

*Djuaeriah & Winarta, 2022*

*Volume 2, pp. 29-47*

*Date of Publication: 15th March 2022*

*This paper can be cited as: Djuaeriah, N. & Winarta, B. J. (2022). The Effect of Capital Structure and Agency Cost Towards Profitability. Socialis Series in Social Science, 2, 29-47.*

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## **THE EFFECT OF CAPITAL STRUCTURE AND AGENCY COST TOWARDS PROFITABILITY**

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### **Abstract**

*This research examines the effect of the capital structure and agency costs on the firm's profitability of LQ45 Indonesian firms in the Indonesian Stock Exchange (IDX) from 2013 to 2017, regressed by panel data. The sample used is 24 out of 627 listed companies in IDX. The Capital structure is proxied by long term debt (LD), short term debt (SD) and equity (EQ) ratios. The agency cost (AC) is used by dividing operating expenses over annual sales. The Firms' profitability is approached by return on assets (ROA) and return on equity (ROE). The size of firms (SIZE) and growth of sales (GROW) are used as control variables. The finding shows that the Indonesian firms use more equity than debt financing. The LD has a negatively significant influence on ROA and a significant positive correlation on ROE. At the same time, the SD has a significant positive impact on both ROA and ROE. The EQ and AC have insignificant positive effects on ROA and ROE. The SIZE has an insignificant negative effect on ROA while a positive insignificant on ROE. Furthermore, the GROW has a positive influence on ROA and a negative impact on ROE, but both are insignificant.*

## **Keywords**

Long Term Debt, ROA, ROE, Short Term Debt, Agency Cost

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## **1. Introduction**

Company performance is also reflected by how efficient the managers use company resources (Fosu, 2013). This will lead to the growth of the company's assets, which will help confidence creditors whether to approve or refuse the company's loan proposal. This is also important for investors whether to add more fund to the company as the business grow faster and provide high profits. Therefore, effective financial management and its character affect the capital structure of a firm can get better operational performance. Financial distress and bankruptcy result from a wrong decision of capital structure (Santos and Brito, 2012). The proportion of debt and equity financing attaining the cheapest cost and highest profitability is the purpose of the Capital structure.

According to Imadudin et al. (2014), the debt funding use in Indonesian firms' post-crisis does not affect firm performance. The reason is that any increase in debt funding utilization was not in line with any rise in its profitability.

The oldest capital structure theory is the static trade-off theory by Modigliani and Miller (1963), explaining the formulation of capital structure. This theory assumes optimal capital structure by trading off the cost of debt and equity and their benefits.

Agency cost is used to solve the conflict between management and the shareholders. It is considered as the internal cost which has to be paid by the shareholders to the agents representing managements. Therefore, the management could act according to the benefit of shareholders' interest.

The study uses a sample of firms from the LQ45 index listed in the Indonesia Stock Exchange (IDX). The main reason for selection is the companies are constantly listed in index LQ45 from 2013 to 2017 in IDX. The research aims to seek whether the long term and short-term liabilities, equity ratio and agency cost affect profitability. The control variables are size and sales growth.

## **2. Literature Review**

## **2.1. Capital Structure**

Badar and Saeed (2013) study the leverage impact in firms' capital structure towards their performance. This empirical research is conducted on all firms of the food sector listed on the Karachi stock exchange from 2007 to 2011. They showed that long term debts have a significantly positive impact while short term debts negatively affect firm performance.

The company priority would be using internal funding than external funding. As it is following the Pecking Order theory due to the high risk of external funding leading to poor firm performance (Twireh, 2014)

In addition, there will be a balance of the financial distress cost by tax-saving advantage (Chen & Chen, 2011). The primary factors affecting the debt ratio are supply and demand factors, according to Mostafa and Boregowda (2014). But the preferences in which the inside financing choice such as retained earnings and reserves, debt followed by net worth should be made to decide which sources of capital based on (Chen & Chen, 2011).

In addition, agency costs and financial distress theories presume that high debts may force the firm to experience bankruptcy which in turn goes into liquidation (Awan & Amin, 2014). Therefore, the firms would decrease their debt financing volume to avoid high financial distress costs.

