

OWNERSHIP STRUCTURES AND DEBT POLICY (A META-ANALYSIS)

Christian Timotius Peilouw

Universitas Katolik Widya Karya, Malang
christianpeilouw@gmail.com

Bintang Kusucahyo

Universitas Katolik Widya Karya, Malang
bintangkusucahyo@yahoo.co.id

Disubmit : 21 April 2022
Direview : 16 September 2022
Diterima : 13 Oktober 2022

Abstract

This study aims to understand the effect of ownership structure on debt policy, as well as to examine and analyze the variation of result study on debt policy in Indonesia. The other purpose is to test and analyze any kinds of variants in the result of the research on debt policy in Indonesia under the cause of moderation effect measurement model for the debt policy and ownership structure. Agency Theory is the grand theory used to explain the effect of ownership structure on debt policy. This study used meta-analysis approach with sample is 31 researches in Indonesia, both the published and unpublished in 2006-2019. The result of this study, meta-analysis strengthen the findings of the previous study which stated that the ownership structure can decrease debt policy. The differences of the previous studies are due to the presence of moderation effect from the measurement model of debt policy and ownership structure.

Keywords: *Ownership Structure; Debt Policy; Meta Analysis;*

INTRODUCTION

Debt policy is a necessary policy taken by the management in order to get more financial sources for the company to enhance the whole operational progress. Indonesian Bank data shows that the private sector international debt, included BUMN, by the end of March 2019 reach up to US\$ 199,6 billion and increasing in the end of January 2020 to US\$ 200,1 billion.

Business world in Indonesia is currently failing and facing defaults on obligations. Such as PT. Sariwangi Agricultural Estate Agency (SAEA) which has failed to pay their debt as big as US\$ 20.505.166 to ICBC Bank Indonesia. PT. Tiga Pilar Sejahtera Food Tbk, Taxi Express and Jababeka are some other examples in Indonesia which are incapable of paying their debt in the last 5 years.

The owner and the management should be capable of working together to avoid mistakes in decision making, especially the debt policy. The theory of agency explained that parties with big influence to companies are the owner, managers, and creditors, who could behave according to their own interests and willingness. The ownership structure is one factor affecting the business agency management system on debt policy. This research occupies the basic theory of Agency. It is because the ownership structure affect the company's decision making in its debt policy.

Based on the Theory Agency, the ownership structure can negatively affect the debt policy. The owner of the company supervises management more in making debt policy decisions. Owners prefer to use their capital rather than debt. This research uses the basis of agency theory because studies that focus on ownership structure and debt policy use agency theory as the basis (Sudarsi et al., 2022). Agency theory is believed to be the basis for the correlation between ownership structure and debt policy, because always interferes in making important company decisions, such as debt policy.

The previous research had an inconsistent result between the ownership structure to the debt policy. There are three arguments stated in the research, which are: showing positive effect (Trisnawati et al., 2018 ; Sulhan & Nurillah, 2018), showing negative effect (Sudarsi et al., 2022) and showing no effect at all (Oetari et al., 2018). The previous research showed inconsistent results for it has different variable measurement. Related to the case above, there is a need to do validity test and generalization procedure from the most substantial research in the same subject which also needs further research applying Meta Analysis method.

Meta-Analysis is a deeper research on some other research of the same subject, which is being concluded and analyzed to find one effective solution (Glass, 1976). In addition, meta-analysis is good for understanding the research literature by assessing the overall effect of existing research (Hunter & Schmidt, 1990). There are some requirements needed to evaluate and re-analyze various research questions using the data coming from the prior research. Meta-analysis can be said to be a secondary analysis technique or reanalysis that is used to answer research problems using data from previous research.

These considerations are stimulus to do Meta Analysis. First, research are obviously have different results among each other, therefore meta-analysis is a way to find one concrete solution from all. Second, this method is an objective option and closer to quantitative research occupying article reviews. The main idea of meta-analysis is basically focusing on the data rather than the conclusions that the result of the research will be more credible. Third, there are less number of research using meta-analysis method in Indonesia, especially in the subject of accounting (Tawi, 2008).

Meta-analysis is expected to generalize the result of the prior research through effect size testing that it could provide a better interpretation on the effect of ownership structure to the debt policy. Research and analysis to examine the difference of various results was also done in this research employing moderation effect test because moderation effect such as debt policy measurements model and ownership structure measurement model exists.

