



# INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

## THE DETERMINANT OF COMMERCIAL BANKS' CAPITAL STRUCTURE IN INDONESIA

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DOI: 10.5281/zenodo.7533519

**Keywords:** Commercial Banks, Multiple Linear Regression, Capital Structure

### Abstract

Decision regarding to the capital structure is the main point for the banking industry since, it relates to the interest of many parties such as shareholders, creditors and company management. It is important for bank management to determine capital structure policies to support bank operational activities, such as lending. A good capital structure policy will bring banking institutions into a stable condition. Every manager need to know what is the factors need to be considered in making a capital structure decision. The purpose of this study is to analyze the factors that influence the capital structure of commercial banks in Indonesia. The indicators that become the factors in influencing the capital structure are profitability, liquidity, business risk, dividends, managerial ownership, institutional selection and the age of the bank. This study also uses the year of 2016 – 2020 research using a multiple regression analysis tool. The results of the study explained that the variables of profitability, liquidity and bank age had no effect on the capital structure of commercial banks in Indonesia. Meanwhile, business risk variables, dividend policy, taxes and institutional ownership had a significant effect on capital structure. Therefore, banking institutions should be more careful about the company's internal conditions in determining alternative funding sources. This can be seen based on the result of the research which showed that the internal factors studied in this study are still not fully the main factors in influencing the capital structure decisions. This study uses the 2016 – 2020 research year using a multiple regression analysis tool. The results of the study explain that the variables of profitability, liquidity and bank age have no effect on the capital structure of commercial banks in Indonesia. Meanwhile, business risk variables, dividend policy, taxes and institutional ownership have a significant effect on capital structure. Banking institutions are more careful about the company's internal conditions in determining alternative funding sources. This can be seen based on research results which show that the internal factors studied in this study are still not fully the main factors influencing capital structure decisions.

### Introduction

Banking Light institutions are financial intermediary institutions that have an important role in the economy. The activities of the banking institutions in collecting funds of the public in the form of savings and distribute it back to the community in the form of credit or other forms to improve the living standard of many people (Hasibuan, 2008: 7). Another point of view regarding to the banks, it originate from obligations in the form of interest-bearing deposits which must be managed properly in order to generate maximum profits (Osterberg & Thompson, 1990). This condition also has an impact that banking institutions have to be ensuring to reduce or even eliminate the risk of bankruptcy. Thus, the management of capital structure becomes an important issue for the banking institutions. Management of the capital structure is an optimization of financial management which combines the proportion of funding sources that come from the inside and outside of the company (Nasrah & Resni, 2020). The internal sources can be in the form of retained earnings, while outside capital can be in the form of debt. Decisions regarding the capital structure are the main points in the banking industry because, they relate to the interests of many parties such as shareholders, creditors and company management. Therefore, managing the capital structure is an important matter.

Nasrah&Resni (2020) explained that managing capital structure is very important in banking institutions. Kartika (2013) also emphasized that the identification of factors that influence capital structure can have a positive impact on the running of a company's activities. Research conducted by Jusrizal and Aloysius (2017) also provided an explanation that optimal capital structure will affect the company's performance and value. On the other hand, Bank Indonesia, as the authority for banking institutions, also pays attention to the management of the capital structure in terms of setting regulations. The minimum capital adequacy requirement for commercial banks is stipulated in Bank Indonesia Regulation No.15/12/PBI/2013. The minimum bank capital is determined according to the risk profile rating of the determined bank.



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In 2013, rupiah weakened down to around 18%. The important role of good capital structure management necessitates is the investigation of the determinants that influence it. The research that discussed the factors that influence the capital structure has been carried out by previous researchers. Tri (2007) and Margaretha and Aditya (2010) in their research found that the pattern of capital structure decisions is determined by the characteristics of each company so, the factors that influence the model structure of each company are different. Profitability has an influence on capital structure because a high level of profitability will affect the optimization of capital structure management. This is because, high profitability reflects relatively small debt and high strength of internal funds originating from profits (Margaretha&Adhitya, 2010).

