

Determinant of ROE, CR, EPS, DER, PBV on Share Price on Mining Sector Companies Registered in IDX in 2014 – 2017

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Abstract:- The purpose of this study was to determine the effect of ROE, CR, EPS, DER, PBV on the Share Price of Mining Sector Companies listed on the IDX in 2014 – 2017. This research used associatif causality and this research used the method of documentation financial reporting audit and published on IDX. After using the purposive sampling method, and acquired 36 companies as the samples. This research used panel data regression analysis through testing three models namely the Common Effet Model (CEM), Random Effect Model (REM), Fixed Effect Model (FEM). Based on hasuman test and chow test, Random Effect is the most appropriate model used in this study.

The results of t statistics showed that ROE, CR, EPS, and DER have no significant effect on share prices while PBV has a significant effect on share prices.

Keywords:- ROE, CR, EPS, DER, PBV, Share Price.

I. INTRODUCTION

Until the date 20 December 2017 the number of investor Indonesian share market recorded 1.118.913 or inflated 25,24% compared with the previous year. That number is the sum Single Investor Identification (SID) consisting of unconsolidated, stock investors bonds, a mutual fund, securities state and other securities which KSEI. Recorded investment interest continues to grow as the composite share price index the Jakarta composite (IHSG) in share market can be on graph below.

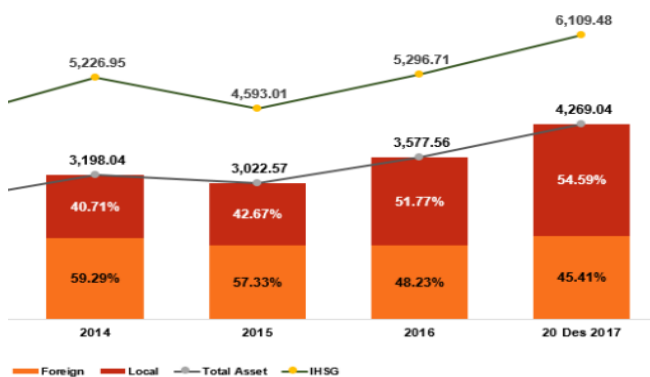


Fig 1:- Total Assets C-BEST vs CSPI in 2014 –2017
Source: KSEI Pressreleases in December 2017 (data processed by 2018 authors)

Investment interest continues to grow in line with the total assets recorded in C-BEST during the period of 2014 until December 20, 2017, increasing by 74.91% from Rp 3,198.04 trillion to Rp 4,269.04 trillion. The growth of the total investment entering the capital market through C-BEST is in line with the CSPI movement which continued to increase in the 2014 period up to December 20, 2017. On the IDX there are ten sectors to make choices in investing. Before investing, you will see the development of a sectoral index in choosing the sector that is most suitable for investment land. The following is below the development of the IDX sectoral index for the period 2014 - 2017.

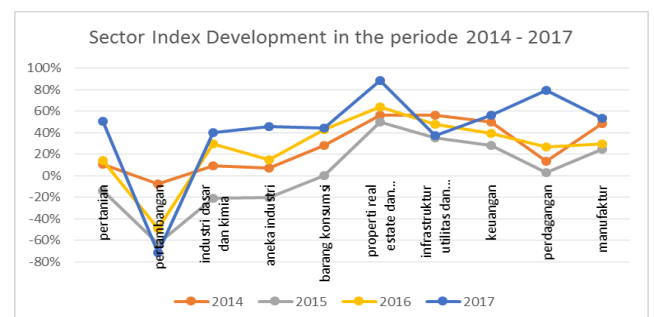


Fig 2:- Development of Sectoral Indexes on the IDX in 2014 – 2017 (Source: data processed by author)

The share price index can be use for as a market trend indicator that describes market conditions at a certain time. The Composite Share Price Index (CSPI) or IHSG is a value used to measure the performance of shares listed on a stock exchange (Robert Ang, 1997: 146). The development of the mining sector index tends to continue to decline. Here is presented on the development of sectoral stock trading.

