The Effect of Audit Quality, Financial Reporting Aggressiveness and Tax Aggressiveness on the Cost of Debt in Southeast Asia

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

This study aims to analyze the effect of audit quality, financial reporting aggressiveness and tax aggressiveness on the cost of debt (study on Southeast Asian pharmaceutical companies). This research is interesting to study where different with other research of this research uses a sample of pharmaceutical companies in Southeast Asia and the period is before and after covid where pharmaceutical companies are an industrial sector that have a lot of profits when other industrial sectors have loss profit. The population in this study is a pharmaceutical company in 2018 - 2021. Determination of the research sample uses the purposive sampling method. Which sample there are 101 (There are 22 firm form Indonesia, 12 firm form Philippines, 23 firm form Malaysia, 21 firm form Singapore, 10 firm from Thailand and 13 firm form Vietnam). The results of this study The results indicate that the significance value of the Audit Quality variable is below 0.05 and the beta value is negative. The results that the significance value of the aggressiveness of financial reporting variable shows that the significant value is less than 0.05 with a positive beta value. The results show that the value of tax aggressiveness shows that the value of sig. below 0.05 with a positive Beta value. It can be concluded that tax aggressiveness has a significant effect on the cost of debt (study of Southeast Asian pharmaceutical companies). Conclution is the financial reporting aggressiveness variable has a significant effect on the cost of debt, the greater the earnings management policy is carried out, the greater the company's debt costs so need the special focus from government to management cuase it relate with tax.

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1. INTRODUCTION

Based on the kompas.com website (accessed January 16, 2021), the Director General of Taxes said that there were findings of tax aggressiveness which were estimated to cost the state up to Rp 68.7 trillion per year. This was announced by the Tax Justice Network reporting that due to tax avoidance, Indonesia is estimated to lose up to US$ 4.86 billion per year or equivalent to Rp. 68.7 trillion when using the rupiah exchange rate and Rp. 14,149 per US dollar. Report released on [1], Oxfam revealed, the largest pharmaceutical companies appear to evade taxes of approximately US $ 3.8 billion per year in 16 countries. In its report, Oxfam analyzes the final financial statements of the largest pharmaceutical companies such as Pfizer, Merck, Johnson & Johnson and Abbott, between 2013-2015. From the analysis they found, these companies appear to have evaded taxes worth US$3.7 billion in nine developed countries.

On December 31, 2019, precisely in Wuhan City, China, there was a case of an outbreak of a disease called corona virus disease with a total of 27 cases at that time [2]. After the first case of covid 19, there was a continuous increase in covid cases in various countries so that the World Health Organization declared it a global pandemic case [2].

Along with the economic downturn in the second quarter of 2020, the Ministry of Industry noted the performance of several manufacturing industry sectors that were still growing positively. These sectors include the chemical, pharmaceutical and traditional medicine industries with growth of around 8.65 percent, higher than the first quarter of 2020 which grew 5.59 percent.

2. METHODOLOGY

2.1 Research Hypothesis

H1: The effect of negative audit quality on the cost of debt.

This Hypothesis is Supported by Eksandy's research [3] proving that audit quality has a negative effect on the cost of debt because companies will find it increasingly difficult to carry out aggressive tax policies if the company is audited by the Big Four KAP. Audit quality has a significant effect on the cost of debt borne by the company. The direction of the relationship shown is negative, which means that the use of big-four KAP will result in a higher quality audit that can accurately determine the debt costs that are actually borne by the company [4].

H2: The positive effect of financial reporting aggressiveness on the cost of debt.

This Hypothesis is Supported by results audit quality has a negative and significant effect on the cost of debt. This has the same results as research conducted by Novitasari et al. [5]. The greater the earnings management policy is carried out, the greater the company's cost of debt. Earnings management is management that is carried out intentionally during the process of determining earnings, usually to meet personal goals. Earnings management is carried out by managers or financial statement makers during the financial reporting process of an organization because the manager hopes to benefit from the actions they take.

