

The Effect of Capital Structure on Firm Value (Case Study on Mining Sector Companies Listed On the Indonesia Stock Exchange (Period 2014-2018))

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Abstract

This study aims to determine the description and how much influence the Capital Structure (Debt to Equity Ratio - DER) on Firm Value (Price to Book Value - PBV), in mining sector companies listed on the Indonesia Stock Exchange for the 2014-2018 period, either simultaneously or simultaneously. Partial. This study discusses the DER variable as an independent or exogenous variable, and the PBV variable as the dependent or endogenous variable. The method used in this research is descriptive and verification method with a quantitative approach, so that the research method used is descriptive survey method and explanatory survey method. In the object of this research there is a population frame. The technique taken is purposive sampling technique. Types of data can be grouped into primary data and secondary data. Data collection techniques used are library research and field research. By using eviews, it is found that DER has a significant effect on PBV. Based on this study, the companies used as samples are still limited to companies registered in the mining sector so that further research needs to be carried out using different research samples in a longer observation time so that the results obtained can be generalized.

Keywords

Modal Structure; Company Value; Capital Market

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Preliminary

Before to the COVID-19 pandemic, financial transactions in the Indonesian Capital Market reached very good conditions every time, this condition was seen by the increasing value of transactions traded on the exchange, with the large volume of shares traded. In connection with the rapid growth of the stock market in Indonesia at that time, it was accompanied by the increasing need for faster information technology, not only in a matter of days, but in hours and even minutes and seconds, who is slow to access the latest information, then it is a loss that will be borne, due to delays in accessing important information related to securities information in the capital market, which also affects transactions in the money market. Relevant information will answer data needs, which will lead to the decision-making process in investing in the capital market. As stated (Czinkota, Kotabe, Vrontis, & Shams, 2021), that, the The need for appropriate information for making investment decisions on the stock exchange is also growing. The capital market is one of the descriptions of the success of a country's economy that helps the economic life of the country itself. However, with the COVID-19 pandemic, stock transactions in the capital market have slowed. Entering the era of the current 4.0 generation, it has jolted the public with two conditions, first, the limited space forcing everyone to do a lot of activities at their respective homes or offices through online transactions, the millennial generation 4.0 shifts business people who were previously in the executive corridor with age polarization The problem is that millennials are not equipped with the ability to understand financial information, especially the capital market, so this provides a wide open space for anyone to improve their competence in capital market information technology. Thus, it is important for potential investors before making transactions, it is necessary to carry out education and literacy as widely as possible, so that the capital market transaction curve will increase again. The desire of investors before executing the transaction, is to obtain an overview of the firm's value, while the value of the firm is in that form of PBV, namely the rate of the company in the form of the ir value ratio that is widely applied by most investors, namely the comparison of share value between market value and book value, if the PBV ratio is 1.5x, this means that the share price is 1.5x of the firm's net wealth or the firm's net capital, this is what investors are often looking for, as well as the right momentum to sell their shares in the short term, but vice versa if the PBV ratio it shows 0.5x. This means that the circulating share price of the issuer is only half of the net value of the company, but this is precisely when stock investors can make the right decision to buy shares when the price is low (undervalued), and this is the current phenomenon economic activity and the business is in a slump, then the value of the company is exposed to fall, PNV is low, this is the current problem phenomenon, this is also what investors are interested in connecting with the company's fundamental performance. In the midst of the current slump in various activities, many relate to the company's policies to manage its capital, both foreign capital (debt) and managing own capital (equity), the right policy in managing debt and capital (indifferent point), which is stated that, if Earning Before Interest and Tax (EBIT) is below the Indifferent Point level, an issuer should, in its capital structure policy, expand financing to third parties, for example to banks, bonds, and others, so it is hoped that its Earning Per Share (EPS) will increase, even so On the other hand, if the issuer achieves its EBIT profit performance below the Indifferent Point level, then it is better to use equity in various company activities, so that EPS will increase. The condition of good earnings per share, of course, encourages stock investors to further increase their share investment in companies that provide prosperity for their shareholders.