The liquidity factor also has an influence on capital structure (Kartika, 2013; Margaretha&Aditya, 2010). Liquidity reflects the company's ability to meet short-term current assets. Business risk factors also play an important role in influencing the management of capital structure (Mufidah et al, 2018; Kartika, 2013; Margaretha&Aditya, 2010). Business risk will reflect unstable profits which will affect the use of high debt to cover operational costs. The use of dividend policy is a factor influencing the management of the capital structure which has a research gap. Research conducted by Ayu&Sasnti (2017) and Ida (2013) explained that dividend policy would have a positive effect on capital structure. Taxes influence the determination of capital structure.

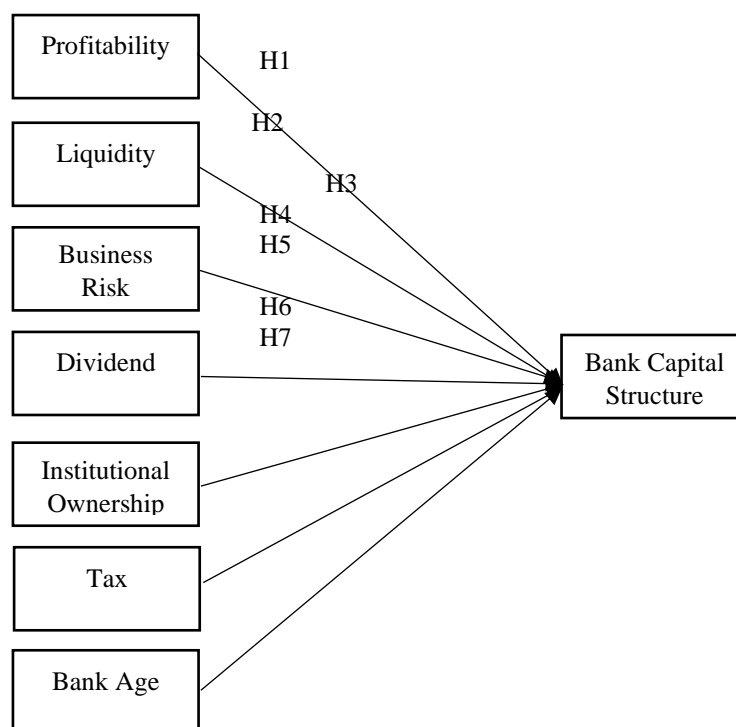
Indonesia is a developing country that makes banking institutions one of the drivers of economic growth. Banking institutions in Indonesia also have an important role like banking institutions in the world. commercial bank assets in 2016 jumped to 6,792,799 billion rupiah. In 2017 it touched the figure of 7 million billion rupiahs to be precise at 7,387,634 billion rupiahs, experiencing a rapid increase in 2018 and 2019, namely 8,068,346 billion rupiahs and 8,562,974 billion rupiahs. Every year, the development of bank assets has always increased, it means that the funds channeled by the banks to the community always increase every year, and also the association of the community has increased. These conditions show the important role of banking institutions. The DER value which indicates good capital structure management is at a value of 1 or below (Sari, 2013). Based on the requirements for a good DER value, the DER value of the banks in Indonesia from 2016-2019 showed that the quality of the DER was not good with a value above 1. However, if we look at the development of the DER from 2016-2019 it showed a decline. This condition can be interpreted that there is optimization of capital structure management every year.

It is important for bank management to determine the capital structure policy to support bank operational activities, especially in lending. If you are not punctilious in choosing the financial, it will affect the bank's minimum capital adequacy (CAR) which has been regulated by Bank Indonesia. Every manager needs to know what factors need to be considered when making a capital structure decision. By knowing these factors, it will be easier for the manager's company to make funding decisions, whether the additional capital needed for the development and growth of the company is obtained from debt or whether they have to issue new shares as an alternative.

Based on the phenomenon above, it is necessary to analyze the determinants that can affect the capital structure of commercial banks in Indonesia. Because, in carrying out funding operations of the capital structure is very influential in the bank. Therefore, knowing the factors that can affect the capital structure of banks is needed to get an overview of the determinants of the capital structure of commercial banks in Indonesia. By using different samples and the most recent observation period, it is hoped that new facts will be found that will support previous evidence regarding to the capital structure of commercial banks.

### Methodology/ Materials & Methods

This study uses a type of explanatory research that tests hypotheses with the application of the theory of problem solving and inter-group interpretation of the object factors (Sularso, 2003). Exploratory research is fundamental in nature and aims to obtain information, data about things that are not known yet. Exploratory research is carried out if the researcher has not obtained initial data so that he does not have a complete picture of the matter to be studied.