H3: The positive effect of tax aggressiveness on the cost of debt.

This Hypothesis is Supported of this study are in line with research conducted by Shin & Woo, [6] where the results of the study, namely tax avoidance, are significantly positively related to the cost of debt. These results suggest that tax evasion is perceived as a signal of increased information risk and thus, investors demand higher returns. Funding is an important thing in the company to finance various operational activities such as paying company salaries, paying expenses related to company operations other than through capital as well as through debt. According to UTAMA et al. [7], debt used as funding reduces the tax liability borne by a company, the higher interest costs will reduce the tax burden, as well as the higher the company uses debt as a source of funds, allegedly the high level of tax aggressiveness used.

2.2 Variable Measurement

2.2.1 Dependent variable

The cost of debt in this study uses the formula, namely

$$Cost\ of\ Debt$$
$$= \frac{Interest\ Expense}{Long-term\ and\ short-term\ debt}$$

2.2.2 Independent variable

Independent variable is a variable whose value does not depend on other variables. The independent variables in this study are as follows:

2.2.2.1 Quality audit

According to Evitya, Rambe, [8] said that a Quality Audit is an audit carried out by a competent and independent party. Audit quality is measured using a dummy variable, where the value of 1 for the big four KAP, while the non-the big four KAP with a value of 0 [9].

2.2.2.2 Aggressiveness of financial reporting

Accrual earnings management is measured using the modified Jones model with the residual proxies of total accrual regression from changes in sales and fixed assets, meaning that income is adjusted for changes in receivables that occur in the period concerned [10]. Earnings management is measured using the modified Jones model, which is a measurement model of accrual earnings management developed by Dechow et al. [11].

Based on Research [12] the formula for Earnings Management uses the modified Jones model, namely

$$TACC_{it} = NI_{it} - CFO_{it}$$

$$TACC_{it}\ /\ TA_{i,t-1} = \beta_1\ (1/TA_{i,t-1}) + \beta_2\ (\Delta REV\ /\ TA_{i,t-1}) + \beta_3\ (PPE_{it}/TA_{i,t-1})$$

From the regression equation above, NDACC can be calculated by re-entering the coefficients α.

$$NDACC_{it} = \beta_1\ (1/TA_{i,t-1}) + \beta_2\ (\ \Delta REV - \Delta REC\ )\ /\ TA_{i,t-1} + \beta_3\ (PPE_{it}\ /\ TA_{i,t-1})$$

$$DACCit = TACC_{it}\ /\ TA_{i,t-1} - NDACC_{it}$$

Keterangan:

DACCit : Discretionary accruals of company i in period t
NDACCit : Non-discretionary accruals of company i in period t
TACCit : Total accruals of company i in period t
NIit : Net profit of company i in period t

CFOit : Cash flow from operating activities of company i in period t
TAi,t-1 : Total assets of company i in period t-1
ΔREV : Change in company income i year t with t-1
ΔREC : Change in accounts receivable of company i year t with t-1
PPEit : Gross value of fixed assets of company i in year t

2.2.2.3 Tax aggressiveness

$$Tax\ Aggressiveness\ = \frac{Tax\ Expense}{Earnings\ Before\ Tax}$$

2.3 Population and Sample

The population in this study are Pharmaceutical Companies listed on each Stock Exchange in Southeast Asian Countries. The sample of this study using purposive sampling, namely with the following criteria:

1. The company publishes annual reports and financial reports for 4 years (2018 until 2021) which can be accessed from the website of the stock exchange of each country or from the company's website and has complete data needed in this research.

Table 1. Sample research

Number	Country	Number of company
1	Indonesia	22 firm
2	Philippines	12 firm
3	Malaysia	23 firm
4	Singapore	21 firm
5	Thailand	10 firm
6	Vietnam	13 firm

2. Companies that have complete data needed in research are companies that publish annual reports.
3. Companies that do not experience losses during the research period.