Investors will see the fundamental performance of the issuer, especially in managing the capital structure in balancing debt and equity, because issuers who pay attention to their fundamental performance through the implementation of capital structure policies that are oriented towards the prosperity of their shareholders, through increasing EPS, will be the main consideration for investors in investing. funds in the company, the right choice of own or foreign capital policy, in turn will increase the confidence of its shareholders. In fact, the mining sector is a sector that is very attractive to investors, besides the prospect of mining is getting brighter, with the obligation for issuers to sell semi-finished mining products and finished products, which of course has a higher profit prospect than before selling raw materials. just raw. Through the Permen ESDM No. 1 of 2014, as of January 11, 2014, mining products must be purified first

through the construction of a smelter, reinforced by PP No. 1 of 2014, concerning the second amendment to PP No. 23 of 2010, and PP No. 1 of 2017, the source of information to obtain accurate data for investors has become a necessity, so that every year publicly listed issuers are listed in Exchanges are required to provide financial reports to stakeholders, in issuing financial reports every year, through interim financial reports. The mining sector is one of the public companies, which may obtain public funds through sales on the stock market as an effort to obtain capital from the public, in order to finance companies, including mining sector companies. In the observations of the researchers, there was a significant decline during the COVID-19 pandemic, as illustrated in the following table:

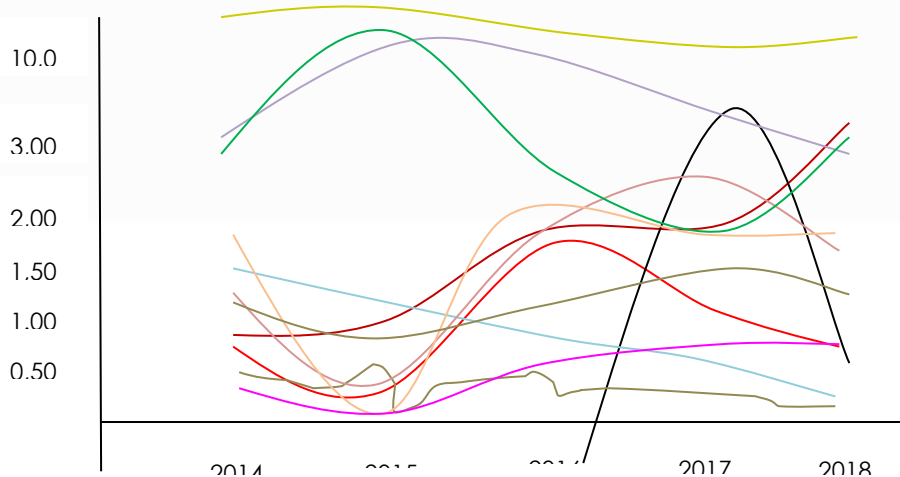
Mining Sector in IDX 2014-2018

Tabel 1.

Change in Average Firm Value – PBV

Year	2014	2015	2016	2017	2018
Company Code					
ADRO	0,8100	0,3300	1,1800	1,0900	0,6000
ATPK	1.0200	1.1000	1.7200	1.8000	3.6200
BUMI	-1.0100	-0.0900	-0.2700	6.3000	0.9100
BYAN	4.2900	11.0500	10.7700	6.4200	5.8700
DEWA	0.4100	0.3500	0.3700	0.3600	0.3200
DOID	1.4300	0.3800	2.8500	2.7700	1.3300
ITMG	1.4700	0.5600	1.6700	1.8000	1.5300
KKGI	1.1300	0.4000	1.3700	1.3500	1.3600
MYOH	1.0700	0.9000	1.0300	1.1600	1.5100
PTAS	3.5300	1.1200	3.0000	2.0500	3.3200
SMMT	0.3900	0.1200	0.3200	0.6900	0.6500
SMST	1.1300	1.3500	1.2300	1.0700	1.0900

Source: IDX, finance.yahoo.com (data processed)



Source: IDX, finance.yahoo.com (data processed)

Figure 1. Firm Value Trend Curve – PBV Mining Sector in IDX 2014-2018

Based on the table and figure above, there are companies that have experienced a decline in company value, (with the code) ADRO decreased since 2016, 2017, until 2018 at the time of the study, BUMI Resource was negative 2014, 2015, 2016, rose 2017, and again dropped dramatically 2018, BYAN since 2015 continued to fall until 2018, DEWA fell from 2016 to 2017 to 2018, DOID since 2016, 2017, continued in 2018, ITMG 2017 fell in 2018, KKGI fell from 2014 to

2015, rose in 2016 fell again in 2017, MYOH fell from 2014 to 2015, then increased, PTBA decreased from 2016 to 2017, PTRO decreased from 2014 to 2015 and 2017 to 2018, SMMT from 2015 fell in 2016 continuously until 2017, only ATPK showed a continuous increase from 2015 to 2018. (only 8.3 % which increased, in addition 91.7% experienced a decline in the rate of the firm) Consider description of that theory and phenomena as stated above, the authors chose the research title "The Effect of Capital Structure on Firm Value (Case Study on Mining Sector Companies Listed on the Indonesia Stock Exchange (Period 2014-2018))".