**Figure 1. Research Model**

The research hypothesis includes:

- H1 : Profitability partially affects the Bank's Capital Structure
- H2 : Liquidity partially affects the Bank's Capital Structure
- H3 : Business risk partially affects the Bank's Capital Structure
- H4: Dividends partially affect the Bank's Capital Structure
- H5 : Institutional Ownership partially affects the Bank's Capital Structure
- H6 : Taxes partially affect the Bank's Capital Structure
- H7 : Bank age partially affects the Bank's Capital Structure

### Research Methods

The population in this study are commercial banks in Indonesia. Commercial Banks means consist of government banks, foreign exchange national private commercial banks, non-foreign national private public banks, regional development banks, joint venture banks, and foreign banks. The data period studied is 2016 – 2020, the availability of data depends on whether or not the data can be accessed. Therefore the research sample used is the sampling method by using convenience sampling where the selected sample members are bank objects (financial reports) whose data can be accessed. The method used in this research is multiple regression analysis. The step will use in this study is analyzing after collecting the data. Furthermore, the data used will be carried out regression analysis.

This study will use multiple regression analysis. Multiple regressions are the relation between two or more independent variables on the dependent variable (Gujarati, 2004). In this study, there wil be a regression model that will be analyze using multiple regression, namely the model analyzes the effect of profitability, liquidity, business risk, dividends, institutional ownership, taxes and bank size on capital structure. The formula of this study as follows.

$$DER_{it} = a + b_1ROA_{it} + b_2LDR_{it} + b_3NPL_{it} + b_4DPR_{it} + b_5KI_{it} + b_6Tax_{it} + b_7AGE_{it} + e$$



Information:

- a = constant
- ROA = Return On Assets
- LDR = Loan to Deposit Ratio
- taxes = tax
- AGE = Bank Age
- e = standard error
- b = independent variable coefficient
- DPR = Dividend Payout Ratio
- NPLs = Non Performing Loans
- KI = Institutional Ownership
- DER = Debt to Equity Ratio

**Results and Conclusion**

Multiple Regression Analysis

The use of multiple regression analysis is to determine the effect of the independent variable on the dependent variable. The research model formed is shown as follows.

Variable	coefficient	std. Error
ROA	0.07	0.19
LDR	-0.92	1.03
NPLs	0.60	0.16
DPR	-0.04	0.02
TAX	0.82	0.23
AGE	-0.02	0.39
KI	-0.01	0.00
Constant	12.95	5,24

**Table 1. Results of Multiple Linear Regression Analysis**

Based on Table 1, the research model can be put forward as follows:

$$DER_{it} = 12,95 + 0,07 ROA_{it} - 0,92 LDR_{it} + 0,60 NPL_{it} - 0,04 DPR_{it} - 0,01 KI_{it} + 0,82 Tax_{it} - 0,09 AGE_{it}$$

Based on the regression results using seven variables, there are four significant variables. The four variables are regressed and get an R-square value of 37%. Thus, only four variables as determinants of the dependent variable.

**Hypothesis testing**

Hypothesis testing is done to analyze the effect of the independent variables on the dependent variable. The test will be done by comparing the probability value with the alpha significance value (α=5%, 10%). There is a significant influence relationship if the probability value is below the alpha significance value (α=5%, 10%). On the other hand, it is also necessary to look at the direction of the relationship through the coefficient values.

Variables	coefficient	Prob.	
ROA	0.07	0.69	
LDR	-0.92	0.37	
NPLs	0.61	0.00*	
DPR	-0.04	0.03*	
TAX	0.82	0.00*	
AGE	-0.02	0.94	
KI	-0.01	0.01*	
C	12.95	0.01	
R-squared	0.38	F-statistics	5,48
Adjusted R-squared	0.31	Prob(F-statistic)	0.00

**Table 2. Model Hypothesis Test**

Hypothesis one (H1) states that the effect of profitability on the capital structure of commercial banks in Indonesia is not significant. This condition can be seen from the probability value of 0.69 which is greater than



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the significance alpha value. Thus, hypothesis one (H1) is rejected. The second hypothesis (H2) states that the same result is also shown by the effect of liquidity on the capital structure of commercial banks in Indonesia, which is not significant. This condition can be seen from the probability value of 0.374 which is greater than the significance alpha value. Thus, hypothesis two (H2) is rejected.