3. RESULTS AND DISCUSSION

3.1 Sales of Pharmaceutical Companies for the period I, II, III of 2020

There are research gaps in this research, example Research by Wijanarto, [13] "The Influence of Good Corporate Governance, Company Characteristics, and Audit Quality on the Cost of Debt" says that Audit Quality has no effect on the cost of debt. However, in the study

of [14], it is stated that the effectiveness of the board of commissioners as one of the internal mechanisms in audit quality has a significant negative effect on the cost of debt.

According to Utama et al. [7], debt used as funding reduces the tax liability borne by a company, the higher interest costs will reduce the tax burden, as well as the higher the company uses debt as a source of funds, allegedly the high level of tax aggressiveness used. In the Research of [2] the effect of tax avoidance and tax risk on the cost of debt (empirical study of banking companies listed on the Indonesian stock exchange in 2013-2018) the result is that tax avoidance (CETR) has a negative and insignificant effect on debt cost.

The market can be observed through managers' efforts to take advantage of opportunities for perceptions of company profits, and changes in the positive relationship between debt ratios and discretionary accruals [15]. While the research of [16] with the title "Real earnings management and the cost of debt: international evidence" shows discretionary accruals have no effect on the cost of debt.

So the background of the research, this research is interesting to study where different with other research of this research uses a sample of pharmaceutical companies in Southeast Asia and the period is before and after covid where pharmaceutical companies are an industrial sector that have a lot of profits when other industrial sectors have loss profit.

3.2 Theoretical Basis

3.2.1 Agency theory

According to Andreas et al. [17] agency theory explains that agency relationships occur when the principal employs another person (agent) to provide a service and then delegates decision-making authority to the agent. Agency problem this research is where there are differences in interests between the parties, where there are differences interests between the parties, on the one hand the manager wants an increase in compensation, whereas shareholders want to reduce tax costs, and creditors want the company can fulfill debt contracts by paying interest and principal on time. When the company has debt conflicts of interest arise between shareholders and creditors which will become financial distress and affect the company's agency costs.

3.2.2 Trade of theory

The trade off theory is a relationship gains and losses due to the use of corporate debt, and there are taxes that taken into account. The company finances through debt at a specific debt level that where the tax shields from the increase in debt are equal to the costs of financial distress. The fee are the bankruptcy costs and the agency costs of diminishing credibility. Debt is more useful for the company because interest is paid as a fee to reduce taxable income tax, the amount of tax paid is reduced.
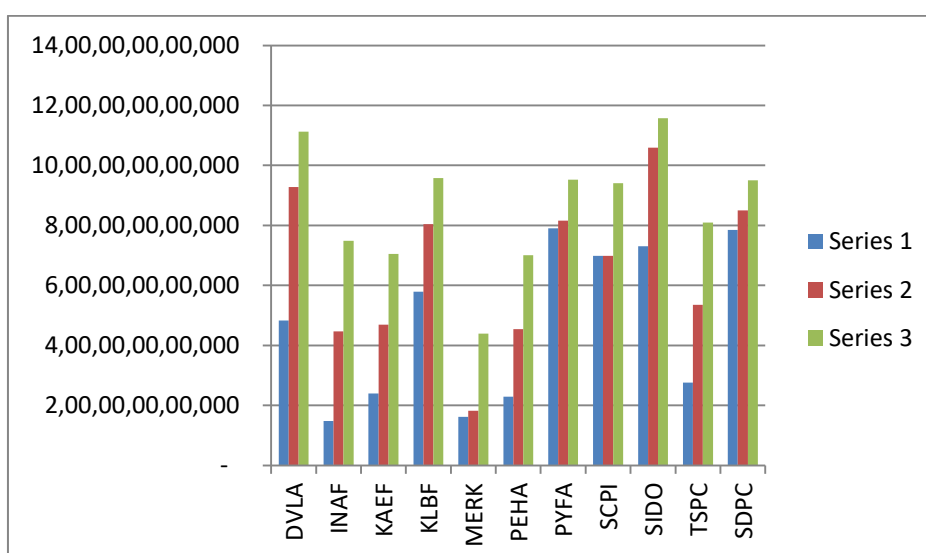