Literature Review

According to [Jan, Lai, and Tahir \(2021\)](#) DER is: "DER is this ratio is used to compare liabilities to capital. To find this relationship by ratifying all liabilities, including current liabilities to total capital. Mathematically, the DER is the ratio between total liabilities or total liabilities with total shareholder capital ([ATMADJA, SAPUTRA, TAMA, & PARANOAN, 2021](#)). The formula for finding the DER can be used as a ratio between total liabilities and total capital, namely: $DER = \text{Total Liabilities} / \text{Total Liabilities}$. According to [Andreini, Fetscherin, and Zarantonello \(2021\)](#), earning profits through borrowed capital is enough invite investors to save their shares in corporations, because investors see optimal capital management in the corporation with the desire if the firm uses share capital, the company will earn greater profits for shareholders. so that it will also increase the company's earnings per share. [Lestari and Khafid \(2021\)](#) in [Andreini et al. \(2021\)](#) states that the company's financial leverage will affect earnings per share, the level of risk and stock prices. Similarly, what was expressed by [Reina and Scarozza \(2021\)](#) that stock market price shows the firm's real value. From the two theories, it can be concluded that a company's financial leverage will affect earnings, earnings per share, risk level, and stock prices that reflect the company's value. According to [Ruslim and Muspyta \(2021\)](#) in [Ortiz-Ulloa, Abril-González, Pelaez-Samaniego, and Zalamea-Piedra \(2021\)](#) PBV is ratio which is used to measure the performance of the stock market price against its book value. This ratio describes the extent to which a company is able to generate firm value for the amount of capital it invests. This ratio is indicated by the comparison between share price and book value calculated as the result of shareholder equity with the number of shares outstanding. Mathematically PBV can be formulated as follows: According to [Brigham and Houston \(2021\)](#), the formula $PBV = P \text{ per Share} / BV \text{ per Share}$.

Based on the results of research conducted by [Small \(2011\)](#), entitled: ANALYSIS OF THE IMPLEMENTATION OF FINANCIAL LEVERAGE TOWARDS INCREASING EARNINGS PER SHARE PROCEEDING RAPID (Psychology, Economics, Literature, Architecture & Civil) Vol.3 October 2009 Gunadarma University - Depok, 20- October 21, 2009 ISSN: 1858-2559, that the count of EPS generated is more or less fixed at 2.5/lbr share and solvency analysis using indifference point method shows movement in EPS as due to move in EBIT at PT. ISM Tbk. EPS obtained is more or less fixed at 2.5 / lbr share, meaning that the income effect / income from various balances (mix) and various alternative expenditures on shareholder income is the same or called "indifference point". Meanwhile, the results of the research according to [Asmirantho and Somantri \(2017\)](#), in the Journal of Accounting and Finance Vol. 4 No. April 1, 2015 7141, Other research from [Bustani, Kurniaty, and Widayanti \(2021\)](#) in the E-Jurnal of Management Unud, Vol. 4, No. 11, 2015: 3646 - 3674 ISSN : 2302-8912 3646, that the Debt to equity ratio has a significant positive effect on firm value. According to research by [Herfina \(2021\)](#), in BRIDGE – Scientific Journal of Business Management and Applied Vol. XIV, No. 1, April 2019, that, The results showed that , Assets Growth, and TATO had a positive effect on PBV, while CR has no effect. Research from [Haron, Nomran, Othman, Husin, and Sharofiddin \(2021\)](#), IN Home > Vol 7 , No. 3 (2019), that the DER partially has no significant effect on PBV

The results of the study by [Tezar \(2020\)](#), that DER, Share (EPS) and Systematic Risk have no effect on Firm Value.

