figure above, it can be seen that there is no clear pattern and the dots spread above and below the number 0 on the Y axis, so it can be concluded that there is no heteroscedasticity in this study.

### Autocorrelation Test

The method used to detect the presence or absence of autocorrelation in this study is the Run Test. The following are the results of the autocorrelation test using the Runs Test:

Table 4. Autocorrelation Test

	Unstandardized Residual
Test Value	-0,05777
Total Cases	34
With	-0,845
Asymp. Sig. (2-tailed)	0,409

Based on table 4 above, it is known that the Asymp. Sig. (2-tailed) value is 0,409 > 0,05 on the basis of making a decision that if > 0,05, it can be concluded that there is no autocorrelation.

### Determination Coefficient Test (R<sup>2</sup>)

The determination coefficient (R<sup>2</sup>) essentially measures how far the model is able to explain the variation of dependent variables. The following are the results of the determination coefficient (R<sup>2</sup>) test:

Table 5. Determination Coefficient Test

R	R Square	Adjusted R Square	Std. Error of the Estimate
0,593	0,358	0,326	0,3974206

Based on table 5, the magnitude of the Adjusted R<sup>2</sup> Square value is 0,358 or 35,8%, which means that profitability and investment opportunity set as independent variables and moderation are able to explain their influence on debt policy by 35,8%. While the remaining 64,2% is explained by other variables outside the regression model in this study.

### Simple Linear Regression Analysis

The results of a simple linear regression analysis can be seen as follows:

Table 6. Simple Linear Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constanta	1,048	0,120		8,946	0,000
Profitability	-3,402	0,988	-0,498	-3,390	0,003

Dependent Variable: Debt Policy

The results of the test on the influence of profitability on debt policy showed a significance value of  $0,003 < 0,05$ . This means that the profitability variable has a negative effect on debt policy, so the first hypothesis (H1) is accepted.

### Moderation Regression Analysis

Moderated regression analysis or MRA is a method that uses an analytical approach in strengthening or weakening the integrity of a sample (Ghozali, 2021). The results of the moderation regression analysis of model 1 and model 2 are as follows:

Table 7. Moderation Regression Anaysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constanta	1,181	0,136		8,160	0,000
Profitability	-6,422	3,190	-0,976	-2,053	0,046
Profit*IOS	1,941	1,640	0,497	1,054	0,396

Dependent Variable: Debt Pollicy

The results of the test on the influence of the interaction between profitability and Investment Opportunity Set on debt policy showed a significance value of  $0,396 > 0,05$ . This means that the interaction between profitability and investment opportunity set has no effect on debt policy, second hypothesis (H2) is rejected.

### The Effect of Profitability on Debt Policy

Based on the results of the simple regression analysis test, it was found that profitability has a negative effect on debt policy. This shows that the higher the profitability of the companies in the added sector on the Indonesia Stock Exchange, the smaller the debt owned by the company. This finding supports the Pecking Order theory that company management basically prioritizes internal funds first to meet the company's operational needs and avoids debt. These findings also support the research of Pidianti & Murtianingsing (2023) that companies with high profitability tend to use these profits as retained earnings for the company's operational activities.

### The Effect of Profitability on Debt Policy with Investment Opportunity Set as a Moderating Variable

The results of the study indicate that Investment Opportunity Set (IOS) cannot moderate the relationship between profitability and debt policy. This is in line with the findings of Nofiani & Gunawan (2018) that IOS does not affect debt policy because investment opportunity activities can still run even though they are not from debt, for example from the company's internal funds. Other variables that may moderate the relationship between profitability and debt policy are company growth, dividend policy, and company size. Companies that grow rapidly may be more likely to use debt to finance growth, while companies with high profitability may prefer internal funding. Companies with a stable dividend policy may be more likely to use debt to finance operational activities, while companies with an unstable dividend policy may prefer internal funding. Large companies may have easier access to capital markets and can be more flexible in using debt, while small companies may be more focused on internal funding.

### CONCLUSION

Investment activities in mining companies require large funds because operational activities are both for initial capital and routine operational costs. These funds are needed



for various things, such as exploration, facility construction, purchase of heavy equipment, employee salaries, raw materials, maintenance, and various other costs. Based on the results of this study, the profitability generated by mining companies is considered sufficient for these operational activities so that they do not require too much debt. The higher the profit obtained, the less debt the mining company has. On the other hand, IOS has no effect on the relationship between profitability and company debt, meaning that with or without IOS, profitability will still have a negative effect on the company's debt policy.

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