Fig. 1. Sales of Pharmaceutical Companies for the period I, II, III of 2020
Source: idx.com (data processed by researchers, 2022)

Table 2. Descriptive statistics

Variable	Number of samples	Minimum	Maximum	Mean	Std. deviation
Cost of Debt	403	0,01	0,53	0.1571	0,14254
Quality Audit	403	0,00	1,00	0,4988	0,50062
Aggressiveness of financial reporting	403	0,01	0,97	0,3847	0,22190
Tax Aggressiveness	403	0,02	0,99	0,3715	0,24630

Based on the results of data processing in the table above, it is known that the Audit Quality variable has a mean of 0.4988 with a minimum value of 1 and a maximum of 0 and has a standard deviation of 0.50062. In the audit quality variable, the proxy with a dummy variable is a value of 1 if the audit quality is good and a value of 0 if the audit quality is not good. For the Financial Reporting Aggressive variable, it has a mean of 0.3847. With a minimum value of 0.01 and a maximum of 0.97 and has a standard deviation of 0.22190. A company is said not to do earnings management if the DACC value is 0. Companies with a DACC value close to 0 are indicated to be getting smaller. The tax aggressiveness variable has a mean of 0.3715 with a minimum value of 0.02 and a maximum of 0.99 and has a standard deviation of 0.24630. If the ETR is high, the tax aggressiveness is low, while if the ETR is low, the tax aggressiveness is high. The cost of debt has a mean of 0.1571 with a minimum value of 0.01 and a maximum of 0.53 and has a standard deviation of 0.24630.

Multiple Linear Regression Equation

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$
$$Y = -0,11 - 0,37 X_1 + 0,257 X_2 + 0,236 X_3 + e$$

Based on the test results, it is explained that with a constant value of -0.11 then all independent variables (audit quality, aggressiveness of financial reporting and taxes) are constant and have an impact on the value of the cost of debt in the amount of -0.11. if audit quality, financial reporting aggressiveness and tax aggressiveness are zero, the cost of debt will be negative. The model implies that every 1 unit increase in the application score on the audit quality variable or -0.037, it will be followed by an increase in the cost of debt by -0.11 with the assumption that the audit quality variable is in a fixed condition. Every time there is an increase of 1 unit score for the financial reporting aggressiveness variable of 0.257, it will be followed by an increase in the cost of debt by -0.11 with the assumption that the financial reporting aggressiveness variable is in a fixed

condition. Every time there is an increase of 1 unit score for the tax aggressiveness variable of 0.236, it will be followed by an increase in the cost of debt by -0.11 with the assumption that the tax aggressiveness variable is in a fixed condition.

The audit quality variable on the test results has a regression coefficient of -0.37 with a significance of 0.000. This result shows the result is less than 0.05.

The financial reporting aggressiveness variable on the test results has a regression coefficient of 0.257 with a significance of 0.000. This result shows the result is less than 0.05. So the results of the regression coefficient of financial reporting aggressiveness are significant to the variable cost of debt. So the aggressiveness of financial reporting has a positive and significant effect on the cost of debt. The best Discretionary Accruals value is Discretionary Accruals which is close to 0.

The tax aggressiveness variable in the test results has a regression coefficient of 0.236 with a significance of 0.000. This result shows the result is less than 0.05.

3.3 Classic Assumption Test

Based on the normal P-P graph, the residual plot of the data distribution is a normal (straight line).

3.3.1 Multicollinearity test

The results of the multicollinearity test, namely the calculation of the value in the tolerance column, showed that all the independent variables were 1.061, 1.221 and 1.226. So in this study there is no multicollinearity because it has a tolerance value greater than 0.10 and a Variance Inflation Factor (VIF) value less than 10.