This research aims to test and analyze the effect of ownership structure to debt policy employing meta-analysis. The other purpose is to test and analyze any kinds of variants in the result of the research on debt policy in Indonesia under the cause of moderation effect measurement model for the debt policy and ownership structure. Based on these statements, hypothesis can be concluded as follows:

H1 : The Ownership structure negatively effect the Debt Policy.

H2a : The effect of the ownership structure to the debt policy is moderated by debt policy measurement model.

H2b : The effect of the ownership structure to the debt policy is moderated by ownership structures measurement model.

Related to the explanations above, here is the Research Conceptual Framework.

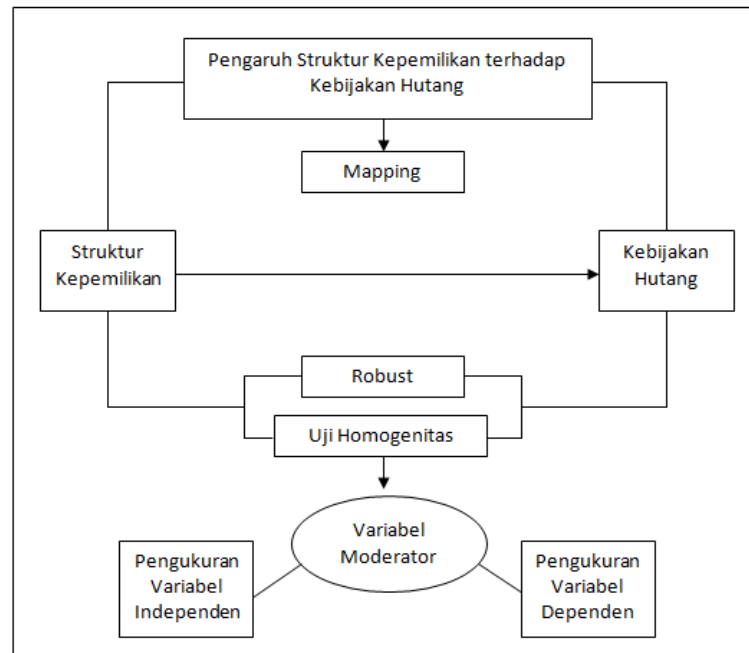


Figure 1. Conceptual Framework

RESEARCH METHOD

This research occupied literature review approach by assessing results of research explaining about the effect of the ownership structure to the debt policy. Meta-analysis was used as one analysis instrument aimed for collecting answers from the inconsistency in the prior research about the effect of the ownership structure to the debt policy.

The research analyzed the results of the other research on the effect of the ownership structure to the debt policy in Indonesia within the last fifteen years, between 2004 to 2019, in which periods has been done many research with much information and complete data to be researched again using meta-analysis method. Therefore, this period seized to be eligible and representative in order to capture the development of the research.

Secondary data used in this research was taken from some other research working on the effect of the ownership structure to the debt policy in Indonesia, published or unpublished. Even more, the data was taken from undergraduate thesis, post graduate thesis, and dissertations from universities in Indonesia.

Judgement sampling is occupied to determine the object of the research and to chose the most eligible sample based on the judgement and the researcher choices. Steps to analyze the data in meta-analysis method are as follows (Eny, 2013):

1. Arrange the data appropriate to the subject of the research
2. Select the data appropriate to the needs of the research
3. Identify the variable used in the research
4. Statistical Analysis (Meta-analysis method)
5. Sensitivity Analysis (An analysis system to check if the result of the meta-analysis relatively stabil to the effect of the changes).

The first is to select the database and identify explanatory variables. Second, statistical analysis uses meta-analysis techniques by converting or transforming the effect size statistics of each study into a common metric, namely (r). If the statistical report (r) does not exist, then the other test-statistic reports will be transformed into (r) using the formula procedure of (Lipsey

& Wilson, 2001) and (Hunter & Schmidt, 1990). Third, accumulate the effect size and calculate the average correlation coefficient (r) with the formula:

$$\bar{r} = \sum(Ni ri) / \sum Ni$$

Calculate and correct error variance. Stage I: $S^2e = (1 - \bar{r}^2) K / \sum Ni$

$$\text{Stage II: } S^2p = S^2r - S^2e$$

Analysis of moderating variables

Determining whether there is a moderating variable is the third factor that can affect the research correlation. Chi-square test is based on (Hunter & Schmidt, 1990) to determine whether there are moderating variables or not, with the formula:

$$X^2_{K-1} = \frac{\pi}{(1 - \bar{r}^2)} S^2_r$$

The results of the Chi-square test are not significant, indicating that the research results are homogeneous, indicating there is no moderating variable, meaning that the difference between the existing correlations (the relationship between various factors that influence debt policy) is a statistical error and not a function of the moderating variables (Ahmed & Courtis, 1999), the results of the Chi-square test are significant, indicating that heterogeneity occurs, and it is necessary to include moderating variables. That is, variations in existing research results are moderated by other variables. Research uses measurement as a moderating variable, both for accruals (debt policy proxy) and for variables that affect debt policy.