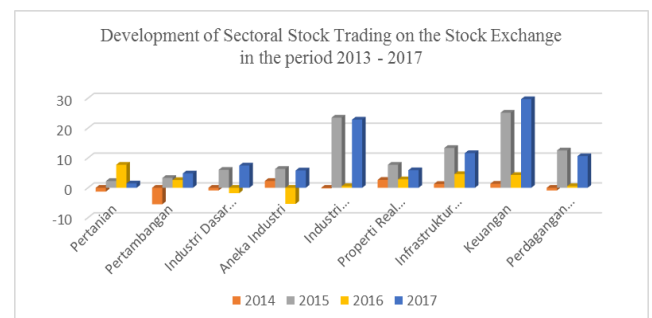


Fig 3:- Development of Sectoral Stock Trading on the IDX in the period 2014 - 2017
Source: OJK Capital Market Weekly Statistics (2014 - 2017)

Based on the data above, it is seen that during the period 2014 - 2017 the Mining Sector was the only sector that had dropped to percent statistically significant -5.57% (in 2014) than other sectors.

According to Brigham (1993) share prices influenced between another by ROE, CR, EPS, DER, and PBV. Research old about factor that influences share prices between another by Stanley C.W. Salvaay (1997) concluding ROE significantly on share prices while research conducted by Shamki and Rahman (2012) concluded that ROE insignificantly on share prices.

The research conducted by Pasaribu (2017) concluded that CR was significant on share prices. Jeany and Tjun Tjun (2016) concluded that CR was not significant on share prices. Nuryaman and Suryani (2010) concluded that EPS was significant on share prices but Widiastuti and dkk (2016) concluded that EPS was not significant on share prices. The study was also conducted by Khairudin and Wandita (2017) who concluded PBV was significant on share prices while research conducted by Zahid Iqbal and Shekar Shetty (1996) concluded that PBV was not significant on share prices.

Based on these facts above, the authors are interested in examining the causes of the decline in the mining sector stock index which is proxied by the share price of the mining sector. The problem of this research is:

What is the ROE, CR, EPS, DER, PBV of determination of stock price companies for mining sectors registered IDX period 2014 to 2017.

II. THEORY

Starting from the writings of George Akerlof in his 1970 work "The Market for Lemons", which introduced the term asymmetric information (asymmetry information). Akerlof (1970) studied the phenomenon of imbalance of information about the quality of products between buyers and sellers. Thought Akerlof (1970) developed by Spence (1973) in the signal equilibrium model (basic signaling equilibrium model). Spence (1973) gives illustration on the labor market (job market) and suggested that the company whose performance was good (superior performance) use financial information to transmit signals to the market. Based on the above understanding, it is explained that financial statements informed by company managers give a signal to investors in making investment decisions where financial information of a company can give good or bad signals depending on the financial performance results that can be achieved by a company. This condition is known as signaling theory.

According to Brigham (in Alwi, 2008: 87) "Internal factors that influence stock prices are as follows.

- 1) Announcements about marketing, production reports, and company sales reports.
- 2) Announcement of financing plans, announcements regarding the use of equity and debt.

- 3) Announcement of company organizational structure.
- 4) Announcement of merger, equity investment and acquisition reports.
- 5) Announcement of investments, such as company expansion plans.
- 6) Announcements relating to the workforce in the company.
- 7) Announcement of company financial internal reports such as ROE, ROA, ROI, EPS, NPM, EPS, DPS, and PER.

According to Weston and Brigham (2001:138) can be described as the ratio of financial as follows : liquidity ratio, profitability ratio, activity ratio, growth ratio, leverage ratio, and evaluation ratio. "

The proxied profitability with Return On Equity (ROE) or often called Rentability of Own Capital is formulated as follows.

$$ROE = \frac{\text{Net income after tax}}{\text{Total equity}}$$

One of the ratios used in measuring liquidity is the current ratio, a ratio that measures the ability to pay off current liabilities that have matured with the following formula :

$$CR = \frac{\text{Current asset}}{\text{Current liabilities}}$$

The ratio leverage in measuring with debt to equity ratio measure how far company by debt formulated as follows.

$$DER = \frac{\text{Total liabilities}}{\text{Total equity}}$$

Earnings Per Share Shares (EPS) is showing the ratio for each share of profits. EPS can be formulated as follows.

$$EPS = \frac{\text{Net Profit}}{\text{Total shares spread}}$$

Price to Book Value (PBV) is the comparison between market price and stock the book value. If an enterprise value PVB one hence showing that the stock market greater than the book company shows that the stock market value is greater than the value of the book. "The igger the value of PBV an enterprise and the company is considered relatively the better by financier. Mathematically Price to Book Value (PBV) can be calculated as follows.

$$PBV = \frac{\text{market price}}{\text{book value of shares}}$$

III. FRAMEWORK AND HYPOTHESIS

The framework in this research is as follows.