[Imansyah and Mustafa \(2021\)](#) title INFLUENCE OF DER AND ROA ON COMPANY VALUE (CASE STUDY ON SOE BANK FOR THE 2012-2016 PERIOD) at the Multidisciplinary National Symposium (SinaMu) Vol 1 (2019), e -ISSN 2714-5603

Framework

The DER is a comparison between debt and equity. A smaller the DER which means bigger PBV, getting lower DER leads to a small company leverage, thus providing prospects for investors, because it is considered that the company can survive business fluctuations. Thus, it can be illustrated that for investors, the larger the DER indicates the greater the company's independence in dealing with creditors. As a result, it implications for reducing PBV, so that investors reduce their propensity to invest so that they can reserve their funds in the firm. So considering this information, the conclusion is that the debt to equity ratio is inversely proportional to the corporate value, that is proxied by PBV. A large PBV indicates that the company is performing well, because the market value of the stock is higher than the book value. Thus, DER is directly proportional to PBV, as the framework presented in this study:

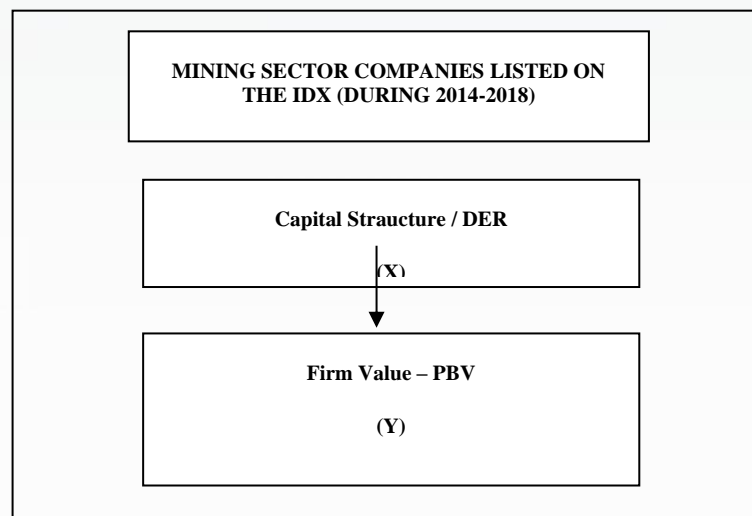


Figure 2. Framework

Research Methodology

This research takes companies in the mining sector listed on IDX (IDX) and PIMM (Capital Market Information Center) totaling twelve companies. The research technique is purposive sampling technique. This writing, takes sample size based on four criteria, namely:

1. Companies in the mining sector for the period 2014-2018.
2. The company has never been suspended from IDX for the 2014-2014 period.
3. publish 2014-2018 financial statements
4. Registered companies have stock price data

(closing price) during 2014-2018

On the basis of these provisions, the number of shares of mining sector companies that were sampled in the 2014 - 2018 period amounted to twelve companies.

Data Analysis and Discussion

Descriptive Analysis Test

On the basis of research data found in the descriptive data below, the Capital Structure proxy with the DER has a minimum value of -7.1700 at PT. BUMI in 2014, while the maximum value is 11.9100 also at PT. BUMI in 2017, Mean 1, 326418, and the standard deviation is 2.7561632, while for the Company Value proxy PBV, there is a minimum value of -1.0100 PT. BUMI Tbk in 2014, while the maximum value is 6.3000 which is still PT. BUMI Tbk in 2017, Mean 1.255455, and the

deviation is 1.1476753. Statistical data does not include BYAN.

Table 2.

Firm Value Trend Curve – PBV Mining Sector in IDX 2014 -2018

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,607655	3,576241	1,255455	,6043762	55
Residual	-2,51208	2,7237594	,0000000	,9756475	55
Std. Predicted Value	-3,083	3,840	,000	1,000	55
Std. Residual	-2,551	2,766	,000	,991	55

a. Dependent Variable: PBV

Table 3. Firm Value Trend Curve – PBV Mining Sector in IDX 2014-2018

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
DER	55	-7,1700	11,9100	1,326418	2,7561632
PBV	55	-1,0100	6,3000	1,255455	1,1476753
Valid N (listwise)	55				

Classic Assumption Test

Classical assumption test applied in the study so that the conclusions obtained do not cause biased values. The classical assumption The assessment in this research uses the normality test

Normality test

Normality test is carried out to determine whether each variable has a normal distribution or not. The results of the normality test can be seen in [Figure 2](#) below.

Table 4.

