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The Controlling role of Ownership on Financial Performance and Capital Structure in Indonesia

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Abstract

The aim of the study was to determine the factors of the firms' capital structure concerning their maximum firm value. The data-set of the financial statements firms of of all sector in Indonesia were used. This study the data panel multiple regression model to assess the effect of these independent and controlling variables on leverage. Some results are that profitability has positive (ROA) and negative (ROE) effect on leverage. MBV and tangibility do not affect the capital structure, and firm size negatively impacts on it. In this panel analysis, it was confirmed that the managerial and institutional ownership impact on leverage negatively and positively, respectively. By decreasing the sales growth, the debt ratio entity rises, or they have a negative relationship. Based on these findings, management and other stakeholders were suggested to concern of financial performances and ownership that influenced the capital structure in Indonesia.

Keywords: *Capital structure; Financial performance; Leverage; Ownership; Sales growth*

JEL Classifications: *G32; C53; M21*

Introduction

Large corporations play an essential role in the development of economic in some emerging markets, such as Indonesia. Every financing decisions of the firm and its subsidiaries was influenced by different factors that level of the debt ratio of corporations (Avarmaa, Hazak, & Männasoo, 2011). The growth of market capitalization and the number of shares issued is considered quite high, indicating capital demand, primarily equity, which continues to increase. This equity capital is used to support a business expansion strategy and massive capital expenditure of corporation (Artikis & Nifora, 2012; Prieto & Lee, 2019). Furthermore, Buvanendra, Sridharan, and Thiyagarajan (2017) and Santosa (2020) argue that an increase in equity demand shows an improved company performance that has been responded positively by investors.

Some theories and studies have contributed to the firm capital structure such as agency cost, trade-off, information asymmetry, and follow-the-leader. Empirical evidences have already shown that financial performance, firm-specific and macroeconomic indicators affect the financing strategy of firms choosing between debt and equity, depending on the internal conditions (Prieto & Lee, 2019; Ţaran, 2019; Dawar, 2014; Zhang & Liu, 2017). Management always considers its capital structure so that the companies it manages to remain a going concern and sustainable so that the firm's leverage tends to dynamically follow the financial performance and fluctuations in macroeconomic factors (Santosa, 2019; Prieto & Lee, 2019).

Koh, Durand, Dai, & Chang (2015) examined the strategy chosen by the company when facing long-term financial distress and the debt choice was influenced by other considerations such as asymmetric information, debt-equity interplay and corporate governance. Santosa, Tambunan, & Kumullah (2020) argue that capital structure is one important indicators that has to managed properly by management to avoid financial problems. Some evidence show that the performance of each company depends on its ability to operate its capital structure. With the widening scope of the source of capital, a combination of appropriate instruments is needed to optimize the cost of capital carefully (Sutomo et al., 2020; Jermias & Yigit, 2019).

Capital structure correlates ownership, both managerial and institutional, which functions more like corporate governance and controlling tool in making corporate debt policy (Santosa et al., 2020). Kyriazopoulos (2017) and Buvanendra et al. (2017) argue that the role of corporate governance especially ownership structures and audit quality in determining the capital structure of the Greek and Indian listed firms. In particular, the empirical results reveal a significant correlation of ownership structure and board size on debt ratio levels, which is weakened during the financial distress period (Hoang & Phung, 2019). In contrast, the presence of foreign ownership provides the appropriate assurance to add more debt. Finally, growth opportunities that proxied by sales growth and profitability are the two firm-specific variables which effect was effcet negatively during the leverage-constraint period (Kyriazopoulos, 2017; Peng Chow, 2019).

This study purposes to fill the research gap related to corporate leverage which is still an exciting topic of discussion in corporate finance and corporate governance topics. Because of this, this study has tried to use leverage with a relatively new proxy, namely debt-to-assets ratio. Several independent variables and controlling variables are used to get new findings.

Literature Review

The firm's capital structure is a specific ratio of long-term debt and equity that the management uses to finance its investments and business expansion. The choice of optimal capital sources that may come from within and from external of the company affects the cost of capital (Hamouri, Al-Rdaydeh, & Ghazalat, 2018; Ţaran, 2019). Arsov & Naumoski (2016) and Khalid (2010) state that a company's capital decision depends on the category of the company or industry. Internal capital can come from retained earnings, depreciation or paid-in capital while external capital can come from creditors, which is debt of the firm (Buvanendra et al., 2017).