Testing the effect of moderating variables was carried out by grouping (sub-groups) studies (researches) and calculating r (correlation coefficient) and S^2r for each sub-group hypothesis. The classification of sub-groups needs to be done according to the differences in the measurement of the dependent variables and the independent variables (explanatory). The aim of this subgroup, to reduce heterogeneity and to increase explanatory power, was expressed by (Ahmed & Courtis, 1999). Testing the proposed hypothesis is carried out using the method: "Direct hypothesis testing", follows (García-Meca & Sánchez-Ballesta, 2009)

During the period of the research (2004 – 2019), as many as 50 similar research about the effect of the ownership structures to the debt policy were collected. Those research were comprehensively selected appropriate to the needs of meta-analysis method. In the end, 31 appropriate research were selected as the criteria needed.

RESULTS AND DISCUSSIONS

Meta-analysis to Explanatory Variables

Explanatory variables in this research is the ownership structures variable. Based on the result of meta-analysis, from 62 studies researching about the effect of ownership structure to debt policy, resulting on the average correlation (\bar{r}) = 0,1412 with 95% confidence interval (-0,2297 to -0,0527). This result shows that ownership structure negatively affect the debt policy which means that Hypothesis 1 (H1) is accepted.

Table 1. The Result of Meta-analysis (General Meta Analysis)

	$\sum Ni$	K study	r	Min	to	Max	x^2_{k-1}	Conclusion
General Meta Analysis	3586	62	-0,1412	-0,2297	-	-0,05267	230,6105	Significant Negative

Sig. = 0,01

Source : Processed Data (2020)

Based on the Chi Square calculation result (X^2_{k-1}), the score of 230,6105 were estimated. Calculation score is higher than the Chi Square table ($X^2_{0,01}$) which is 102,8163. It indicates

that there is moderation effect influencing the relation between ownership structures and the debt policy. Therefore, in order to know the existence of moderation effect, a sub-group analysis is needed upon the ownership structure measurement and the debt policy.

Meta Analysis on the Moderation Effect (Sub-group Analysis)

Table 2. The Results of Meta-analysis (Meta Sub-group)

	ΣNi	K study	r	Min	to	Max	x2	Conclusion
General Meta Analysis	3586	62	-0,14119	-0,22971	-	-0,05267	230,6105	Significant Negative
Dependent	DER	1656	-0,16803	-0,24260	-	-0,09346	98,7186	Significant Negative
	DR	854	-0,04094	-0,14178	-	0,05990	58,0858	Not Significant
	DEBT	924	-0,20283	-0,25247	-	-0,15320	37,4517	Significant Negative
	DAR	152	-0,03736	-0,25715	-	0,18243	21,0929	Not Significant
Independent	MAN	1793	-0,17634	-0,23353	-	-0,11914	86,7307	Significant Negative
	INST	1793	-0,10605	-0,22121	-	0,00911	138,7615	Not Significant

Sig. = 0,05

Source : Processed Data (2020)

Based on the Chi Square test result which was done before, the score of the Chi Square calculation was higher than the Chi Square table score ($X^2_{k-1} > X^2_{0,01}$), it can be concluded that there is moderation effect between the ownership structure and the debt policy. Sub-Group Meta table explains the existence of moderation effect on the ownership structure measurement model and the debt policy measurement model.

The result of the sub-group calculation to the variable of debt policy measurement (dependent variable) are DER, DR, DEBT, and DAR. Based on the research samples appropriate to the criteria determined before, DER was the most used variable in debt policy measurement. From 31 research taken as samples, there were 16 research occupying DER as its instrument to measure its debt policy.

Calculations occupying DER and DEBT shows the same significant positive effect between ownership structure and debt policy under the same general meta-analysis (negative). Debt policy measurement using DR and DAR shows no significant effect between ownership structure and debt policy. Those variative results indicates the influence of moderation effect between the ownership structure and the debt policy, in which it proves that Hypothesis 2a (H2a) is accepted.