The third hypothesis (H3) states that the result between the effect of business risk and the capital structure of commercial banks in Indonesia is a significant influence with a positive direction of influence. This condition can be seen from the probability value of 0.000 which is less than the significant alpha value. On the other hand, the coefficient value of 0.606 indicates that the influence is positive or one-way with the influence of business risk on the capital structure of 0.606%. Thus, the third hypothesis (H3) is accepted with the results of the difference in coefficients. The fourth hypothesis (H4) states that the influence of dividends on the capital structure of commercial banks in Indonesia is significant with a negative influence. This condition can be seen from the probability value of 0.035 which is less than the significant alpha value. On the other hand, the coefficient value is -0, 043 shows that the effect is negative or in the opposite direction to the influence of dividends on the capital structure of 3.9%. Thus, the fourth hypothesis (H4) is accepted. The fifth hypothesis (H5) states that the tax effect on the capital structure of commercial banks in Indonesia has a significant effect with a positive coefficient direction. This result can be seen from the probability value of 0.000 which is smaller than the alpha significance value. On the other hand, the coefficient value of 0.826 indicates that the influence is positive or one-way with the influence of dividends on the capital structure of 8.2%. Thus, the fifth hypothesis (H5) is accepted. The sixth hypothesis (H6) states that the effect of institutional ownership on the capital structure of commercial banks in Indonesia has a significant influence. This result can be seen from the probability value of 0.016 which is smaller than the alpha significance value. On the other hand, the coefficient value of -0.0168 indicates that the effect is negative or in the opposite direction to the influence of dividends on the capital structure of 0.1%. Thus, the sixth hypothesis (H6) is accepted. The seventh hypothesis (H7) states that the relationship between bank age and the capital structure of commercial banks in Indonesia has no significant effect. This condition can be seen from the probability value of 0.941 which is greater than the significant alpha value. Thus, the seventh hypothesis (H7) is rejected. On the other hand, the R-square value is used to see the magnitude of the influence of the independent variable on the dependent variable. the effect of the independent variable on the dependent variable is 38%. 016 is smaller than the significant alpha value. On the other hand, the coefficient value of -0.0168 indicates that the effect is negative or in the opposite direction to the influence of dividends on the capital structure of 0.1%. 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Variables	coefficient	std. Error	t-Statistics	Prob.
NPLs	-0.54	0.13	-4.10	0.00*
DPR	-0.03	0.01	-2.01	0.04*
TAX	-0.78	0.22	-3.43	0.00*
KI	-0.01	0.00	-2.46	0.01*
C	8.63	0.61	14.12	0.00*
R-squared	0.37	F-statistics		9.58
Adjusted R-squared	0.33	Prob(F-statistic)		0.00

**Table 3. Second Model Hypothesis Test**

$$DER_{it} = 8,63 - 0,54 NPL_{it} - 0,03 DPR_{it} - 0,01 KI_{it} + 0,78 Tax_{it}$$

Based on the regression results using seven variables, there are four significant variables. The four variables are regressed and get an R-square value of 37%. Thus, only four variables as determinants of the dependent variable.

### Effect of Profitability on Capital Structure

The profitability variable has no significant effect on the capital structure. Banking profitability is not a determinant of the bank's capital structure. This is because the size of the bank's profitability will not have an impact on managing capital structure. Banking will continue to use external funds even though the profits are high; this condition aims to stimulate greater banking development. These results are in line with research conducted by Chandra et al., (2019). This condition can also be seen from research conducted by Damyanti (2013) which stated that there was a negative effect between profitability (ROA) and capital structure (DER). It means that the higher the value of profitability (ROA), the smaller the capital structure (DER). Because, banks with high rates of return will reduce debt, where banks will use internal banking funds for operations and investments rather than using debt because, banks have to bear the burden. This statement is in accordance with the pecking order theory regarding the preferred use of internal funds. The research results reject the results of research conducted by Fitriani, (2015); Sari et al., (2012); Soebiantoro et al., (2008) which explains that profitability has a negative effect on capital structure. The research results reject the results of research conducted by Fitriani, (2015); Sari et al., (2012); Soebiantoro et al., (2008) which explains that profitability has a negative effect on capital structure. The research results reject the results of research conducted by Fitriani, (2015); Sari et al., (2012); Soebiantoro et al., (2008) which explains that profitability has a negative effect on capital structure.