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Factors that effect capital structure both in the form of external factors and company internal factors, including mentioning that asset growth, profitability, asset structure are factors that effect capital structure. Empirically, firm size, dividends, and business risk do affect the leverage of manufacturing companies on the Indonesia Stock Exchange (Santosa, 2019). Five internal variables that may effect are firm size, company growth, profitability, and ownership structure while the asset structure has no significant effect on the debt ratio (Warsiman & Kurnia, 2014; Yang, Albaity, & Hassan, 2015). Santosa (2019) and El-Sayed Ebaid (2009) stated that the variables of business risk, sales growth, managerial share ownership, institutional ownership, and size of firm had a positive effect on the debt ratio of Indonesian manufacturing companies.

The Modigliani & Miller (1958) original model limits and implies no adjustments to the target of capital structure. Furhermore, Modigliani & Miller (1963) then expanded their model to include firm income, taxation, which shows that debt can be a bulwark of the negative effects of income tax. Kraus & Litzenberger (1973) then added bankruptcy costs. The static trade-off model includes both tax shield and bankruptcy costs as a result of excessive debt. There is an optimal debt ratio in which the balance of bankruptcy costs and tax bastions. The company is always at its optimal leverage ratio and compensates for the rapid shocks shown by the infinite adjustment speed (Brealey, Myers, & Marcus, 2020).

Ross, Westerfield, & Jordan (2013) state that the debt to assets ratio (DAR) is the balance between debt and the firm's total assets. In this study, the definition of DAR refers to Subramanyam, (2014), which states long-term debt to the total assets of the company. This ratio is used to assess long-term debt with assets where the higher this ratio means that the long-term debt is higher than the total assets of the company. The leverage was determined by some factors such as financial performances, corporate governance (ownership structure), and business prospect. We developed model following some related-recent studies as explained in hypothesis development below (Kyriazopoulos, 2017; Antoniou, Guney, & Paudyal, 2016; Peng Chow, 2019; Jermias & Yigit, 2019).

Ross et al. (2013) and Baltacı & Ayaydın (2014) stated that corporation with higher profit (returns on investment) will use relatively smaller debt. High returns allow managers to finance their capital needs with internally generated capital. The ratio of return on equity and return on assets provides information to assess the company's operational profitability. This ratio increases the leverage because increasing profitability has the potential to increase internal capital (retained earnings) thereby reducing the need for external debt (Jermias & Yigit, 2019; Lim, 2012; Santosa, 2019). Thus the hypothesis proposed is: H1: Profitability effect on capital structure negatively (-).

Market to book value is a ratio that compares the company's market value per share with the book value per share. Investors use this ratio to analyze the company's success in providing value to shareholders (Subramanyam, 2014). A study by Santosa (2019) states that the price-to-book ratio negatively affects the capital structure, where PBV increases results in a low in debt ratio, et cetera. However, Gombala et al. (2019) state that leverage and market ratio are positively related, as long as the increase in debt ratio gives value to the company. H2: market-to-book ratio affects leverage (+/-).

Tangible assets are generally used as collateral for loans. Tangibility positively correlated with corporate debt ratios in the context of trade-off theory because of the high use of tangible assets used to obtain capital, thereby triggering high leverage (Zhang & Liu, 2017; Prieto and Lee, 2019). Tangible assets affect the sources of expenditure and describe some of the numbers of assets that can be used as collateral (Jermias & Yigit, 2019). The firms with a large portion of fixed assets will find it easier to make loans to external parties because they are considered to have better securable assets and guarantee repayment (Rani et al., 2019; Sanil et., 2018; Forte et al., 2013). H3: Tangible assets effect on capital structure positively (+).

Based on trade-off theory, big companies must loan more because businesses that are managed are more diverse with fewer possibilities for bankruptcy, while smaller companies must operate with low leverage because they are easier to deal with problems of financial difficulties and liquidation (Yang et al., 2015; Rani et al., 2019). Furthermore, innovation and competitive market changes are quickly adopted by large

companies compared to new companies and small-medium sized businesses due to the high amount of resources for significant investments (Jermias & Yigit, 2019; Muzir, 2011; Lim, 2012; Lee et al., 2013).

H4: Firm size effect on capital structure positively (+).

Managerial ownership affects the company's capital decisions. Managers will try to issue policies that encourage companies to achieve optimal profits to develop company value (Mokhova et al., 2018; Santosa, 2020). The development of companies requires new capital and new debt issue options carried out with consideration of financial risks. Some previous studies state that increasing the portion of managerial shares will reduce the debt ratio and capital requirements tend to be through retained earnings or stock issues (Erwan Morellec, 2012; Lim, 2012). H5: Managerial ownership effect on capital structure negatively (-).

