Do Financing and Investment Determine the Capital Market Reaction? Evidence from Listed Mining Companies in Indonesia

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Abstract
Objective – The level of trust in the stocks market is one of the important factors to improve the company’s image in facing the increasingly challenging global market. The stock market’s trust can be analyzed by the business capital owned by its company. This research aims to analyze the influence of financing and investment on the dependent variables of capital reaction taking the samples of mining companies listed on the Indonesia Stock Exchange (IDX). This study also analyzes the responses in the ability of mining companies in the capital market.

Design/methodology – The associative approach has been used in this research and a descriptive research model has been utilized. This research is intended to examine the free effect of financing and investment on the dependent variable of the market reaction. The sample used in this study is saturated sampling. Samples of 32 companies out of 44 mining companies listed on the IDX were drawn for analysis purposes.

Results – This study found that DER financing and PER investment (price-earnings ratio) have no significant impact on capital market reaction TVA (trading volume activity) in listed mining companies in Indonesia. It can be concluded that increasing quality of mining companies in Indonesia are mostly not influenced by the power of DER and investment PER.

Keywords: Stocks Market, DER (Debt to Equity Ratio), PER (Price Earnings Ratio).

1. Introduction
Optimizing firm value is deemed as utmost important for every company. Optimization of firm value can be achieved by the implementation of well financial management (Sharma et al., 2019), where financial decision will affect all finances and subsequently having an impact on the value of the enterprise (Xu et al., 2020). According to Hasnawati (2005b: 29), financial management involves the resolution of important decisions taken by the company, including financing or funding and investment decisions. An optimal combination of the two will maximize the value of the company which in turn will increase the wealth of shareholders’ wealth.

Financing is the management policy to obtain funds that will be used to fund their company. Financing of a company can be sourced from within the company (retained earnings) or funds sourced from outside the company (debt and issuance of shares). Funding policy can be seen from the comparison between the amount of debt with capital owned by a company or often known as DER (debt to equity ratio) (Anuar & Chin, 2016). Research by Chai and Zhang (2011: 391) and Kurniati (2003: 21) found that capital markets react negatively and significantly to a company’s DER information. Susilowati and Turyanto (2011: 19) find conflicting evidence that the capital market reacts positively to a company’s DER information.

Capital investment is one of the main aspects of investment in addition to determining the composition of assets. Capital allocation decisions in investment proposals must be evaluated and linked to the risks and expected outcomes (Hasnawati, 2005a: Journal of Accounting Research, Organization and Economics Vol. 3 (1), 2020: 1-14)
According to signaling theory, investment expenditure provides a positive signal about the company’s growth in the future, so that it can increase the price of shares used as an indicator of company value (Wahyudi and Pawestri, 2006: 38).

Decisions concerning investment will determine the source and form of funds for financing (Segura & Zeng, 2020). The problem that must be answered in funding related to the source of funds is whether the source is internal or external (Hudenko & Pocs, 2014; Ly & Shimizu, 2018), the size of the debt and their capital, and how to type of debt and the capital will be used, bearing in mind the financing structure will determine the cost of capital that will be the basis for determining the required return is desirable (Iwaki, 2019).

In formulating its financing and investment policy, the company’s ultimate goal in the long run is to optimize company value (Wahyudi and Pawestri, 2006: 40). The value of the company will be reflected in its share price (Fama, 1978: 37; Wright and Ferris, 1997: 57). Stock prices in the capital market are formed based on an agreement between the demand and supply of investors hence the stock price is a fair price that can be used as the value of the company (Hasnawati, 2005a: 41 and 2005b: 39). Stock return is a reflection of the ability of business units to generate profits by using company resources efficiently, hence the higher the profit of the company, the higher the value of the company (Wright and Ferris, 1997: 59).

If the market can react or optimally utilize funding and investment information in making funding and investments, then investment and funding information will have an impact on changes in stock prices and trading volume activity (TVA). Thus, the research analyzed the influences of financial DER (Debt to Equity Ratio) and PER investment (Price Earning Ratio) to stock market reaction TVA (Trading Volume Activity) is important. This research is focusing to the influence of both funding and investment to the capital market reaction of the mining companies in the Indonesia stock market.

2. Theory

Financing

Financing mainly refers to the efforts of the company to provide funds that the company will use to finance its investment. It leads to policy for spending decision or investment funding (Cuthbertson et al., 2016). Financing policy is a policy regarding investment spending or financing decisions. It includes ways to fund the company’s activities to be optimal, how to obtain funds for efficient investment and how to compose an optimal source of funds that must be maintained (Ouoba, 2020). An increase in debt is interpreted by outsiders concerning the company’s ability to pay obligations in the future. An indication of low business risk will be subsequently responded positively by the market. There are two views about business financing. The first view is known as the traditional view which states that the capital structure affects the value of the company. The traditional view is represented by two theories namely Trade off Theory and Pecking Order Theory (Frank & Goyal, 2007). Meanwhile, another financing approach described that capital structures does not affect the enterprise value (Ogbulu & Emeni, 2012).