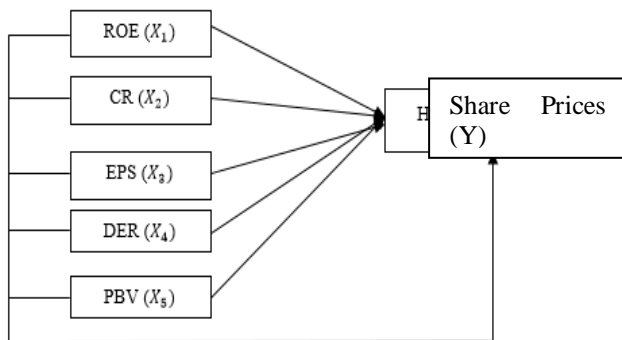


Fig 4:- Framework

Return on Assets describes the amount of profit that the company can generate from the amount of capital spent. The better the ROA level of a company, the better the profitability of a company and the situation according to signaling theory is considered as a positive signal for investors to buy shares of the company. The hypotheses of this study are as follows.

H₁ : Return on Equity (ROE) affects on the share prices of companies the mining sector.

Current Ratio describes the ability of a company to fulfill its short-term obligations. The low current ratio value will result in the company's low ability to fulfill its short-term obligations. The higher the current ratio, the more capable a company is in meeting its short-term obligations. If the dividend distribution policy has been established, cash dividends are one of the company's short-term obligations that must be paid by the company. The high and low current ratio values are considered by investors in buying the stock price of a company. The hypotheses of this study are as follows.

H₂ : Current Ratio (CR) affects on the share prices of companies the mining sector.

Earning Per Share describes the amount of income that the shareholders will get for each share owned for their participation in investing their funds in the company. Based on the signaling theory the high value of EPS will be a positive signal for investors. The hypotheses of this study are as follows.

H₃ : Earning Per Share (EPS) affects on the share prices of companies the mining sector.

Debt to Equity Ratio describes the ratio of equity to company debt. If the amount of DER is greater, the greater the financial risk borne by the company, which means that investors will bear a large risk on companies that have high DER values. The hypotheses of this study are as follows.

H₄ : Debt to Equity Ratio (DER) affects on the share prices of companies the mining sector.

Price to Book Value describes the comparison between the company's book value and the stock market value. PBV value can be a positive signal for the company if the PBV value of a company is high. PVB value describes the future prospects of a company in the future. PBV value influences investor decisions in buying a stock. The hypotheses of this study are as follows.

H₅ : Price to Book Value (PBV) affects on the share prices of companies the mining sector.

IV. METHOD

A. Population and Samples

The population in the study were 40 mining sector companies registered at IDX in 2014 - 2017.

The sampling technique used in this study is probability sampling with the purposive sampling technique, so that 36 samples are obtained as follows :

Company Code						
ADRO	DOID	ITMG	PTBA	ARTI	MEDC	INCO
ARII	DSSA	KKGI	PTRO	BIPI	RUIS	PSAB
BSSR	GEMS	MBAP	SMMT	ELSA	ANTM	SMRU
BYAN	GTBO	MYOH	TOBA	ENRG	CITA	TINS
DEWA	HRUM	PKPK	APEX	ESSA	DKFT	CTTH
						MITI

Table 1:- Research Samples

B. Data Collections Techniques

Data collection techniques in this study used the documentation method. The documents used in this study are secondary data on financial statements of large in the period 2014 - 2017.

C. Data Processing Techniques and Test Hypothesis

Techniques data analysis and testing a hypothesis that used in this research was descriptive statistics using panel data (pooled data). So panel data obtained the regression equation is as follows.

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it}$$

In estimate the model regression panel data there are three kinds of methods, the common effect, fixed effects, and random effects. Of the three models, the model was to determine the most appropriate methods can the chow trials use and the hausman.

The committed in the classical this research include testing residual data with normal distribution, multicollinearity test, heterocedasticity test and autocorrelation test.

V. RESULT AND DISCUSSION

➤ *F test (Regression Meaning Test)*

To obtain an overview of the significance of the regression relationship between variables X (ROE, CR, EPS, DER and PBV) on variable Y (Stock Price).