## **2.2. Agency Cost**

Hoang, L.D et al. (2019) studied the agency costs (asset utilization) impact on firm performance (ROA and ROE) of Vietnamese listed companies, which include 736 companies in Vietnam from 2010 to 2015. The result posits that agency costs have a negative impact on firm performance. This negative impact would be reduced by using debt instruments. Therefore, debt is a valuable tool to monitor agency costs (Jensen, 1986).

Research by Yao and Wu (2014) reveals a negative relationship between agency cost and the company's performance, but it was only limited to the insurance industry in China. Furthermore, the research study in 22 Indonesian firms listed in the capital market from 2012 to 2016 using operating expense ratio as agency cost approach shows negative impact on financial distress (Irawati et al., 2018).

The agency costs consist of explicit and implicit agency costs (Emenyi, 2013). Explicit agency cost deals with the collusion of corporate managers' bonuses or incentives paid in

managing the corporation. The implicit agency costs consist of the inability of managers to generate income from investment, such as mismanagement of free cash flow.

### **2.3. Profitability**

Research is conducted by Gill et al. (2011), Addae et al. (2013), Muchugia (2013), Mwangi et al. (2014), illustrating that short-term debt has a significant positive impact on profitability. This is because it has a lower cost than long term debt financing. This low cost of borrowing short-term debt will increase the company's profit. From studies of Addae et al. (2013), Muchugia (2013), Tifow and Savilir (2015), reported that long term debt has a significant negative interaction with a company's profitability because long term debt requires higher borrowing costs than short term debt.

Furthermore, the study by Nini, D.P (2020) examined the effect of capital structure on company performance in all 360 manufacturing companies listed in IDX from the 2014-2018 period. It uses the purposive sampling method. This study found that capital structure has a negative and significant effect on firm performance.

### **2.4. Equity Ratio**

According to Foyeke et al. (2016), the firm's value will increase if a company uses equity financing. The result of Chechet and Olayiwola (2014) confirmed this trend. Their result suggests that equity financing has a positive effect on firm value.

Raude, Wesonga, and Wawire (2015) investigated the relationship of equity financing on small and medium enterprises (SME) performance in Kenya. Using panel data, they used 95 sample sizes out of 2,713 population from 2009 to 2013. There is a significantly positive result between equity financing and SME's performance. But the trend of using debt financing is more than equity financing in Kenya.

The research was done by Foyeke et al. (2016) regarding the correlation of profitability on the capital structure of Nigerian companies from 2008 to 2012. The sample is used 25 manufacturing companies registered on Nigerian Stock Exchange. The result shows a significant positive interrelationship of equity financing on profitability. As the company use more equity financing then the company has more profit,

### **2.5. Firm Size**

The study performed by Banafa (2016) on Kenya's non-financial listed firm of the relationship between leverage, liquidity, and size of firm and profitability shows firm size has a positive correlation with a firm's performance in Kenya. Kaijagi and Elly also experienced the same result (2014) that examined size and growth significant positive influence on the capital structure of DTMs in Kenya. The result means that larger firms can easily access the debt market.

There is a significant positive relationship between the size and ROA of the 383 Hanoi publicly listed companies from 2015 to 2019. The study used debt ratio as capital structure and ROA, ROE and earning per share (EPS) as firm performance. The size and growth are as control variables (Pham, 2019)

Babalola (2013) study has another positive correlation result of firm size and profitability, the bigger the firm size, the higher income generated due to a higher firm's production capacity. Furthermore, Iqbal et al. (2013) suggested that the firm size and profitability relationship are also a significant positive.

## **2.6. Sales Growth**

The studies conducted by Olubukunola et al. (2011), Malik & Iqbal (2012), Akinlo (2012) illustrated that a significant positive correlation of sales growth on a return income resulted from their study.

According to Pham, T. H. D. (2019) study, growth had a significantly negative effect on firm performance. This would result in the firm performance reduction. According to pecking order theory, a high growth firm tends to use debt and may experience financial problems due to conflict between the creditors and owners. So, the management would act on behalf of owners' interest and reduce investment and in turn, performance reduction.