Several research discuss a number of factors relevance to financing and found that that there is an increase in abnormal returns the day before and after the announcement of an increase in the proportion of debt, on the contrary there is a decrease in abnormal returns when the company announces a decrease in the proportion of debt. It was also found that the company’s share price rises when it is announced that a loan will be issued to buy back the company’s shares. (Masulis, 1980). Other study also discovered that investments resulting from leverage have positive information about the company in the future, subsequently a positive impact on the value of the company (Fama & French, 1998) and also influences enterprise value (Ouoba, 2020).
Debt to Equity Ratio (DER) is one of the leverage ratio (solvability) which measures the contribution of own capital and long-term investment in the company’s capital structure (Anuar & Chin, 2016). Debt to Equity Ratio (DER) means the comparison between debt with equity. DER quantified by the percentage formula (Ang, 1997). This research uses the debt to equity ratio (DER) for financing policy. DER or “leverage” quantified by comparison between the company’s debt with capital possessed by the company. Leverage describe the management alternative for the funding source that utilized for the investment. Therefore, the greater leverage indicates the large proportion of the debt to capital and conversely.

Investment

Investment is policies related to how companies allocate funds to various forms of investment. Financial management relates to the use of funds obtained by the company both from banks and the capital market or from other parties that are invested in fixed assets and current assets. In general, investments can be in the form of real assets such as land, gold, machinery, buildings and others, and can also be in the form of investments in financial assets (financial assets) such as deposits or purchases of securities. (Dwi Cahyaningdyah, 2013).

The investment can also be defined as current consumption delays to be included in earning assets for a certain period of time, either in the form of real assets (such as houses, land and gold) or in the form of financial assets (securities) that are traded among investors (Hartono, 2010).

The value of a company formed through the stock market value indicator is strongly influenced by investment opportunities. Investment expenditure gives a positive signal about the company’s growth in the future, thus increasing stock prices as an indicator of company value (signaling theory). (Kromidha & Li, 2019). Price Earning Ratio (PER) is a market ratio that compares the market price of a stock with the Earning Per Share of the relevant stock. Data on Price To Earning Ratio (PER) is measured in units (Jogiyanto, 2000).

Capital Market Reaction

Essentially capital market is basically a meeting place of parties who have excess funds (surplus funds) by investing in securities issued by the company and those who need funds (entities) by offering securities by listing in advance at the authority in the capital market as a company. Shares are proof of ownership of the capital of a company. Shares are one source of funds obtained by companies that come from capital owners with the consequence that companies must pay dividends (Kaldoninski et al., 2019; Wijayana & Achjari, 2019).

Definition of the share was also rescribed by Bambang Riyanto as proof of taking part or participants in the enterprise. In an efficient capital market, all securities are traded at market prices (Riyanto, 2001). Stock market prices are prices determined by investors through an agreement of demand and supply. The agreement can occur because investors deal with the price of a stock. The formation of stock market prices as the stock market price is formed through the mechanism of demand and supply in the capital market (Sartono, 2001).

The capital market is a one of business trading securities such as stocks, stock certificates, and bonds. In the classical sense, as can be seen in practice in capitalist countries, securities trading is actually a private enterprise activity. The main motive lies in the problem of capital requirements for companies that want to further advance the business by selling their shares to money owners or investors both groups and business institutions.

Much information outstanding in the market can affect the share market situation. Moreover, capital market reaction to information can also be seen with Trading Volume Activity (TVA) (Koubaa & Slim, 2019). Trading Volume Activity is an instrument that
can be used to observe capital market reactions to information through the parameters of the movement of stock trading volume activities in the capital market. Trading Volume Activity calculation is done by comparing the number of shares of a company traded in a certain period with the total number of shares outstanding from that company in the same period.

3. Research Method

The associative approach has been used in this research and a descriptive research model has been utilized. This research is intended to examine the free effect of financing and investment on the dependent variable of the market reaction. The selection of this methodology is considered relevant, considering that associative research is more directed towards statistical data and the use of formulas with this descriptive study, it is probable that the author will obtain accurate information about the effect of financing and investment towards market reactions in mining companies listed on the Indonesia Stock Exchange.