➤ *T test (Regression Coefficient Meaning Test)*

Shows how far the influence of one an explanatory variable or independent individually in plain variation dependent variable that other independent variable is constant.

A. Classic Assumption

Classic assumption test is a requirement that must be fulfilled in order to be able to perform statistical calculations using regression analysis. The classic assumption test is intended to ensure that the results of the study have high validity and accuracy that are close to or equal to reality. The classic assumption test in this study is below.

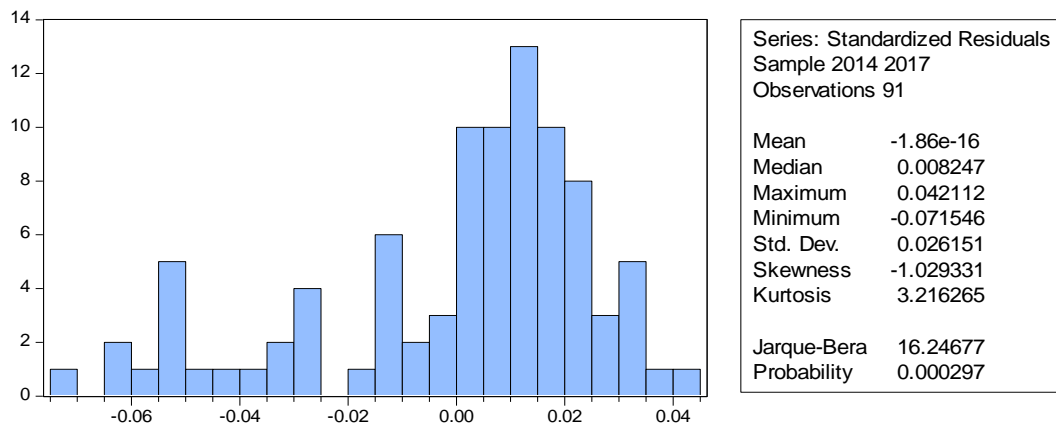


Fig 5:- Residual Diagnostic Histogram Normality Test
Source: Eviews 9 (author processed data)

Based on the residual test diagram JB count value is 14.24677, while Chi Square with $df = nk$ then $df = 144-5$ of 139 at $\alpha = 5\%$ is 167.5143, this the value of $(\chi^2_{hitung}) \leq$ value (χ^2_{tabel}) . it can be concluded that the data is normally distributed.

	HARGASAHAM	ROE	CR	EPS	DER	PBV
HARGASAHAM	1.000000	0.416144	0.225666	0.678743	-0.193966	0.978359
ROE	0.416144	1.000000	-0.004245	0.763348	0.073861	0.359169
CR	0.225666	-0.004245	1.000000	0.077306	-0.546836	0.242787
EPS	0.678743	0.763348	0.077306	1.000000	-0.060418	0.657059
DER	-0.193966	0.073861	-0.546836	-0.060418	1.000000	-0.233826
PBV	0.978359	0.359169	0.242787	0.657059	-0.233826	1.000000

Table 2:- Multikolinieritas test
Source: Eviews 9 (author processed data)

In table 2 above, the correlation matrix has no value > 0.90, so there is no multicollinearity in the model. This means that the data in this study are free of multicollinearity.

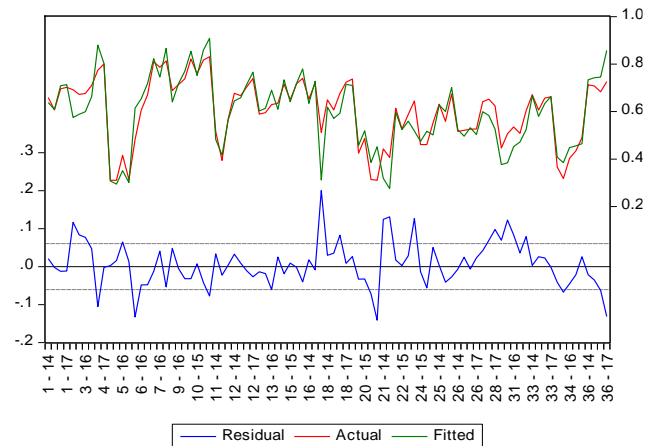


Fig 6:- Heteroskedastisitas test
Source: Eviews 9 (author processed data)

The heteroscedasticity test graph above illustrates that there are certain clear patterns, and the points spread above and above the number 0 on the Y axis, indicating that there is no heteroscedasticity.