MAN and INST as the ownership structure variable measurement (independent variable) came as moderator effect because the result of the sub-group are varies. Based on the research samples which was appropriate to the criteria determined before, ownership structure measurement was exactly on the same result between MNJ and INST. Ownership structure measurement occupying MAN indicating significant negative effect between the ownership

structure and the debt policy, appropriate to the result of the meta-analysis. The other calculation which was done by INST indicates no significant result because the minimum and maximum score (confidence interval) shows negative and positive scores at the same time. The result of the sub-group based on the independent variable measurement are varies, which can be concluded that moderation effect between the effect of the ownership structure to the debt policy is exist. Thus, it can be concluded that Hypothesis 2b (H2b) is accepted.

The Analysis of Sensitivity

Table 3. Publication Status Meta Analysis

	ΣNi	K study	r	Min	to	Max	x^2_{k-1}
General Meta Analysis	3586	62	-0,1412	-0,2297	-	-0,0527	230,6105
Publikasi	3094	54	-0,1439	-0,2402	-	-0,0475	212,6068
Non Publikasi	492	8	-0,1241	-0,1628	-	-0,0855	17,9999

Source : Processed Data (2020)

Discussion

The Effect of the Ownership Structure to the Debt Policy

The general result of meta analysis in this research proves that the ownership structure gives significant negative effect to the debt policy. That is appropriate to Hypothesis 1 proposed before. Besides, he result of the meta analysis is in line with Agency Theory and debt policy phenomenon in Indonesia. Those explains the idea that the higher the ownership in a company, the stricter the owner supervise the management in handling and managing the company which is in the end, the company will actually work for its stockholders only. These stockholders might affect important decisions in the management, even further, the decision on the company’s debt policy.

According to (Indahningrum & Handayani, 2009 ; Solango & Lumapow, 2020 ; Nafisa & Dzajuli, 2016 ; Peilouw, 2017), shows that management ownership negatively affecting the debt policy which also shows how majority ownership possessed by the management creates an equivalent owner’s and manager’s interests. The manager as the owner will be more careful in deciding any important decision related any debts taken by the company in the end of the day. The manager will mostly take low risk decision for they are the one who should bear with the loses in case of mistaken decision.

The result of the meta analysis in this research is appropriate to individual resarch done by (Murtini, 2019 ; Trisnawati, 2016) which stated that institutional ownership negatively affecting the debt policy. The existence of the majority institutional ownership can effectively monitor and supervise the company’s management behaviour that it can be in line to the stockholders interests. Institutions usually concerns more on the stability of the long-term profit in which assets’ can maximally be supervised to keep the assets’ from being used to loan unbeneficial debt.

The Effect of the Ownership Structure to the Debt Policy Moderated by Debt Policy Measurement Model and Ownership Structure

Based on the result of the meta analysis, it is proven that the influence between ownership structures and the debt policy is moderated by ownership structure measurement model and debt policy measurement model. That result was shown by the inconsistent result of meta sub-group result, both the debt policy measurement and ownership structure measurement. Thus

can be concluded that the measurement done to the ownership structure and the debt policy affect the prior research.

As an example, a research with different debt policy measurement was done by (Murtini, 2019 ; Rokman, 2015) who occupied management ownership to measure ownership structure and Debt Equity Ratio (DER) to measure debt policy. The result of the research stated that management ownership negatively affects the debt policy. The opinion is Theory Agency where management ownership will run and control the company well because the company will directly feel the good and the bad in the company.

The other research by (Junaidi, 2012 ; Larasati, 2011) occupied management ownership (MAN) to measure ownership structure and Debt Ratio (DR) to measure the debt policy. The result of the research shows that management ownership affect nothing to the debt policy, inappropriate to Agency Theory (Jensen & Meckling, 1976). According to that research, management ownership is not one significant factor contributed to the value of the company. Management ownership, which number is less than the other group of stockholders, makes the management as one stockholder cannot take their own decision based on their interests.

DEBT to measure the debt policy while in measuring the ownership structure, the researcher occupied institutional ownership (Inama, 2011). The result shows that institutional ownership give significantly negative effect to the debt policy. The company owned by institution-based investor tend to be controlled by the institution itself that mostly has bigger authority to control. The authority of the institutional ownership creates tighter control over the manager that fund raising behavior beyond the company, which is debt, will be minimized.