The sample used in this study is saturated sampling. Saturated sampling is sampling technique which use all members of the population as samples, whereby criteria are based on certain characteristics, traits or characteristics, which are the main characteristics of the population (Arikunto, 2006: 134). Based this definition, then from a population of 44 mining companies listed on the IDX, only 32 companies have complete data which will then become the research sample, as in table 1.

| No | Stock Code | Companies |
|----|------------|-----------|
| 1  | ADRO       | Adaro Energy Tbk |
| 2  | ATPK       | ATPK Resources Tbk |
| 3  | BORN       | Borneo Lumbung Energy & Metal Tbk |
| 4  | BRAU       | Berau Coal Energy Tbk |
| 5  | BUMI       | Bumi Resources Tbk |
| 6  | BYAN       | Bayan Resources Tbk |
| 7  | DEWA       | Darma HenwaTbk |
| 8  | DOID       | Delta Dunia Makmur Tbk |
| 9  | GTBO       | Garda Tujuh Buana Tbk |
| 10 | HRUM       | Harum energy Tbk |
| 11 | IMTG       | Indo Tambangraya Megah Tbk |
| 12 | KKGI       | Resource Alam Indonesia Tbk |
| 13 | MYOH       | Myoh Technology Tbk |
| 14 | PKPK       | Perdana Karya Perkasa |
| 15 | PTBA       | Tambang Batubara Bukit Asam (Persero) Tbk |
| 16 | PTRO       | Petrosea Tbk |
| 17 | SMMT       | Golden Eagle Energy Tbk |
| 18 | ARTI       | Ratu Prabu energi Tbk |
| 19 | BIPI       | Benakat Integra Tbk |
| 20 | ELSA       | Elnusa Tbk |
| 21 | ENGR       | Energy Mega Persada Tbk |
| 22 | MEDC       | Medeo Energi International Tbk |
| 23 | RUIS       | Radiant Utama Interinsco Tbk |
| 24 | SUGI       | Sugih Energy Tbk |
| 25 | ANTM       | Aneka Tambang (Persero) Tbk |
| 26 | CITA       | Cita Mineral Tbk |
| 27 | CRKA       | Cakra Mineral Tbk |
| 28 | INCO       | Vale Indonesia Tbk |
| 29 | TINS       | Timah (Persero) Tbk |
| 30 | CNKO       | Exploitasi Energi Indonesia Tbk |
| 31 | CTTH       | Citatah Tbk |
| 32 | MITI       | Mitra Investindo Tbk |
4. Result and Discussion

Descriptive Analysis

a) DER Descriptive Analysis

The DER variable has two forming variables, namely the company's total debt as a numerator and the company's total capital as the denominator. DER or leverage is often calculated by comparing the debt held by the company with its capital.