Institutional ownership may reduce agency problem because it is able to control and direct managers to create debt and dividend policies that favor the interests of institutional shareholders (Kyriazopoulos, 2017; Brealey et al., 2020). This evidence means the higher the percentage of shares owned by institutional investors causes the monitoring effort to be more effective because it can control opportunistic behavior carried out by managers (Lim, 2012; Ben-Nasr et al., 2015). However, investor trust increases with increasing institutional ownership so that it has the potential to increase corporate leverage. H6: Institutional ownership effect on capital structure (+/-).

Business prospects with sales growth proxies can be used as indicators of business growth, investment opportunities, and company competitiveness in an industry (Lim, 2012; Santosa, 2019). Sales growth will affect the ability to maintain profits while also being a tool for predicting future growth and potentially increasing profitability (Arsov & Naumoski, 2016; Mokhova et al., 2018). H7: Sales growth negatively influences leverage (-).

Research and Methodology

All hypothesis of this study has been tested using two models, where profitability, market ratio, tangibility and firm size (independent variables), managerial ownership, institutional ownership (controlling) and business prospect (sales growth). The debt ratio as the capital structure was proxied by debt-to-assets ratio and model analysis conducted in two stages of panel regression.

The financial satements for firm has been retrieved from The Indonesia Capital Market Institute (TICMI) and Indonesia Stock Exchange and supplemented with qualitative data for each firm provided by the website of company. The data used in the form of secondary data derived from financial statement information on the Indonesia Stock Exchange (IDX). This study collected data on all non-financial issuers in the 2009-2017 period that were members of the Kompas-100 index. The sample size was equal to 3,744 observations of 7 independent variables each, with quarterly period.

The description variables of this analysis was presented in Table 1.below that explained the description of relationship, notation and expected signed following the hypothesis related to the dependent, independent and controlling variables of this study.

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Table 1: Description of research variables

Variables	Description of relationship	Notation	Signed
Dependent:			
Capital structure	Debt to assets ratio	DAR	
Independent:			
Profitability	Net income to equity	ROE	-
	EBITDA to total assets	ROA	-
Market ratio	Market price to book value	MBV	+/-
Tangibility	Fixed assets to total assets	TANG	+
Firm size	Natural logarithm of total assets	SIZE	+
Controlling:			
Managerial ownership	Percentage shareholdings of directors at quarter end	MO	-
Institutional ownership	Percentage shareholdings of institutions at quarter end	IO	-
Business prospect	Sales growth	SG	+

Based on previous capital structure studies (Arsov & Naumoski, 2016; Lim, 2012; Mokhova et al., 2018; Vijayakumaran & Vijayakumaran, 2019), we employ panel data multiple regressions to test the effect corporate financial performance and managerial and institutional ownership on capital structure. In particular, we regress the one leverage measure (DAR) against the aforementioned independent variables using the data panel and controlling ownership effects in two steps. The general form of model 1 and model 2 is as follows:

Model 1:

$$DAR_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 ROE + \alpha_3 MBV_{it} + \alpha_4 TANG_{it} + \alpha_5 SIZE_{it} + \varepsilon_{it} \qquad (1)$$

Model 2:

$$DAR_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROE + \beta_3 MBV_{it} + \beta_4 TANG_{it} + \beta_5 SIZE_{it} + \beta_6 MO_{it} + \beta_7 IO_{it} + \beta_8 SG_{it} + \varepsilon_{it} \quad (2)$$

Where:

DAR_{it}	: company debt to assets ratio-i in period t
ROE_{it}	: company profitability-i in period t
ROA_{it}	: company profitability-i in period t
MBV_{it}	: market to book value of company-i in period t
$TANG_{it}$	: company tangible assets i in period t
$SIZE_{it}$	: Ln Size of company-i in period t
MO_{it}	: managerial ownership of company-i in period t
IO_{it}	: institutional ownership-i in period t
SG_{it}	: company sales growth-i in period t
α_0; β_0	: intercept
α_x; β_x	: coefficient of the independent variable
ε	: disturbace/residual/error term

Analysis Results

Table 2 shows the results of descriptive analysis of the variables of corporate financial characteristics including leverage (DER and DAR), long-term debt ratio (LTDE), short-term debt ratio (STDE), profitability (ROA and ROE), market to book value (MBV), tangible assets (TANG), size (SIZE), managerial ownership (OM), institutional ownership (IO) and sales growth (SG).