DAR to measure the debt policy and institutional ownership to measure ownership structure (Anggraini, 2015). The result shows that institutional ownership has no significant effect to the debt policy. These is based on the considerable level of the institutional ownership but somehow there is an indication that the other institutional ownership will mostly chose to focus on one or two companies.

The research results differences were caused by its varies debt policy measurement. After the meta-analysis for moderation effect, we can conclude that measurement model, both occupied in ownership structure and debt policy canstand as the correlative moderation variable between both variables. Based on the result of the sub-group moderation effect, negative significant effect which is appropriate to the general meta analysis is DER, and DEBT for the debt policy measurement model. The ownership structure measurement model which is significant negative to the general meta analysis is management ownership (MAN). Those ratios can identify the most optimum ownership structure effect that the debt policy taken would be effective and efficient and spared off of risks. Investor can also have an eye for the ratios in financial report of the company to chose which company is more prospective and make more tangible profits using the most effective and efficient debt.

The Analysis of Sensitivity

Meta analysis on publication status is in table 3. This meta analysis on publication status stated that there is no pulication biased between those published research and those unpublISHED research. Concistent to the resul of the genaral mekta analysis, the average reslut of corelation analysis (\bar{r}) for publication researh is -0,1439, while for the unpublished research is -0,1241.

Based on those results above, it can be concluded that the effect of the ownership structure to the debt policy is not being affected by the type of the research, either it is published or unpublished. The quality of the study tend to create more publication biased in meta analysis. Therefore, the unpublished reseach can still be another control to do do meta analysis that publication bias can be handled well.

The results of this research are the answer to the inconsistency of previous research. That the meta-analysis proves that the ownership structure can negatively affect the debt policy by following conditions in Indonesia. The results of this study can be used as a reference for further research if you want to continue research related to ownership structure and debt policy because the results are tested, starting from the summary, analysis, and conclusion of problem-solving. Meta-analysis can also be used for other studies that show different research results.

CONCLUSIONS

In general, ownership structure might lessen the debt policy. This is appropriate to agency theory by (Jensen & Meckling, 1976). The higher the ownership in the company, will let the owner to supervise the management in running and managing the company that in the end they only need to work for the stockholders' interests. Therefore, the stockholders might affect any important decisions in the management to decide the company's debt policy. Appropriate to prior research, this research is capable of proving that the ownership structure can negatively affect the debt policy (Indahningrum R. P. dan Handayani, 2009 ; Nafisa & Dzajuli, 2016 ; Peilouw, 2017). These findings provide the fact that in Indonesia, the increase of the ownership structure will be followed by the decrease of the debt policy. The owner will most likely to have their own fundings rather taking debt to run the company.

Based on the moderation effect test result, the effect of the ownership structure to the debt policy is moderated by debt policy measurement model and ownership structure measurement model. This was because the result of the moderation effect test occupying debt policy measurement is inconsistent. Debt policy measurement model which significantly moderating the effect of the ownership structure to the debt policy is DER and DEBT. The ownership structure measurement model which significantly moderating the effect of the ownership structure to the debt policy is management ownership. Based on the result of the research, it is proven that the inconsistency of the result is basically caused by dependent and independent variable different measurement.

Limitations previous research on the effect of ownership structure and debt policy do not show the value of r-statistics or values that can be converted into r-statistics, variable measurements, and detailed statistical data, thereby reducing the number of samples that can be processed into meta-analysis.

Suggestions for future research can use more research data with more varied measurement models so that it can find out the ratio or other types of measurements that affect debt policy. Further researchers can use meta-analysis for other titles that show different research results.

REFERENCES

- Ahmed, K., & Courtis, J. K. (1999). Associations Between Corporate Characteristics and Disclosure Levels in Annual Reports: A Meta-Analysis. *The British Accounting Review*, 31(1), 35–61. <https://doi.org/10.1006/bare.1998.0082>
- Anggraini, N. (2015). Effect of Managerial Ownership, Institutional Ownership, Dividend Policy and Company Size on Debt Policy (Study on Manufacturing Companies on the Indonesia Stock Exchange (IDX) 2010 - 2012). *Scientific Journal of SI Accounting Students, Pandanaran University*.
- Eny, N. (2013). *Meta analysis: Factors Influencing Earnings Management*. (Unpublished doctoral dissertation). Universitas Brawijaya Malang.
- García-Meca, E., & Sánchez-Ballesta, J. P. (2009). Corporate Governance and Earnings Management: A Meta-Analysis. *Corporate Governance: An International Review*, 17(5), 594–610.