| No | Companies | 1st year (%) | 2nd year (%) | 3rd year (%) | 4th year (%) | 5th year (%) | Average (%) |
|----|-----------|--------------|--------------|--------------|--------------|--------------|-------------|
| 1  | ADRO     | 1.18         | 1.32         | 1.23         | 1.11         | 1.08         | 1.18        |
| 2  | ATPK     | 0.70         | 1.89         | 2.44         | 0.33         | 0.31         | 1.13        |
| 3  | BORN     | 0.30         | 0.81         | 4.85         | (5.32)       | (3.48)       | (0.57)      |
| 4  | BRAU     | 4.06         | 2.93         | 7.87         | 23.97        | 701.84       | 148.13      |
| 5  | BUMI     | 4.06         | 5.26         | 17.75        | (24.12)      | (28.90)      | (5.19)      |
| 6  | BYAN     | 1.81         | 1.24         | 1.70         | 2.48         | 2.29         | 1.90        |
| 7  | DEWA     | 0.37         | 0.29         | 0.61         | 0.65         | 0.71         | 0.53        |
| 8  | DOID     | 10.85        | 10.33        | 11.96        | 14.81        | 16.08        | 11.73       |
| 9  | GTBO     | 0.74         | 0.42         | 0.29         | 0.21         | 0.23         | 0.38        |
| 10 | HRUM     | 0.40         | 0.31         | 0.26         | 0.22         | 0.23         | 0.28        |
| 11 | IMTG     | 0.51         | 0.46         | 0.49         | 0.44         | 0.43         | 0.47        |
| 12 | KKGI     | 0.72         | 0.49         | 0.42         | 0.45         | 0.32         | 0.48        |
| 13 | MYOH     | (4.41)       | 1.36         | 3.77         | 1.32         | 1.35         | 0.68        |
| 14 | PKPK     | 1.59         | 1.43         | 1.49         | 1.27         | 1.06         | 1.37        |
| 15 | PTBA     | 0.36         | 0.41         | 0.50         | 0.55         | 0.57         | 0.48        |
| 16 | PTRO     | 0.84         | 1.37         | 1.83         | 1.58         | 1.57         | 1.44        |
| 17 | SMMT     | (2.19)       | (1.50)       | 0.08         | 0.35         | 0.43         | (0.57)      |
| 18 | ARTI     | 0.27         | 0.81         | 0.67         | 0.70         | 0.69         | 0.63        |
| 19 | BIFI     | 0.40         | 0.19         | 0.20         | 1.82         | 1.79         | 0.88        |
| 20 | ELSA     | 0.89         | 1.30         | 1.10         | 0.91         | 0.77         | 0.99        |
| 21 | ENGR     | 1.00         | 1.83         | 2.00         | 1.61         | 1.53         | 1.59        |
| 22 | MEDC     | 1.86         | 2.02         | 2.15         | 1.82         | 1.81         | 1.93        |
| 23 | RUIS     | 1.78         | 3.65         | 3.94         | 3.88         | 4.23         | 3.50        |
| 24 | SUGI     | 0.01         | 0.03         | 0.03         | 0.41         | 0.86         | 0.27        |
| 25 | ANTM     | 0.27         | 0.41         | 0.54         | 0.71         | 0.72         | 0.53        |
| 26 | CTIA     | 0.98         | 0.81         | 0.73         | 0.80         | 0.70         | 0.80        |
| 27 | CKRA     | 0.02         | 0.01         | 0.03         | 0.01         | 0.01         | 0.02        |
| 28 | INCO     | 0.30         | 0.37         | 0.36         | 0.33         | 0.30         | 0.33        |
| 29 | TINS     | 0.40         | 0.43         | 0.34         | 0.61         | 0.64         | 0.48        |
| 30 | CNKO     | 0.34         | 0.67         | 1.04         | 0.64         | 0.70         | 0.68        |
| 31 | CTTH     | 1.66         | 1.87         | 2.32         | 3.13         | 2.98         | 2.39        |
| 32 | MITI     | 2.24         | 0.88         | 0.57         | 0.41         | 0.45         | 0.91        |

Source: Indonesia Stock Exchange (IDX)

The information needed for the DER is on a company's balance sheet. The balance sheet requires total shareholder equity to equal assets minus liabilities, which is a rearranged version of the balance sheet equation:

\[
DER = \frac{\text{Total Liabilities}}{\text{Total Shareholder's Equities}} \times 100\% \tag{1}
\]

And

\[
\text{Assets} = \text{Liabilities} + \text{Shareholder Equity} \tag{2}
\]

b) PER Descriptive Analysis

The PER variable has two forming variables namely the market price of shares as a numerator and the company's net income as the denominator.
Analysts and investors review a company’s PER when they determine if the share price accurately represents the projected earnings per share. The formula and calculation used for this process follow.

\[
PER = \frac{Market \ Value \ per \ Share}{Earnings \ per \ Share} \times 100\% \tag{3}
\]

To determine the PER value, one simply must divide the current stock price by the earnings per share (EPS). The current stock price (P) can be gleaned by plugging a stock’s ticker symbol into any finance website, and although this concrete value reflects what investors must currently pay for a stock, the EPS is a slightly more nebulous figure.