3.3.2 Autocorrelation test

The Durbin Watson test in this study is 1.886 where according to the table dL 1.7804 < 1.886 <

2.2196, so the study explains that there is no autocorrelation.

3.3.3 Heteroscedasticity test

In the diagram using the glacier test, it shows that the plot is spread evenly, namely above the 0 axis and below the 0 axis and does not form a certain pattern, which explains that in this study there was no heteroscedasticity.

3.3.4 F test

Based on the table data, it can be seen that the F value is 143.915 with a significance level of 0.000. These results are below the level of the cost of debt that is determined, namely 0.00, then the variables of audit quality, aggressiveness of financial reporting and taxes have a simultaneous effect on the level of the cost of debt.
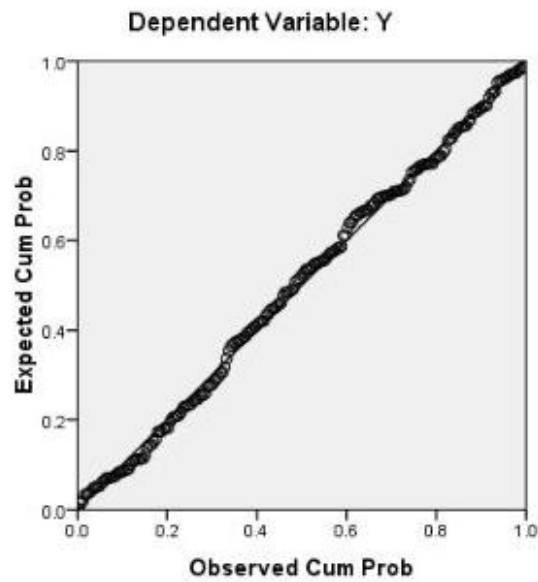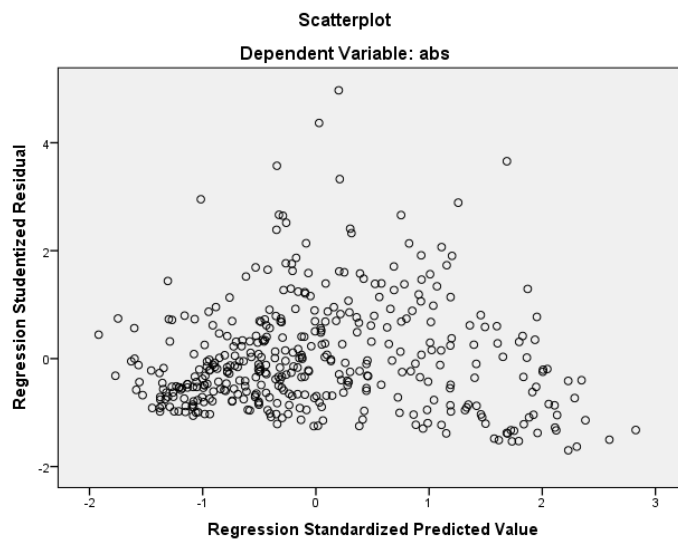

Fig. 2. Normality test

Fig. 3. Heteroscedasticity test

Table 3. Multicollinearity test

Varibel	Unstandarized coefficients		Standarized coefficients	Collinearity	
	B	Std. error	Beta	Tolerance	VIF
(constant)	-0,011	0,013			
QA	-0,037	0,010	-0,131	0,943	1,061
TA	0,257	0,025	0,401	0,819	1,221
EM	0,236	0,022	0,407	0,816	1,226

Table 4. Autocorrelation test

Model summary					
Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin - Watson
1	0,821	0,620	0,616	0,09916	1,886

Table 5. T test analysis

Model	Sum of square	Df	Mean square	F	Sig.
1	4,245	3	1,415	143,915	0,000

Table 6. Individual parameter significant test

Variable	β	t	significant
(constant)	-0,11	-0,825	0,410
QA	-0,037	-3,676	0,000
EM	0,257	10,451	0,000
TA	0,236	10,600	0,000