### The Effect of Liquidity on Capital Structure

The liquidity variable has no significant effect on capital structure. This shows that banking liquidity is not a determinant of the bank's capital structure. This condition occurs because the use of debt in an optimal capital structure does not affect the size of liquidity which indicates the ability of banks to pay their short-term obligations that are due soon by using current assets owned by banks. This is a long-term debt because investors do not see the size of the current assets owned by banks in providing long term. However, in providing long-term debt, investors are more interested if they see the size of the fixed assets owned by the bank, because these fixed assets can be used as collateral for debt if the bank is unable to pay its obligations. It is not significant



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because the current ratio is low, it can be said that the bank lacks capital to pay debts, but if the measurement of the current ratio is high, it does not mean that the banking condition is good (Kasmir, 2017). A good financial condition is not only liquid but also must meet certain liquidity standards, especially to deal with unexpected financial obligations but require immediate payments (Hery, 2015). On the other hand, the capital structure is higher when compared to total equity. Thus, banks in their capital structure are financed more by debt than by equity. This condition will have an impact on investors who will continue to provide debt and must be paid by banks at a specified time. The results of this study are in line with research conducted by Firmanullah and Darsono (2017) which proves that liquidity does not have a significant effect on capital structure. The research results of Ramadhani and Fitra (2019) also prove that the current ratio is not significant to capital structure. The results of this study reject the results of research conducted by Margaretha&Ramadhan, (2010); Masidonda et al., (2013); Sari et al., (2012).

### **Effect of Business Risk on Capital Structure**

Significant business risk has a positive effect on capital structure. This positive effect indicates that the higher the business risk that occurs by banks, the greater the use of debt as a form of minimizing the high business risk. Based on the theory of Trade off Theory which explains that the use of high debt, the higher the burden borne by a bank. The results of this study are in line with research conducted by Mardiyanti et al., (2012); Wairooy, (2019). Business risk is a basic risk owned by the company besides financial risk as an additional company risk due to the use of debt. Based on the trade off theory, Companies with a high probability indirectly have a large business risk and will make efforts to reduce their taxes by increasing their debt ratio, so the increase in debt will reduce taxes. Companies that have high risk will influence creditors in dealing with their risks, according to the trade-off theory, namely balancing the benefits and costs arising from the use of debt. As an implication, companies with large business risks must use lower debt than companies with low business risks (Furaida, 2012). The higher the business risk, the higher the use of debt, the more difficult it will be for companies to repay their debts. Companies that have high risk will influence creditors in dealing with their risks, according to the trade-off theory, namely balancing the benefits and costs arising from the use of debt. As an implication, companies with large business risks must use lower debt than companies with low business risks (Furaida, 2012). The higher the business risk, the higher the use of debt, the more difficult it will be for companies to repay their debts. Companies that have high risk will influence creditors in dealing with their risks, according to the trade-off theory, namely balancing the benefits and costs arising from the use of debt. As an implication, companies with large business risks must use lower debt than companies with low business risks (Furaida, 2012). The higher the business risk, the higher the use of debt, the more difficult it will be for companies to repay their debts.

### **The Effect of Dividends on Capital Structure**

Dividend policy has a negative effect on capital structure. This negative effect indicates that the policy of giving dividends to shareholders results in the use of large debt. This is due to the Liquidating Dividend policy, which is dividends that do not come from profits derived from banking. This policy applies when banks experience business risk as a form of maintaining banking. This research is in line with research conducted by Fauzi, (2015); Kereh et al., (2020). If a company distributes low dividends to shareholders it will give a signal to the market that the company has a low profit as well, therefore the company seeks external funds to outsiders in the form of debt to meet its needs, so that the company's capital structure becomes high. The Mining sector tends to have a low dividend compared to the prevailing stock market price which can be seen from the average DY of 3.71%. This supports the statement put forward by Keown et al., (2010: 162) in pecking order theory, "companies prioritize internal funds to meet their needs, if a company's internal funds do not meet the required needs, the company seeks external funds (debt)"