### Table 3. Average PER of Samples of Mining Companies Listed on the Indonesia Stock Exchange (IDX)

| No | Companies | 1st year (%) | 2nd year (%) | 3rd year (%) | 4th year (%) | 5th year (%) | Average (%) |
|----|-----------|--------------|--------------|--------------|--------------|--------------|-------------|
| 1  | ADRO      | 36.95        | 11.16        | 13.78        | 12.26        | 9.43         | 16.72       |
| 2  | ATPK      | (6.05)       | (5.55)       | (7.05)       | 81.44        | 20.23        | 16.60       |
| 3  | BORN      | 67.60        | 7.70         | (1.79)       | (1.27)       | (0.23)       | 14.40       |
| 4  | BRAU      | 28.72        | 9.93         | (3.92)       | (10.36)      | (3.28)       | 4.22        |
| 5  | BUMI      | 22.49        | 23.16        | (1.81)       | (1.07)       | 0.98         | 8.75        |
| 6  | BYAN      | 80.99        | 28.74        | 46.44        | (67.81)      | (115.98)     | (55.52)     |
| 7  | DEWA      | 293.85       | (7.82)       | (2.81)       | (4.11)       | (20.30)      | 51.76       |
| 8  | DOID      | (68.90)      | (15.49)      | (7.44)       | (3.66)       | (18.11)      |             |
| 9  | GTBO      | 184.56       | 19.63        | 6.45         | 119.37       | (3.50)       | 51.76       |
| 10 | HRUM      | 29.49        | 10.82        | 12.02        | 13.23        | 5.69         | 14.25       |
| 11 | IMTG      | 31.29        | 8.74         | 11.38        | 11.28        | 5.36         | 13.61       |
| 12 | KKGI      | 22.29        | 14.33        | 7.34         | 9.47         | 12.96        |
| 13 | MYOH      | 238.94       | 58.76        | 34.18        | 5.97         | 3.91         | 68.35       |
| 14 | PKPK      | 12.87        | (37.40)      | (14.88)      | 51.20        | 30.73        | 8.50        |
| 15 | PTBA      | 26.32        | 12.95        | 15.33        | 14.17        | 11.61        | 16.08       |
| 16 | PTRO      | 6.91         | 7.01         | 2.80         | 4.53         | 19.89        | 8.23        |
| 17 | SMMT      | (55.96)      | (101.42)     | 228.11       | 204.94       | 623.24       | 179.78      |
| 18 | ARTI      | 16.23        | 41.63        | 7.86         | 9.47         | 7.79         | 16.60       |
| 19 | BIP1      | (31.83)      | (30.21)      | (47.84)      | 11.15        | 9.61         | (17.82)     |
| 20 | ELSA      | 37.12        | 2.62         | 9.31         | 15.32        | 13.69        | 15.61       |
| 21 | ENGR      | (80.75)      | 28.59        | 12.48        | 0.99         | 6.22         | (6.49)      |
| 22 | MEDC      | 15.08        | 1.83         | 92.26        | 45.19        | 55.62        | 42.00       |
| 23 | RUIS      | 12.01        | 42.26        | 0.18         | 5.22         | 3.24         | 12.58       |
| 24 | SUGI      | 28.03        | 28.47        | 282.79       | (78.77)      | 246.44       | 101.39      |
| 25 | ANTM      | 13.88        | 8.03         | 4.08         | 22.41        | (9.48)       | 7.78        |
| 26 | CITA      | 10.72        | 4.06         | 4.33         | 2.27         | (6.64)       | 2.95        |
| 27 | CKRA      | (7.69)       | 28.69        | (332.19)     | 9550.48      | (108.11)     | 1847.86     |
| 28 | INCO      | 12.34        | 10.51        | 38.48        | 35.97        | 43.22        | 28.10       |
| 29 | TINS      | 14.60        | 9.37         | 17.79        | 42.83        | 26.07        | 22.13       |
| 30 | CNKO      | 9.25         | 5.71         | 18.74        | 51.04        | 91.54        | 35.26       |
| 31 | CITH      | 6.93         | 95.36        | 25.87        | 13.07        | 5.38         | 29.32       |
| 32 | MITI      | 19.63        | 4.79         | 9.66         | 9.83         | 14.33        | 11.65       |

Source: Indonesia Stock Exchange (IDX)

c) Descriptive Trading Volume Activity (TVA)

Trading Volume is one variable that uses Trading Volume Activity (TVA) as an indicator or instrument that can be used to see capital market reactions to information through the parameters of the movement of stock trading volume activities in the capital market. Changes in stock trading volume indicate stock trading activities on the stock exchange and reflect investment decisions taken by investors. Calculation of Trading Volume Activity (TVA) is carried out with the number of shares of a company traded in a certain period with the total number of shares outstanding in the same period of
time by observing data for 5 years (2010-2014). TVA can be measured with a formulation as follows:

$$TVA = \frac{\text{Number of shares i traded time } t}{\text{Number of shares i outstanding at time } t}$$ (4)