Arsca, C.C et al (2019) studied capital structure (TD, SD, LD) and performance (ROA, ROE) in all Indonesian firms listed in IDX from 2004 to 2017. This study uses size and sales growth as their control variables. The sales growth and firm size are positively correlated with performance. This leads to better performance due to greater size and sales growth. The research gap is illustrated in the following table.

**Table 2: Research Gap**

No	Authors	LD	SD	Equity	AC	Size	Grow	Results
1	Zakaria, Purhanudin, Chong, and William (2016), Emenyi (2013)				V			a negative relationship between the AC and ROE
2	Mwangi et al. (2014)		V					A significantly positive SD to firm's ROE & ROA
3	Jensen (1986)		V					insignificant positive SD and profitability
4	Muchugia (2013) and Gill Biger and Mathur. (2011)		V					A positive significance of SD to firm profitability
5	Gill, Biger, and Mathur (2011)		V					a significant positive of SD ratio towards profitability
6	Addae et al. (2013) Tifow and Savilir (2015), and Muchugia (2013)	V						A significantly negative of LD on firm profitability
7	Chechet and Olayiwola (2014)				V			a positive correlation of equity financing on firm value.
8	Antwi, Mills, and Zhao (2012)	V		V				Equity and LD show a positive effect on profitability.
9	Maxwell and Kehinde (2012)	V						LD has a positive effect on firm value.
10	Iqbal, Mulani, and Kabiraj (2013).					V		a positive connection of the firm size on profitability
11	Niresh and Thirunavukkarasu (2014), Banafa (2016)					V		a positive connection of the firm size towards profitability
12	Kartikasari and Merianti (2016) .					V		A negative connection of firm size on ROA
13	Malik and Iqbal (2012)						V	A positive correlation of Sales growth on the profitability

*(Source: Author)*

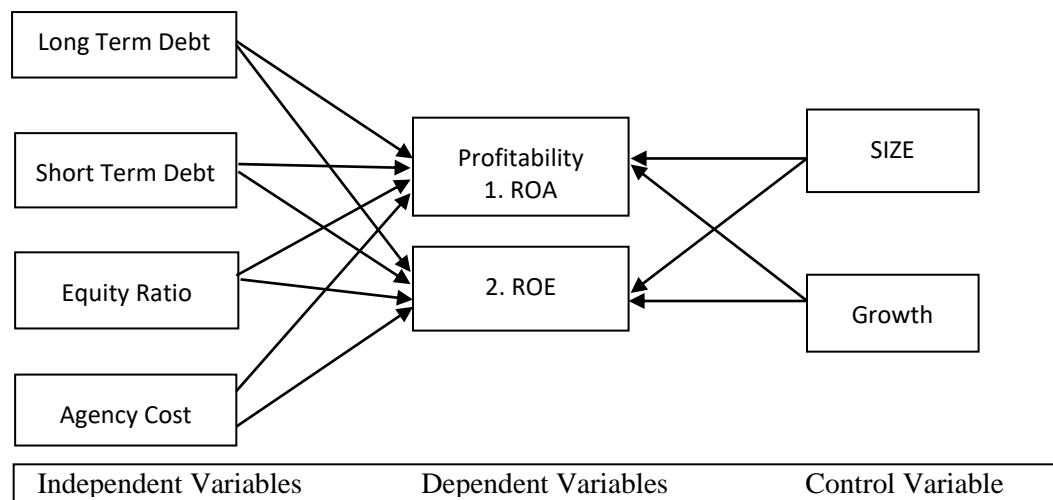
This study differs from another Indonesian researcher who conducts similar research. Firstly, Kartika Sari and Merianti (2016) conducted a study on leverage, size and profitability in 100 Indonesian listed manufacturing companies from 2009 to 2014. They only used ROA as firm profitability. Secondly, Aditya et al. (2020) studied free cash flow, ownership structure and capital structure impact on agency cost 100 Indonesian listed from 2014 to 2018. The study uses asset turnover as agency cost measurement.