R-squared	0.992337	Mean dependent var	0.602642
Adjusted R-squared	0.987460	S.D. dependent var	0.135375
S.E. of regression	0.015160	Akaike info criterion	-5.252695
Sum squared resid	0.012640	Schwarz criterion	-4.259388
Log likelihood	274.9976	Hannan-Quinn criter.	-4.851957
F-statistic	203.4880	Durbin-Watson stat	3.205882
Prob(F-statistic)	0.000000		

Table 3:- Autokorelasi test
Source: Eviews 9 (author processed data)

It can be seen that the DW count value is 3.2059 Next is to find the dU and dL values in the Durbin Watson table with a significance level of 0.05, k = 5 and n = 144 so that it is known :

- 1) Durbin Watson count (DW) = 3.2059
- 2) dL = 1.6565
- 3) dU = 1.8000
- 4) 4-dU = 2.200

Based on these data it can be concluded that the data did not occur because of autocorrelation $dU < DW < 4-dU$ ($1.8000 < 3.2059 < 2.200$).

The test of the classic assumption shows that in the research this regression analysis can be used to analyze the results from this research. After analyzing the panel data regression model with three methods such as Pooled Least Square (PLS) / Common Effect Models (CEM), Fixed Effect Model (FEM), Random Effect Model (REM). Then the most appropriate model was chosen through Chow Test and Hausman Test.

Based on the results of the chow test and hausman test the most appropriate model used in this study is Random Effect Model with the panel data regression formed as follows.

Dependent Variable: HARGASAHAM				
Method: Panel EGLS (Cross-section random effects)				
Date: 04/23/19 Time: 23:38				
Sample: 2014 2017				
Periods included: 4				
Cross-sections included: 36				
Total panel (unbalanced) observations: 144				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.473662	0.024366	19.43926	0.0000
ROE	-0.001124	0.002582	-0.435245	0.6645
CR	-0.002931	0.004806	-0.609841	0.5436
EPS	0.000663	0.001991	0.333085	0.7399
DER	0.003132	0.004268	0.733750	0.4651
PBV	0.087581	0.002770	31.62330	0.0000
Effects Specification				
		S.D.	Rho	
Cross-section random		0.022045	0.6789	
Idiosyncratic random		0.015160	0.3211	
Weighted Statistics				
R-squared	0.936050	Mean dependent var	0.218000	
Adjusted R-squared	0.932288	S.D. dependent var	0.072337	
S.E. of regression	0.015461	Sum squared resid	0.020319	
F-statistic	248.8312	Durbin-Watson stat	2.020444	
Prob(F-statistic)	0.000000			
Resource by eviews 9.0 (data is processed by the author)				
R-squared	0.957137	Mean dependent var	0.602642	
Sum squared resid	0.070697	Durbin-Watson stat	0.580703	

Table 4:- Random Effect Models

Based on table 2, it can be seen that the Probability F value is < 0.05 so that the regression equation model is declared valid. The linear regression equation obtained from the analysis results is as follows :

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it}$$

$$\begin{aligned} \text{Share Prices} = & 0.473362 + (-0.001124) \text{ROE} \\ & + (-0.002931) \text{CR} \\ & + 0.000663 \text{EPS} + 0.003132 \text{DER} \\ & + 0.087581 \text{PBV} + e_{it} \end{aligned}$$

The interpretation of the panel data regression equation above is below :

1) Variable Dependent (Y) is the share prices Constant (β_0) of 0.473362. This value means if the variable is ROE (X_1), CR (X_2), EPS (X_3), DER (X_4), dan PVB (X_5) as a value of zero, the variable Y (share prices) is value 0.473362.

2) Regression Coefficient

The regression coefficient ($\beta_1 X_1$) of a variable ROE of -0.001124 values are negative, values is indicated that variable ROE having relation negative or opposite direction with variable share prices. The regression coefficient of -0.001124 indicates that each of the ROE 0.001124 of a unit will adds the value of share prices of -0.001124 units.

The regression coefficient ($\beta_2 X_2$) of a variable CR of -0.002931 values are negative, values is indicated that variable CR having relation negative or opposite direction with variable share prices. The regression coefficient of -0.002931 indicates that each of the CR -0.002931 of a unit will adds the value of share prices of -0.002931 units.