| No | Companies | 1st year (%) | 2nd year (%) | 3th year (%) | 4th year (%) | 5th year (%) | Average (%) |
|----|-----------|--------------|--------------|--------------|--------------|--------------|-------------|
| 1  | ADRO     | 0.06         | 0.66         | 0.09         | 0.08         | 0.12         | 0.20        |
| 2  | ATPK     | 0.30         | 0.34         | 0.25         | 0.05         | 0.91         | 0.37        |
| 3  | BORN     | 0.41         | 0.04         | 0.05         | 0.08         | 0.00         | 0.12        |
| 4  | BRAU     | 0.07         | 0.01         | 0.08         | 0.04         | 0.10         | 0.06        |
| 5  | BUMI     | 0.04         | 0.03         | 0.07         | 0.12         | 0.15         | 0.08        |
| 6  | BYAN     | 0.01         | 0.10         | 0.04         | 0.04         | 0.51         | 0.14        |
| 7  | DEWA     | 0.02         | 0.05         | 0.01         | 0.03         | 0.15         | 0.05        |
| 8  | DOID     | 0.25         | 0.04         | 0.07         | 0.23         | 0.08         | 0.14        |
| 9  | GTBO     | 0.13         | 0.23         | 0.00         | 0.07         | 0.12         | 0.11        |
| 10 | HRUM     | 0.14         | 0.08         | 0.09         | 0.07         | 0.10         | 0.10        |
| 11 | IMTG     | 0.08         | 0.06         | 0.05         | 0.06         | 0.11         | 0.07        |
| 12 | KKGI     | 0.47         | 0.02         | 0.11         | 0.02         | 0.07         | 0.14        |
| 13 | MYOH     | 0.00         | 4.22         | 0.01         | 0.00         | 0.00         | 0.85        |
| 14 | PKPK     | 0.01         | 0.05         | 0.04         | 0.09         | 0.02         | 0.04        |
| 15 | PTBA     | 0.06         | 0.05         | 0.07         | 0.08         | 0.08         | 0.07        |
| 16 | PTRO     | 0.00         | 0.00         | 0.17         | 0.02         | 0.06         | 0.05        |
| 17 | SMMT     | 0.12         | 0.01         | 0.12         | 0.99         | 0.00         | 0.25        |
| 18 | ARTI     | 0.00         | 0.04         | 0.01         | 0.03         | 0.33         | 0.08        |
| 19 | BIPI     | 0.02         | 0.22         | 4.00         | 0.09         | 0.14         | 0.89        |
| 20 | ELSA     | 0.04         | 0.09         | 0.07         | 0.14         | 0.12         | 0.09        |
| 21 | ENGR     | 0.07         | 0.10         | 0.04         | 0.03         | 0.09         | 0.07        |
| 22 | MEDC     | 0.09         | 0.02         | 0.11         | 0.02         | 0.18         | 0.08        |
| 23 | RUIS     | 0.04         | 0.05         | 0.21         | 0.00         | 0.03         | 0.07        |
| 24 | SUGI     | 0.48         | 0.61         | 0.29         | 0.07         | 0.14         | 0.32        |
| 25 | ANTM     | 0.04         | 0.04         | 0.06         | 0.09         | 0.08         | 0.06        |
| 26 | CTIA     | 1.02         | 0.11         | 0.00         | 0.00         | 0.01         | 0.23        |
| 27 | CKRA     | 0.04         | 0.02         | 0.00         | 0.02         | 0.36         | 0.09        |
| 28 | INCO     | 0.03         | 0.04         | 0.11         | 0.09         | 0.12         | 0.08        |
| 29 | TINS     | 0.06         | 0.04         | 0.06         | 0.05         | 0.17         | 0.08        |
| 30 | CNKO     | 0.04         | 0.09         | 0.15         | 0.03         | 0.18         | 0.10        |
| 31 | CTTH     | 0.02         | 0.08         | 0.10         | 0.01         | 0.12         | 0.07        |
| 32 | MITI     | 0.24         | 0.07         | 0.02         | 0.02         | 0.11         | 0.10        |

Source: Indonesia Stock Exchange (IDX)

Based on tables 2, 3 and 4, it turns out that the average DER, PER and TVA data are not normally distributed, thus data transformation must be carried out to obtain normally distributed data, as in table 5.

| No | Companies | DER (X1) | PER (X1) | TVA (Y) |
|----|-----------|----------|----------|---------|
| 1  | ADRO      | 1.392    | 279.560  | 0.040   |
| 2  | ATPK      | 1.277    | 275.560  | 0.136   |
| 3  | BORN      | 0.325    | 207.360  | 0.014   |
| 4  | BRAU      | 296.260  | 17.818   | 0.004   |
| 5  | BUMI      | 26.934   | 76.562   | 0.006   |
| 6  | BYAN      | 3.610    | 30.470   | 0.019   |

Source: Indonesia Stock Exchange (IDX)

Table 5. Transformer Tabulation Data of Variable DER, PER and TVA Variables of Mining Companies Listed on the Indonesia Stock Exchange (BEI)
Calculation of Trading Volume Activity (TVA) is carried out with the number of shares of companies traded in a certain period with the total number of shares circulating in the same period of time by observing data for 5 years.

d) Descriptive Statistics

Descriptive statistics provide a description of the value characteristics of the variable under study. The characteristic value of a variable can be the mean (mean) and standard deviation (standard deviation). Descriptive statistics of each variable are presented in Table 6.