Thirdly, Irawati et al. (2018) researched company performance predictions by agency cost earning management using the Z-Score from 22 IDX companies from 2012 to 2016. Their study uses Z-score to measure financial performance through companies' financial distress. Forthly, Nini, D.P (2020) did a study on a capital structure on the financial performance of 360 Indonesian companies from 2014 to 2018. Her study uses only ROA as profitability and the total debt in addition to long term debt and short-term debt. Furthermore, Gusni, T. et al (2021) analyzed leverage, agency cost and firm size to firm value from 38 Indonesian listed in IDX from 2013 to 2019. The study used market value added by debt then both are divided by total assets as the firm value valuation.

In addition, Ansca, C.C et al. (2019) studied the financial performance of the Indonesian Listed firm's capital structure from 2004 to 2017. The study used market performance (Tobin-Q and price to equity ratio) as an addition to company performance (ROA and ROE). Therefore, most other Indonesian researchers do not include the equity ratio as the capital structure measurement.

## 2.7. Conceptual Framework

The conceptual is used to formulate the model to help answer the research problem. The controlling variables are different from the independent variables. The ROA and ROE depend not only on the capital structure and agency cost but also on firm size and sales growth. Therefore, they are used to strengthen the primary hypothesis (LD, SD, EQ, AC). (Arsca, C.C et al., 2019). The following graphic is our conceptual framework.



**Figure 1: Research Framework**  
 (Source: Author)

## **2.8. Hypothesis**

Based on the research question and conceptual framework illustrated above, so it can prepare the hypothesis of this study. There are for two dependent parameter i.e ROA and ROE as follows:

H1a: LD has a negative and significant influence on ROA

H1b: LD has a negative and significant influence on ROE.

H2a: SD has a positive and significant influence on ROA.

H2b: SD has a positive and significant influence on ROE.

H3a: EQ has a positive and significant influence on ROA.

H3b: EQ has a positive and significant influence on ROE.

H4a: AC has a negative and significant influence on ROA.

H4b: AC has a negative and significant influence on ROE.

H5a: SIZE has a positive and significant influence on ROA.

H5b: SIZE has a positive and significant influence on ROE.

H6a: GROW has a positive and significant influence on ROA.

H6b: GROW has a positive and significant influence on ROE.

## **3. Research Method**

### **3.1. Variable Measurement**

The research purpose is to examine the effect of capital structure and agency costs on profitability. The capital structure is approached by long term debt (LD), short term debt (SD), equity ratio (Equity) and agency costs. At the same time, return on asset (ROA) and return on equity (ROE) is used to measure profitability. In addition, firm size and sales growth are included as controlling variables. The measurement of each variable is summarized in the following table 3.



**Table 3: Variable Measurement**

Variable	Formula	Previous Research
Profitability (ROA)	ROA= Net profit/ Total Assets	Tifow & Savilir (2015)
Profitability (ROE)	ROE= Net profit/Total Assets	Tifow & Savilir (2015)
Long Term Debt (LD)	LD=Long term debt/Total Assets	Twiresih (2014)
Short Term Debt (SD)	SD=Short term debt/Total Assets	Twiresih (2014)
Agency Cost (AC)	AC=Total operating expenses/Total annual sales	Irawati et al., (2018)
Equity Ratio (EQ)	EQ= Total Equity/Total Assets	Foyeke, Aderemi, Olusola (2016)
Firm Size (SIZE)	Log Total Annual Sales	Ramli et al (2018)
Sales Growth (GROW)	GROW= (total Sales-t - Total sales t-1/Total Sales t-1	Tifow & Savilir(2015)

(Source: Author)

### 3.2. Population and Sample

The research population is companies from LQ45 registered in the Indonesian Stock Market (IDX). The period of sampling is from 2013 to 2017. The criteria used to select the sample are as follows. There are 627 companies listed in IDX and constantly published their financial statement in IDX from 2013 to 2017. Twenty-nine companies are constantly listed in index LQ45, including five banks and financial institutions. The 24 companies are used, excluding the banks and financial institutions.