The regression coefficient ($\beta_3 X_3$) of the EPS variable of 0.000663 is positive value, the value indicates that the EPS variable has a positive relationship or in line with the variable share prices. Regression coefficients of 0.000663 equal to indicate that each increase in EPS of 0.000663 one unit will add to the value of the share prices of 0.000663 units.

The regression coefficient ($\beta_4 X_4$) of the DER variable of 0.003132 is positive value, the value indicates that the DER variable has a positive relationship or in line with the variable share prices. Regression coefficients of 0.003132 equal to indicate that each increase in DER of 0.003132 one unit will add to the value of the share prices of 0.003132 units.

The regression coefficient ($\beta_5 X_5$) of the PBV variable of 0.087581 is positive value, the value indicates that the PBV variable has a positive relationship or in line

with the variable share prices. Regression coefficients of 0.087581 equal to indicate that each increase in PBV of 0.087581 one unit will add to the value of the share prices of 0.087581 units.

➤ *Regression Meaning Test (F Test)*

From the test results it can be concluded that the value of $F_{count} > \text{value } F_{table}$, which is $248.83 > 2.28$ then H_0 is rejected and H_1 is accepted. This shows regression means, the regression model in this study can be used to make conclusions that describe the influence of ROE, CR, EPS, DER, and PBV on share prices.

The results of this study are in accordance with the opinions expressed by experts that go public companies that can present information well are able to provide a positive signal to investors or stock buyers.

➤ *T test (Regression Coefficient Meaning Test)*

The results of testing carried out using Eviews software version 9 produce the following calculations.

Variabel Bebas	t_{hitung}	t_{tabel}	Sig.	Keputusan
ROE	-0.435245	1.65597	0.6645	H_0 diterima
CR	-0.7609841	1.65597	0.5436	H_0 diterima
EPS	0.333085	1.65597	0.7399	H_0 diterima
DER	0.733750	1.65597	0.4651	H_0 diterima
PBV	31.62330	1.65597	0.0000	H_0 ditolak

Table 5:- Decision Test t

Resource by eviews 9.0 (data is processed by the author)

Meaning of the regression coefficient (t test) is done to determine the effect of one independent variable individually (partial) on the dependent variable assuming the other independent variables are fixed value. Based on the data above, the description is below :

ROE variable $X_1 : 0.6645 > 0,05$ then H_0 is accepted and H_1 is rejected. This means that ROE is not significant on share prices. The results of this study were also reinforced by previous research conducted by Shamki and Rahman (2012) who concluded that ROE is not significant on share prices.

CR variable $X_2 : 0.5436 > 0,05$ then H_0 is accepted and H_1 is rejected. This means that CR is not significant on share prices. The results of this study were also reinforced by previous research conducted by Sondakh, dkk (2015) and Jeany, dkk (2016) who concluded that CR is not significant on share prices.

EPS variable $X_3 : 0.7399 > 0,05$ then H_0 is accepted and H_1 is rejected. This means that EPS is not significant on share prices. The results of this study were also reinforced by previous research conducted by Widiastuti, and dkk (2016) who concluded that EPS is not significant on share prices.

DER variable $X_4 : 0.4651 > 0,05$ then H_0 is accepted and H_1 is rejected. This means that DER is not significant on share prices. The results of this study were also reinforced by previous research conducted by Khairudin and Wandita (2017) and Sembiring (2017) who concluded that DER is not significant on share prices.

PBV variable $X_5 : 0.0000 < 0,05$ then H_0 is rejected H_1 is accepted This means that PBV is significant on share prices. This research is reinforced by previous research conducted by Aldalovic and Milencovic (2017) who concluded that PBV is significant on share prices.

VI. CONCLUSION

Based on the results of research on the effect of ROE, CR, EPS, DER and PBV on the share prices of Mining Sector companies listed on the Indonesia Stock Exchange in 2014 - 2017 the following conclusions can be drawn :

- 1) Variable ROE, CR, EPS, DER is not significant on share prices on mining sector companies listed at Indonesia Stock Exchange in 2014 - 2017.
- 2) Variable PBV has positif significant on share prices on mining sector companies listed at Indonesia Stock Exchange in 2014 - 2017.

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