Table 6. Descriptive Statistic of Variables DER, PER and TVA

|     | N   | Min.  | Max.  | Mean   | Std. Dev |
|-----|-----|-------|-------|--------|----------|
| DER | 32  | -3.40 | 2.47  | 1.032  | 1.04762  |
| PER | 32  | .94   | 6.53  | 2.6216 | 1.06137  |
| TVA | 32  | -2.80 | -.10  | 1.8889 | .65308   |

Table 6 shows that the average DER is 0.1032, the average PER is 2.6216 and the average TVA is 1.8889. Furthermore, in normalizing the variable data, the SPSS 16.0 statistical program was used. The whole process of normalization of the data carried out made the number of N, which initially 44 pieces of data to only 32 pieces of data. From this amount of data, then the statistical calculation process is carried out.
**Classical Assumption Test**

a) Normality test

In a good regression model the data must be normally distributed. Normality test is performed by testing the normality of the residuals. Residual normality test on 44 samples of the company is carried out by issuing 12 samples that have extreme residual values (DER, PER and TVA data are incomplete), hence 32 samples are used for further testing. Residual normality test in this study used the Kolmogorov-Smirnov statistical test. The results of the Kolmogorov-Smirnov statistical test of the company can be seen in table 7.

**Kolmogorov-Smirnov Test**

| N       | 32 |
|---------|----|
| Normal Parameters | Mean | 1.8889 |
|          | Std. Dev | .65308 |
| Most Extreme Absolute Differences | Positive | .193 |
|          | Negative | -.106 |
| Kolmogorov-Smirnov Z | 1.089 |
| Asymp. Sig. (2-tailed) | 186 |

The normality test results obtained the Kolmogorov-Smirnov value of 1.089 with a significance level of 0.186. Because the significance value of the Kolmogorov-Smirnov test is greater than 0.05, it can be concluded that the residuals are normally distributed. The results of the assumption normality test of the regression model can also be analyzed using the graph as Figure 1.

Figure 1 shows that the data appears to spread along diagonal lines and histogram diagrams that are not skewed left or right. This shows that the residual data model is normally distributed. Then it can be stated that the linear regression model meets the assumptions of normality.

b) Multicollinarity Test

Assumptions that must be met by a model regression in order to produce results is that there is no multicolliniarity. Multicolliniarity test in this study was conducted by looking at the VIF value of each independent variable. The results of the company's multicollinnariarity test can be seen in table 8.

![Figure 1. Normal P-P Standard Residual Regression Graph.](image-url)
Based on table 8. It can be concluded that there is no independent variable that has a VIF value greater than 10, hence it can be concluded that there is no serious correlation between the independent variables in the regression model tested or in other words there is no multicollinearity in the regression model created.

c) Autocorrelation Test

Expected results from a regression model can be obtained if there is no autocorrelation. Autocorrelation test in this study was carried out with the Durbin-Watson test (DW test). The results of the Durbin-Watson test for the sample of this company can be seen in table 9 and 10.

| Model Summary¹b |
|-----------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|---|-----------|--------------------|---------------------------|--------------|
| 1     | .206 | .043 | -.023 | .66071 | 2.318 |

Predictors : (Constant). PER. DER
Dependent Variable: TVA

The DW Table value as shown at table 4.9 is 2.318. Since of the DW Table value is greater than DW Test which is 1.574, it can be concluded that there is no autocorrelation in the regression model.

d) Heteroscedasticity Test

The regression model is considered good if there is no heteroscedasticity in the regression model. Heteroscedasticity test in this study was carried out using scatterplot charts. Detection of heteroscedasticity is done by analyzing certain types of scatterplot charts that have been studentized. Heteroscedasticity test results of the sample companies can be seen in table 11.
The Glejser test results showed that the significance level of DER was 0.901 and the significance level of PER was 0.350. Because none of these independent variables is significant to the residual value at the 0.05 level, it can be concluded that there was no heteroscedasticity in the regression model. Furthermore, if the heteroscedasticity test uses a scatterplot graph, the following results are obtained.

![Scatterplot](image)

Figure 2 shows the distribution of variates residual points spreading. The data point spreading up and down around the 0 (zero) point. Data point do not collect only above or below 0 (zero) point. The spread of data points cannot form a wavy pattern of spread then narrows and widens again and data point spread of patternless data points. The result indicate that there is no heteroscedasticity, thus the regression analysis can be applied.