3.3.5 Individual parameter significant test

The first hypothesis in this study is that audit quality has a negative effect on the cost of debt. The results of the t value in the table above indicate that the significance value of the Audit Quality variable is below 0.05 and the beta value is negative, meaning that there is an influence of audit quality with a negative relationship. Audit quality is proven to have an effect on the cost of debt. This research is supported by research of Eksandy, [3] proving that audit quality has a negative effect on the cost of debt because companies will find it increasingly difficult to carry out aggressive tax policies if the company is audited by the Big Four KAP. According to Tolulope et al. [18] with the title The Effect of Corporate Governance Attributes on Earnings Management: A Study of Listed Companies in Nigeria and the research of [19] the higher the quality of the auditors, the higher the quality of the auditors can prevent company management from evading tax.

The second hypothesis in this study is that the aggressiveness of financial reporting has a positive effect on the cost of debt. The results of the t-value in the table above show that the significance value of the aggressiveness of financial reporting variable shows that the significant value is less than 0.05 with a positive beta value. It can be concluded that the second hypothesis is accepted and the aggressiveness of financial reporting has a significant effect on the cost of debt. This has the same results as research conducted by Novitasari et al. [5]. The greater the earnings management policy is carried out, the greater the company's cost of debt.

The third hypothesis in this study is that tax aggressiveness has a positive effect on tax aggressiveness. The results of the t value in the table above show that the value of tax aggressiveness shows that the value of sig. below 0.05 with a positive Beta value. It can be concluded that tax aggressiveness has a significant effect on the cost of debt. The results of the study that show a positive influence between tax aggressiveness on the cost of debt occur because the company considers tax aggressiveness a risk, so the company will increase the cost of debt. The results of this study are in line with research conducted by Shin & Woo, [6] where the results of the study, namely tax avoidance, are significantly positively related to the cost of debt. These results suggest that tax evasion is perceived as a signal of increased information risk and thus, investors demand higher returns.

It was concluded that tax avoidance and earnings management are interesting to study in

the pharmaceutical sector because the pharmaceutical sector shares have become one of the sectors of choice for investors throughout 2020 in line with the COVID-19 pandemic sentiment (Katon & Yuniati, 2020) tax and earnings manipulation with other factors its audit quality.

4. CONCLUSION

This study aims to prove the effect of audit quality, financial reporting aggressiveness and tax aggressiveness on the cost of debt in pharmaceutical companies in Southeast Asia. This study differs from previous studies by using a population of pharmaceutical companies in Southeast Asia. This study uses a sample of pharmaceutical companies in Southeast Asia with the result that audit quality is proven to have an influence on the cost of debt. For the financial reporting aggressiveness variable has a significant effect on the cost of debt, the greater the earnings management policy is carried out, the greater the company's debt costs. The tax aggressiveness variable has a significant effect on the cost of debt based on a sample of pharmaceutical companies.

5. LIMITATION

The limitation of this research is that it does not use the company's profits that do not suffer losses, because it can cause a negative ETR value. Companies that are indicated to carry out tax aggressiveness are companies that earn high profits and cause a greater tax burden. Corporate income tax is imposed based on the amount of income received by the company, while companies that experience losses do not reflect high profits earned by the company. This study also has not captured the influence of variables that are likely to affect the cost of debt such as firm size, institutional ownership and voluntary disclosure that can affect the cost of debt borne by the company. In secondary data collection, there are limitations in accessing the annual report and/or financial reports of the population excluded as samples in this study.

6. SUGGESTION

Future research is expected to be able to use other variables that can influence the decision to grant debt policy to pharmaceutical companies such as firm size, institutional ownership and voluntary disclosure. Further research can consider pharmaceutical companies in other countries such as America, Japan, China, Germany, France as countries with the largest pharmaceutical companies in the world.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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