- Glass, G. V. (1976). Primary, Secondary, and Meta-Analysis of Research. *Educational Researcher*, 5(10). <https://doi.org/10.2307/1174772>
- Hunter, J. E., & Schmidt, F. L. (1990). Dichotomization of Continuous Variables: The Implications for Meta-Analysis. *Journal of Applied Psychology*, 75(3), 334. <https://doi.org/10.1037/0021-9010.75.3.334>
- Inama, M. (2011). Determinants of Managerial Ownership, Institutional Ownership, Dividend Policy, Debt Policy (Companies Listed on the Stock Exchange in 2007-2010). *Faculty of Economics. Dian Nuswantoro University*.
- Indahningrum & Handayani. (2009). *The Effect of Managerial Ownership, Institutional Ownership, Dividends, Company Growth, Free Cash Flow and Profitability on Corporate Debt Policy*. *Journal of*(11), 3. <https://doi.org/10.34208/jba.v11i3.244>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of The Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4). [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Junaidi, A. A. (2012). Analysis of the Effect of Free Cash Flow, Ownership Structure, Dividend Policy, Asset Structure, and Profitability on Corporate Debt Policy. *Dian Nuswantoro University*.
- Larasati, E. (2011). Effect of Managerial Ownership, Institutional Ownership and Dividend Policy on Corporate Debt Policy. *Journal of Business Economics*, 16(2).
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical Meta-Analysis*. SAGE Publications, Inc.
- Murtini, U. (2019). Effect of Managerial Ownership, Institutional, and Profitability on Debt Policy. *Journal of Accounting and Finance Research*, 14(2). <https://doi.org/10.21460/jrak.2018.142.330>
- Nafisa, A., & Dzajuli, A. (2016). Effect of Managerial Ownership, Institutional Ownership, Company Size, Company Growth, Free Cash Flow and Profitability on the Debt Policy of Manufacturing Companies on the Indonesia Stock Exchange. *Journal of Business Economics*, 21(2). <https://doi.org/10.17977/um042v21i2p122-135>
- Oetari, L. R., Gustini, E., & Tripermata, L. (2018). The Effect Of Managerial Ownership Structure And Institutional Ownership On Corporate Debt Policy, Case Study Of Manufacturing Companies In The Automotive Sub-Sector Listed On The Indonesian Stock Exchange. *Scientific Journal of Today's Global Economics*, 8(1), 50–55. <https://doi.org/10.36982/jiegmk.v8i1.299>
- Peilouw, C. T. (2017). The Effect of Ownership Structure on Debt Policy in Companies Listed on the Indonesia Stock Exchange. *Journal of Accounting and Taxation*, 3(1). <https://doi.org/10.26905/ap.v3i1.1325>
- Rokman, M. T. (2015). Effect of Managerial Ownership, Institutional Ownership and Company Size on the Debt Policy of Manufacturing Companies on the Indonesia Stock Exchange. *Journal of Management and Business*, 1(2).
- Solongo, R., & Lumapow, L. (2020). Impact of Ownership Structure on Debt Policy. *Management and Entrepreneurship*, 1(2). <https://doi.org/10.53682/mk.v1i2.539>
- Sudarsi, S., Irsad, M., & Kartika, A. (2022). Impact of Ownership Structure, Profitability and Company Size on Debt Policy in Manufacturing Companies in Indonesia. *Jornal STIE Semarang*, 14(2), 10–22. <https://doi.org/10.33747/stiesmg.v14i2.552>
- Sulhan, M., & Nurillah, S. (2018). Impact of Ownership Structure and Profitability on Debt Policy with Dividend Policy as Moderating Variables. *Proceedings of the National Seminar: Management, Accounting, and Banking*, 1(1), 924–941.
- Tawi, M. S. (2008). *Konsep Meta Analysis*. <http://syehaceh.wordpress.com/2008/05/15/konsep-meta-analysis/>

- Trisnawati, I. (2016). Factors Affecting Debt Policy in Non-Financial Companies Listed on the Indonesia Stock Exchange. *EMBA Journal: Journal of Economic Research, Management, Business And Accounting*, 18(1), 33–42. <https://doi.org/10.34208/jba.v18i1.35>
- Trisnawati, N. W., Van Rate, P., & Untu, V. N. (2018). Analysis of the Impact of Managerial Ownership and Institutional Ownership on Debt Policy in Real Estate Companies Listed on the IDX for the Period 2013-2015. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting*, 5(3). <https://doi.org/10.35794/emba.v5i3.18674>