**Multiple Linear Regression Analysis**

After the assumption test is performed, the model suitability test and hypothesis test are performed. The results of the analysis that affect TVA are presented in Table 12 which shows that there are 2 variables that influence the TVA (Y) variable, namely DER (X1) and PER (X2)

| Model  | Unstandardized Coefficient | Unstandardized Coefficient | t    | Sig.  | Collinearity Statistics |
|--------|-----------------------------|-----------------------------|------|-------|-------------------------|
|        | B                           | Std. Error                  | Beta |       | Tolerance | VIF |
| (Constant) | -2.248                    | .389                        |      | 5.785 | .000      |     |
| PER    | .138                        | .145                        | .224 | .950  | .350      | 595  | 1.682    |
| DER    | .018                        | .147                        | .030 | .126  | .901      | 595  | 1.682    |

Table 12. Multi Linear Regression Test

To simplify the interpret the regression analysis, an equation form that contains constants and regression coefficients is obtained from the results of data processing that has been done previously. The regression equation is as follows

\[ Y = -2.248 + 0.018X_1 + 0.138X_2 + \varepsilon \]

In this regression model, the constant values listed are -2.248. This shows that the average effect of all independent variables DER and PER on the TVA variable is -2.248. This means that each DER addition of 1.00 will add a TVA of 0.018 and each additional PER of 1.00 will add a TVA of 0.138
Hypothesis testing is simultaneously carried out by the F test, and partially carried out by the t test, with the level of significance in this study indicating $\alpha = 5\%$ or 0.05. Hypothesis testing results are described in the following section.

Test the Effect of Variables Simultaneously (F Testing)

| Model | Sum of Square | df | Mean Square | F     | Sig.  |
|-------|---------------|----|-------------|-------|-------|
| 1     | Regression    | .562 | 2 | .281 | .644 | .532 |
|       | Residual      | 12.659 | 30 | .437 |     |     |
|       | Total         | 13.222 | 32 |     |     |     |

Predictors : (Constant), PER, DER
Dependent Variable : TVA

The influence of DER and PER variables simultaneously using the F test is presented in Table 13 which shows that the F significance value is 0.532. The value obtained is greater than the probability of error that is tolerated, which is $\alpha = 5\%$ or 0.05. This shows that $H_0$ is accepted or $H_1$ is rejected, namely the DER (X1) and PER (X2) variables simultaneously have no significant effect on the TVA (Y) variable.

Partial Variable Influence Test (t Test)

After testing the effect of variables simultaneously, the discussion is continued with partial testing of the effect of variables. The results of the partial effect test using the t test are presented in Table 14.

| Coefficients | Model | Unstandardized Coefficient | Unstandardized Coefficient | t     | Sig. | Tolerance | VIF |
|--------------|-------|-----------------------------|-----------------------------|-------|------|-----------|-----|
|              | (Constant) | -2.248                      | .389                        | -5.785 | .000 |           |     |
| PER          | .138                      | .145                        | .224                        | .950  | .350 | -595      | 1.6 |
| DER          | .018                      | .147                        | .030                        | .126  | .901 | -595      | 1.6 |

Dependent Variable : TVA

1) DER

Table 14 shows that the DER variable has a t count of 0.126. T count value obtained is smaller than t table of 2.042. This shows that $H_0$ is accepted or $H_1$ is rejected, namely the DER variable (X1) partially does not significantly influence the TVA (Y) variable significantly.

2) PER

Table 14 shows that the PER variable has a calculated value of 0.950. $T\ count$ value obtained is smaller than $t\ table$ of 2.042. This shows that $H_0$ is accepted or $H_1$ is rejected, namely PER variable (X2) partially does not significantly influence the TVA (Y) variable.

3) Coefficient of Determination (R2)

The coefficient of determination (R2) of output data can be illustrated in Table 15.
Based on table 15 shows that the coefficient of determination (R2) obtained is 0.043. This shows that 4.3% of the TVA (Y) variable can be explained by the DER variable (X1), and the PER variable (X2).

### 5. Conclusions, Limitations, and Suggestions

The results of this study revealed that DER funding does not affect the capital market reaction of TVA (Trading Volume Activity) in the context of mining companies listed on the Indonesia Stock Exchange. Additionally PER investment does not also affect the capital market reaction of TVA (Trading Volume Activity) of mining companies listed on the Indonesia Stock Exchange. Meanwhile no effect were found of DER (Debt to Equity Ratio) funding and PER (Price Earning Ratio) investments on the capital market reaction of TVA (Trading Volume Activity) for mining companies listed on the Indonesia Stock Exchange.

This study is limited in several aspects particularly in the limited number of variables hence future studies are suggested to add other variables such as ratio of EPS, DAR, ROA, ROE, GPM, and OPM. These variables are expected to illustrate the analysis of DER funding (Debt to Equity Ratio) that there is an influence on TVA (Trading Volume Activity) capital market reaction of mining companies listed on the Indonesia Stock Exchange more accurately. Future studies may also extend the observation period, hence the conclusions of the research will be more generalized and be used by the public for consideration in policies making.

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