### 3.3. Data Analysis

Data is analysed by using multiple linear regression analysis on a panel data sample of firms from the period of 2013 to 2017. It can draw the model regression equations tested are as follows:

$$ROA = \alpha + \beta_1 * LD + \beta_2 * SD + \beta_3 * EQ + \beta_4 * AC + \beta_5 * SIZE + \beta_6 * GROW + e(1)$$

$$ROE = \alpha + \beta_1 * LD + \beta_2 * SD + \beta_3 * EQ + \beta_4 * AC + \beta_5 * SIZE + \beta_6 * GROW + e(2)$$

Where: SD = Short term debt; LD= Long term debt; EQ= Equity Ratio AC=Agency Cost; SIZE=Firm Size, GROW=Sales Growth, ROA=Return on Asset, ROE=Return on Equity;  $\alpha$  =intercept;  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ = coefficient of regression;  $e$  = error terms.

The linear regression analysis method should meet the statistical requirements through classical assumption test. The requirements on the classic assumption test include the normality test, the test of multicollinearity, the test of autocorrelation and the test of heteroscedasticity.

#### Research Question:

Do long term debt, short term debt, equity ratio, agency cost, size and sales growth affect the profitability of Indonesian firms?

## **4. Results and Discussion**

The descriptive statistics, correlation and regressions results are summarized in the following explanations.

### **4.1. Descriptive Statistic**

Table 4 shows the value of the statistical description of each variable. Variable ROA and ROE have the lowest value of -.06 and .53 highest value of .64 and .74. The average value of ROA is 0.96, which means that from each of IDR 100, the company's total assets generated a net income of IDR96. This is due to company size's variation, so there is an outlier. The ROE indicates the company's equity ability to generate revenue. The long debt minimum value is -.03, and the maximum value is .63. The highest value, 63, means that the company has long term debt beyond its ability to pay the obligations by its total assets. The average value of long-term debt to total assets in the study sample is .18. This means that 18% of total assets is financed by long term debt. In addition to that, the short-term debt finances total assets by 20%. Then the equity ratio means the value of .52 or 52% of total assets is financed by the equity of LQ45 companies listed in IDX. Moreover, the agency cost minimum and maximum are -.03 and .85. This variation leads to agency cost allocation from more minor to highest costs. The mean value is 18% cost allocation. On the other hand, the firm size of this research ranges from -13 to 1.4, meaning that there is a high annual sales variation. The sales growth lowest and highest values are -7.2 and 9.96. This result shows that the proportion of sales growth value can contribute to profitability. The average ratio of sales growth in the research sample is 260%

The table found that the most significant standard deviation value is reached by the variable firm size & sales growth and the lowest held by variable agency cost, long term and short-term debt. The higher the standard deviation, the wider the distribution of data or the further the data spread away from the average value.

**Table 4:** *Statistic Descriptive*

Variable	Minimum	Maximum	Mean	Std.
ROA	-.06	.64	.96	.35
ROE	.53	.74	.36	.20
LD	-.03	.63	.18	.15
SD	.0	.66	.20	.15
EQ	.40	.95	.52	.24
AC	-.03	.85	.18	.17
SIZE	.13	1.4	1.2	3.8
GROW	-7.2	9.96	2.6	3.9

(Source: SPSS Output)

#### 4.2. Regression Classical Assumptions

Table 5 summarizes the results of the normality test. The significance value of Kolmogorov Smirnov of both ROA and ROE is above 0.05, so it can be concluded that both are normally distributed. In addition, the autocorrelation is examined by the Durbin Watson value of both profitabilities. They failed for positive autocorrelation and passed the negative autocorrelation. Therefore, this research does not pass the autocorrelation test.

Table 6 illustrates the multicollinearity test result that all model passes the test. It shows the significant value of above 0.05 only on ROA, and therefore, it passed the heteroscedasticity test except for short term debt. In contrast, ROE does not pass this test. It is concluded that all models failed on autocorrelation and heteroscedasticity test. Therefore, this data is only valid for this research.