Firm Value Trend Curve – PBV Mining Sector in IDX 2014-2018

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		55
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,97564745
Most Extreme Differences	Absolute	,121
	Positive	,121
	Negative	-,097
Kolmogorov-Smirnov Z		,899
Asymp. Sig. (2-tailed)		,395

a. Test distribution is Normal.

b. Calculated from data.

Normality test

Normality testing uses the One-Sample Kolmogorov Smirnov Test to see the distribution of residuals from the model. The residual distribution is normally distributed if it falls into the following criteria:

- The data is normally distributed, if the value of Sig > 0.05
- The data is not normally distributed, if the value of Sig < 0.05

From the results above, it is known that the Kolmogorov Smirnov One-Sample Normality Test has a sig value of $0.395 > 0.05$ so it turns out that the data is normally distributed, but even though $\text{Sig} < 0.05$, the data can still be used for further testing, as stated by Akai, Sakata, and Fiscal Decentralization expressed the opinion that the central limit theorem stated that for the majority of the population sample with the observation size $(n) > 30$, it was considered to be normally distributed, and

Hypothesis testing

t test

The research model proposed is linear regression with the following formula:

$$PBV_{it} = + 1DER_{it} + e_{it}$$

The estimation of the model in data processing is carried out using Linear Regression, with the data structure and model proposed, namely the impact of independent variables at endogenous variables, use following table:

Table 5.

Variable Model DER to PBV Mining Sector in IDX 2014-2018

Model	Variables Entered	Variables Removed	Method
1	DER ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: PBV

Table 6.

Model Summary Determ Coff Mining Sector in IDX 2014-2018

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,527 ^a	,277	,264	,9848087

a. Predictors: (Constant), DER

b. Dependent Variable: PBV

Table 7. Sum of Squares of ANOVA^b Mining Sector in IDX 2014-2018

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,725	1	19,725	20,338	,000 ^a
	Residual	51,402	53	,970		
	Total	71,127	54			

a. Predictors: (Constant), DER

b. Dependent Variable: PBV

Table 8. Coefficients^a Mining Sector in IDX 2014-2018

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,965	,148		6,534	,000
	DER	,219	,049	,527	4,510	,000

a. Dependent Variable: PBV

based on what is obtained above, it is known that the t-test prob of each variable is:
 - DER has a prob value of 0.000 < 0.05 with a coef value of 0.219 so you can concluded that the DER variables have a significant effect and positive effect on PBV. While the linear regression is:
 $PBV_{it} = 0.965 + 0.219DER_{it} + e_{it}$

Conclusion

From the results of empirical research on 12 samples of Mining Sector corporations whose names are on the IDX in the 2014-2018 period and based on the analysis and testing which has been done, several conclusions able drawn including:

1. A description of the company that has the highest Capital Structure (DER) is PT. Bumi Resource, Tbk in 2017, and the company with the lowest DER is also PT. Bumi Resource, Tbk in 2014.
2. Overview of Company Value (PBV) of the Mining Sector during 2014-2018. The highest share price value is owned by PT. Bumi Resource in 2017, while the lowest PBV value was owned by PT. Bumi Resources in 2014...
3. DER has a significant effect and positive effect on Company Value in Mining Sector Companies listed on the Indonesia Stock Exchange for the 2014-2018 period.

References :