### **Effect of Taxes on Capital Structure**

Taxes have a significant positive effect on capital structure. This shows that taxes are a determinant of the bank's capital structure. With high taxes, it will give an impact in enhancement of the bank's capital structure since; funds are issued to pay these tax's costs which are taken from the capital structure. So that banks need debt loans to meet the capital structure. This research is in line with research conducted by Akhmadi et al (2018) and Natalia (2020). This study conducted by Fitriani et al., (2018); Lawi, (2016); Sungkar& Deitiana, (2021). According to Brigham and Houston (2006) that the higher the tax rate of a company, the greater the benefits derived from debt. Because the interest of payments according to the Modigliani and Miller (1958) model in the presence of taxes are tax deductible for companies, caled taxes, two benefits are obtained from using debt, they



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are: debt is a cheaper source of capital than equity and interest costs are a tax deduction element. Furthermore, Modigliani and Miller (1963), said that if there is a corporate tax then the use of debt will increase the value of the company, because of debt interest expense will reduce the tax payments (tax deductible expense). If the tax burden will increase the value of the company, it means that it will indirectly affect the company's capital structure. So the higher the tax rate of a company, the greater the benefits derived from debt (Brigham and Houston, 2006). In the theory of trade off if there is a tax situation, the use of debt will provide benefits in the form of tax reduction for the company, but the company has to work on the capital structure ratio targeted. This means that a company with a high tax burden has a high capital structure, but the company must continue to work at the targeted capital structure ratio so that the cost of debt is not too large.

### Effect of Age on Capital Structure

Age has no effect on capital structure. The banking age is no longer a determinant of capital structure. The age of the bank is not a criterion for good capital structure management. However, human resources and a good management system will affect the capital structure. This study research that was conducted by Bhaduri (2002), Ramlall (2009) and Margaretha and Aditya (2010). As the age of the company increases, the responsibilities and burdens of the company also increase so that it cannot affect the capital structure.

### Effect of Institutional Ownership on Capital Structure

Institutional ownership has an influence on capital structure. This shows that institutional ownership is a determinant of the bank's capital structure. The higher the institutional ownership, the higher the capital structure. This is due to the role of institutional ownership as a monitoring agent. Supervision by institutional shareholders on managers will have an impact on increasing the confidence of investors and creditors to provide funds to banking companies. In research by Ida Maftukhah (2013) shows that an increase in institutional ownership will have an impact on a significant increase in capital structure, so that institutional ownership has an effect on capital structure. This study rejects research conducted by Putri and Ratih (2009) and Saktiawan and Emrinaldi (2012) which states that the determinant of banking capital structure is institutional ownership. Theoretically, institutional ownership is a monitoring agent, so it can reduce agency conflicts because it is able to control and direct managers to make debt and dividend policies that are in favor of the interests of institutional shareholders. Institutional ownership encourages more optimal monitoring of company performance. Effective supervision by institutional shareholders on management will have an impact on investors and potential investors who are increasingly confident about investing in the company. Strong institutional ownership will also have an impact on a more efficient use of company funds because institutional ownership is able to control management policies on company cash flows. According to Yenziat and Destriana (2010), the results of their research said that institutional ownership has an effect and significant on capital structure. This is due to the institutional ownership as a monitoring tool to oversee management actions, exercise control over the opportunistic behavior of managers and also as a party that has an interest in managing corporate debt so that it can force managers to reduce the optimal use of corporate debt.

### Conclusion

1. This study analyzes the capital structure in Indonesian banking with a sample of 14 banks in 2016 – 2020. Based on the results of the data analysis and discussion, the following conclusions are obtained
2. The determinant of profitability with the capital structure of commercial banks in Indonesia is not giving an impact significantly.
3. The determinant of liquidity with the capital structure of commercial banks in Indonesia is not significant.
4. The determinants of business risk with the capital structure of commercial banks in Indonesia are significantly affected with a positive direction of influence.
5. The determinant of dividends with the capital structure of commercial banks in Indonesia is significantly affected with negative direction of influence.
6. Tax determinants with the capital structure of commercial banks in Indonesia have a significant influence with a positive coefficient direction.
7. Institutional ownership determinants with the capital structure of commercial banks in Indonesia which have a significant influence.
8. The determinant of bank age with the capital structure of commercial banks in Indonesia has no significant effect.





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9. On the other hand, the R-square value in the research model using seven variables shows a value of 38%. Based on the regression results using seven variables, there are four significant variables. The four variables are regressed and get an R-square value of 37%. Thus, only four variables can explain the dependent variable.

### Acknowledgments

The author would like to thank various parties who have helped the process of this research from start to finish and have devoted their time, energy and thoughts.

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