**Table 5:** *Kolmogorov Smirnov and Durbin Watson Tests*

Model	Kolmogorov-Smirnov Value	Sig.	N	dL	dU	DW	4-DW
ROA	0,147	0,000	120	1,543	1,708	1,485	2,515
ROE	0.084	0.037	120	1,543	1,708	1,746	2,254

(Source: SPSS Output)

**Table 6: Multicollinearity and Heterocedascity Tests**

Independent	ROA		ROE		ROA-Unstandardized Coefficients		ROE-Unstandardized Coefficients	
Variable	Tolerance	VIF	Tolerance	VIF	B	Sig.	B	Sig.
LD	,644	1,553	,644	1,553	,018	,687	,889	,000
SD	,614	1,629	,614	1,629	,177	,000	1,135	,000
EQ	,610	1,639	,610	1,639	,022	,438	,460	,000
AC	,970	1,031	,970	1,031	-,004	,909	,017	,822
SIZE	,948	1,055	,948	1,055	-,008	,574	-,001	,970
GROW	,966	1,035	,966	1,035	,002	,100	-,005	,182

(Source: SPSS Output)

### 4.3. Regression Analysis

Table 7 shows the F-test and the coefficient of determination, indicating whether the model is appropriate in predicting the influence of the independent variable on the dependent variable. The table below shows that the one mathematical model is fit for prediction as the F value has a significant level of less than 0.05. It can conclude both profitability equations can be used to predict the effect of independent variables on the dependent variable.

**Table 7: Coefficient Determination, F-Test Result & Coefficient Regression & Coefficient Correlation**

IND Variabl e	R-square	Adj. R-square	F	Sig.	Ftable	Variables	ROA Unstandardized Coefficients		ROE Unstandardized Coefficients	
							B	Sig.	B	Sig.
ROA	0,223	0,182	5,401	0,000	1,82					
ROE	0,538	0,514	21,972	0,000	1,82	(Constant)	0,192	,704	-2,580	0,002
						LD	-0,04	0,549	-0,291	0,000
						SD	0,277	0,000	-0,319	0,000
						EQ	,070	0,099	-0,22	0,000
						AC	0,035	0,46	0,059	0,178
						SIZE	-0,017	0,435	0,001	0,961
						GROW	0,003	0,23	-0,001	0,506

Pearson Correlation						
	LD	SD	EQ	AC	SIZE	GROW
ROA	-.261**	.409**	.022	.067	-.030	.123
sig.2	.004	.000	.809	.470	.747	.181
ROE	.183*	.450**	.018	.102	.016	-.049
sig 2	.045	.000	.842	.267	.865	.597

(Source: SPSS Output)

The table above indicates that independent variables can explain the variable ROA by 18,2% and ROE by 51.4%. From all the values of coefficient of determination, it can be concluded that the best model is ROE which describes the long term debt, short term debt, equity ratio and agency cost influences on the use of ROE. The F value of 5% significant level was since F calculated is greater than the F critical (value = 21.97 of ROE), shows that long term debt, short term debt, equity ratio, and agency cost simultaneously influence return on equity more than the return on assets. From table 7 can get the new regression models as follows :

$$ROA = .192 -.040LD + .277SD + .070EQ + .035AC - .020SIZE + .003GROW + e \quad (1)$$

$$ROE = -2.580 -.291LD - .319SD - .022EQ + .059AC + .001SIZE - .001GROW + e \quad (2)$$

Furthermore, the LD has a significant negative effect on return on assets at a 1% confidence level and a significant positive correlation on return on equity at a 5% confidence level. At the same time, the SD had a positive significant influence on both return on assets and return on equity at a 1% confidence level. The EQ and agency costs have positive effects on return on assets and return on equity but are not significant. The firm size has a negative insignificant effect on return on assets while a positive insignificant on return on equity. Furthermore, sales growth has a positive impact on return on assets and an insignificant negative influence on return on equity, but both are minor effects.

#### 4.4. Discussion

The long-term debt has a negative influence on the ROA at a 1% confidence level and a positive effect on the ROE at a significant level of 5%, which means that an increase in the long-term debt will tend to decrease the ROA the firms and increase the ROE. The long-term debt tends to increase total assets of buying assets action, decreasing ROA. This is following the research conducted by Addae et al. (2013) and Muchugia (2013), Tifow and Savilir (2015), Nini, D. P (2020) but differ from Badar and Saeed (2013). Further, an increase in the long-term debt tends to reduce the equity, improving ROE. Besides that, the Indonesian tax regulation cap also influences the firm tax shield benefit as it is the same as research results by Antwi, Mills, and Zhao (2012), Badar and Saeed (2013). Therefore, H1a is **accepted**, and H1b is **rejected**.