- Akai, N., Sakata, M., & Fiscal Decentralization, C. the United States. E-Journal Economic University of Tokyo. Arsyad, L.(1999). Pengantar Perencanaan dan Pembangunan Ekonomi Daerah Edisi Pertama. Yogyakarta: BPF. Arsyad, L.(2010). Ekonomi Pembangunan. Yogyakarta: UPP STIM YKPN. Badan Pusat Statistik.(t. thn.). Diambil kembali dari <http://www.bps.go.id>. Journal Piramida Universitas Udayana, 11(1), 20-28. Retrieved from <http://repository.umy.ac.id/bitstream/handle/123456789/22994/BAB%20I.pdf?sequence=5&isAllowed=y>
- Andreini, D., Fetscherin, M., & Zarantonello, L. (2021). How a CEO's Personality, Performance, and Leadership Predict Advertising Credibility: Conceptualizing and Measuring CEO Brand Image. *Journal of Advertising Research*, 61(1), 110-124. doi:[10.2501/JAR-2020-003](https://doi.org/10.2501/JAR-2020-003)
- Asmirantho, E., & Somantri, O. K. (2017). The effect of financial performance on stock price at pharmaceutical sub-sector company listed in Indonesia stock exchange. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, 3(2), 94-107. doi:<https://doi.org/10.34204/jiafe.v3i2.778>
- ATMADJA, A. T., SAPUTRA, K. A. K., TAMA, G. M., & PARANOAN, S. (2021). Influence of Human Resources, Financial Attitudes, and Coordination on Cooperative Financial Management. *The Journal of Asian Finance, Economics, and Business*, 8(2), 563-570. doi:<https://doi.org/10.13106/jafeb.2021.vol8.no2.0563>
- Brigham, E. F., & Houston, J. F. (2021). *Fundamentals of financial management*: Cengage Learning.
- Bustani, B., Kurniaty, K., & Widyanti, R. (2021). The Effect of Earning Per Share, Price to Book Value, Dividend Payout Ratio, and Net Profit Margin on the Stock Price in Indonesia Stock Exchange. *Jurnal Maksipreneur: Manajemen, Koperasi, dan Entrepreneurship*, 11(1), 1-18. doi:<http://dx.doi.org/10.30588/jmp.v11i1.810>
- Czinkota, M. R., Kotabe, M., Vrontis, D., & Shams, S. (2021). *Marketing Research and Information Marketing Management* (pp. 177-235): Springer.

- Haron, R., Nomran, N. M., Othman, A. H. A., Husin, M. M., & Sharofiddin, A. (2021). The influence of firm, industry and concentrated ownership on dynamic capital structure decision in emerging market. *Journal of Asia Business Studies*. doi:<https://doi.org/10.1108/JABS-04-2019-0109>
- Hertina, D. (2021). The influence of current ratio, debt to equity ratio and company size on return on assets. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(8), 1702-1709. doi:<https://doi.org/10.17762/turcomat.v12i8.3237>
- Imansyah, S., & Mustafa, M. H. (2021). THE ANALYSIS OF FINANCIAL RATIOS EFFECT ON THE STOCK PRICE OF CONSUMER GOODS SECTOR COMPANIES LISTED IN KOMPAS100 INDEX. *Dinasti International Journal of Digital Business Management*, 2(2), 371-384. doi:<https://doi.org/10.31933/dijdbm.v2i2.779>
- Jan, A. A., Lai, F.-W., & Tahir, M. (2021). Developing an Islamic Corporate Governance framework to examine sustainability performance in Islamic Banks and Financial Institutions. *Journal of Cleaner Production*, 315, 128099. doi:<https://doi.org/10.1016/j.jclepro.2021.128099>
- Lestari, S. P., & Khafid, M. (2021). The Role of Company Size in Moderating the Effect of Profitability, Profit Growth, Leverage, and Liquidity on Earnings Quality. *Accounting Analysis Journal*, 10(2), 86-93. doi:<https://doi.org/10.15294/aaq.v10i2.45939>
- Ortiz-Ulloa, J. A., Abril-González, M. F., Pelaez-Samaniego, M. R., & Zalamea-Piedra, T. S. (2021). Biomass yield and carbon abatement potential of banana crops (*Musa spp.*) in Ecuador. *Environmental Science and Pollution Research*, 28(15), 18741-18753. doi:<https://doi.org/10.1007/s11356-020-09755-4>
- Reina, R., & Scarozza, D. (2021). Human Resource Management in the Public Administration Organizational Development in Public Administration (pp. 61-101): Springer.
- Ruslim, H., & Muspyta, R. (2021). The Effect of Profitability and Financial Leverage on Cost of Debt Moderated Earnings Management. *Jurnal Ekonomi*, 26(1), 35-49. doi:<http://dx.doi.org/10.24912/je.v26i1.716>
- Small, M. L. (2011). How to conduct a mixed methods study: Recent trends in a rapidly growing literature. *Annual review of sociology*, 37, 57-86. doi:<https://doi.org/10.1146/annurev.soc.012809.102657>
- Tezar, M. (2020). ANALYSIS OF THE EFFECT OF FINANCIAL PERFORMANCE ON FOOD AND BEVERAGES STOCK RETURN IN INDONESIA STOCK EXCHANGE PERIOD 2015-2019. *Dinasti International Journal of Education Management And Social Science*, 2(1), 134-149. doi:<https://doi.org/10.31933/dijemss.v2i1.603>