The short-term debt had a positive significant influence on ROA and ROE at a 1% confidence level. This indicates that the increment of short-term debt would increase

profitability. The low interest will improve the company's growth and profitability. This implies that financing deficit influences the use of debt on the long term and total debt. This is in line with Addae et al. (2013), Mwangi et al. (2014) but contradict with Badar and Saeed (2013). Therefore, H2a and H2b are **accepted**.

The equity ratio has an insignificant positive on ROA and ROE. It shows that an increase of equity financing will increase by the firm's probability. Equity refinancing will pay dividends according to the board of directors' announcement. So, the company has more opportunities to increase wealth. This is following the research conducted by Foyeke et al. (2016), Chechet and Olayiwola (2014), Raude, Wesonga and Wawira (2015). Therefore, H3a and H3b are **rejected**.

The agency costs had an insignificant positive impact on ROA and ROE. The higher agency cost may tend to higher firm's profitability. As the agency cost increases, the agent's activity's control increases. So, the agent will work hard to improve profit. Sheik and Wang (2010), Chechet and Olayiwola (2014) experienced the same result. This result is not in line with Zakaria, Purhanudin, Chong, and William (2016), Hoang, L.D(2019), Yao and Wo (2014) and Irawati et al., (2018). Therefore, H4a and H4b are **rejected**.

The firm size has a negative insignificant correspond on return on assets. The higher the log of annual sales leads to a lower return on assets. The sales will reduce inventory. The same result is supported by Kartikasari and Merianti (2016). While the higher the annual sales will tend to increase return on equity but insignificant. This is due to higher firm production volume will tend to have a higher income as company size with more significant growth (Babalola, 2013). This positive impact is supported by Nireesh and Thirunavukkarasu (2014), Banafa (2016), Iqbal, Mulani, and Kabiraj (2013), Pham, (2019). Therefore, H5a and H5b are **rejected**.

The sales growth had an insignificant positive influence on return on assets and return on equity. Sales growth would increase shareholder value creation and, in turn, the company's profitability. This is supported by research conducted by Olubukunola et al. (2011), Malik and Iqbal (2012) and Akinlo (2012). But it is not in line with Pham, T. H. D. (2019) and Ansca, C.C et al. (2019). Therefore, H6a and H6b are **rejected**.

## 5. Conclusion and Recommendation

From the above detailed discussion, it can be concluded and found some of the recommendation which will enhance this study for the future researcher. The conclusion and recommendations are elaborated in the following explanation.

### 5.1. Conclusion

It can be concluded that the LQ45 firm listed in IDX use 52% equity financing than debt financing. The long-term debt had a significant negative effect on return on assets at a 1% confidence level and a significant positive correlation on return on equity at a 5% confidence level. Therefore, H1a is **accepted**, and H1b is **rejected**. While the short-term debt had a significant positive influence on both return on assets and return on equity at a 1% confidence level. Then H2a and H2b are **accepted**. The equity ratio and agency cost have positive effects on return on asset and return on equity but are insignificant. So H3a and H3b are **rejected**, then H4a and H4b are **rejected** as well. The firm size has an insignificant negative effect on return on assets while a positive insignificant on return on equity. Then, H5a and H5b are **rejected**. Furthermore, sales growth has an insignificant positive effect on return on assets and an insignificant negative influence on return on equity. Therefore, H6a and H6b are **rejected**.

### 5.2. Recommendation

Based on the result above, there are some suggestions for future researchers. First of all, the increased sample size could be increased as it is only limited to LQ45 companies. So, it will provide more sample size to get better accuracy data than currently used. Secondly, the sector-based can also be done to identify which sector will use more debt financing than equity financing. Furthermore, future researchers can compare between subsector of each industry or with other countries. Thirdly, the future researcher may also use panel data of unbalanced. This panel data should examine the companies having insufficient data. It could expand the sample size and provide better accuracy results. Lastly, it may be possible to add financial institutions as part of the sample size as they are excluded in this research.

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