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Table 2: Description of Statistics Firm Specifications

	DAR	STDE	LTDE	ROA	ROE	MBV	TANG	SIZE	KM	KI	SG
Mean	0.529	0.642	0.507	0.061	0.147	2.573	0.395	18.804	0.035	0.644	0.241
Median	0.471	0.448	0.310	0.030	0.061	1.690	0.271	17.165	0.000	0.650	0.207
Maximum	14.246	16.66	22.86	21.240	113.303	126.250	17.285	29.770	0.931	1.000	3.646
Minimum	0.001	-22.88	-26.20	-0.418	-1.182	-30.180	0.000	0.082	0.000	0.000	-0.912
Std. Dev.	2.729	0.884	1.0162	0.475	1.965	3.701	0.716	4.549	0.115	0.201	0.319
Observations	3744	3744	3744	3744	3744	3744	3744	3744	3744	3744	3744

Table 3 shows the correlation between the dependent variable (leverage/DAR) with the independent variables for corporate specifications that represent the factors of financial performance. Correlation of leverage (DAR) with profitability (ROA and ROE) shows a positive relationship, where an increase in profitability causes an increase in leverage ratio (DAR), the opposite occurs in leverage (DER). In addition to profitability that is positively correlated with leverage (DAR), managerial ownership variables (KM) also show a positive correlation (direct) with leverage (DAR).

Table 3: Spearman/Pearson Correlation Matrix (included observations: 3744)

Probability	DAR	ROA	ROE	MBV	TANG	SIZE	KM	KI	SG
DAR	1.0000								

ROA	0.7172	1.0000							
	0.0000	-----							
ROE	0.0018	0.2103	1.0000						
	0.9079	0.0000	-----						
MBV	-0.0053	0.0471	0.0166	1.0000					
	0.7426	0.0039	0.3106	-----					
TANG	-0.0033	-0.0033	-0.0035	-0.0496	1.0000				
	0.8362	0.8457	0.8364	0.0023	-----				
SIZE	-0.0318	-0.0402	-0.0235	-0.1136	-0.3094	1.0000			
	0.0517	0.0143	0.1492	0.0000	0.0000	-----			
KM	0.0046	-0.0024	-0.0107	-0.0174	0.0020	0.0793	1.0000		
	0.7775	0.8730	0.5520	0.2983	0.8950	0.0000	-----		
KI	-0.0236	-0.0295	-0.0289	0.0803	0.0822	0.0446	-0.3854	1.0000	
	0.1475	0.0712	0.0781	0.0000	0.0000	0.0060	0.0000	-----	
SG	-0.0002	0.0135	0.0055	-0.0324	-0.0259	-0.0494	-0.0209	0.0071	1.0000
	0.9914	0.4005	0.7332	0.0462	0.1215	0.0024	0.1998	0.6607	-----

Other independent variables such as market to book value (MBV), tangible assets (TANG), size (SIZE), institutional ownership (KI), and sales growth (SG) show a negative correlation with leverage (DAR) whereas profitability (ROA and ROE) and managerial ownership (KM) show a positive correlation with leverage (DAR).

The results of three-panel data analyze are the common, fixed and random effect model (CEM, FEM and REM) in the form of parameter coefficients, significance probabilities and their coefficient of determination (R^2 and R^2 adjusted) are shown in Table 4. The CEM analysis found that parameters/coefficients of ROA, ROE, MBV show a significant effect on leverage, with a significance level of 1% and obtained coefficients of determination R^2 and R^2 adjusted respectively 0.4293 and 0.4083. Furthermore, FEM analysis shows the significance of the independent variable on leverage which is slightly different from the previous CEM results. FEM analysis results found that the variable ROA, ROE, SIZE significantly influence DAR. Thus the independent variables that do not affect DAR are MBV, TANG, and SG. FEM analysis produces a coefficient of determination, R^2 of 0.4862 and R^2 adjusted: 0.4724. In general, all independent variables are significant at the α = 1% level except for SIZE, which is significant at α=10%.

Table 4: Panel Data Results of Model 1

	CEM		FEM		REM	
Variable	Coefficient	Significance	Coefficient	Significance	Coefficient	Significance
ROA	3.3458	0.0006	4.2475	0.0000	4.7658	0.0004
ROE	-0.2869	0.0002	-0.2386	0.0005	-0.2573	0.0003
MBV	-0.0302	0.0003	-0.0051	0.6644	-0.0182	0.0794*
TANG	-0.0362	0.4558	0.1262	0.1628	0.0127	0.8578
SIZE	-0.0074	0.1799	-0.0087	0.0754*	-0.0087	0.0935*
C	0.5819	0.0024	-1.9735	0.0026	0.2365	0.4992
R-squared	0.4293		0.4862		0.4428	
R-sq. adj.	0.4089		0.4724		0.4465	

Note: *significant at α=10%.

Furthermore, the random effect model (REM) analysis showed results that were almost the same as FEM with a coefficient of determination R^2 of 0.4428. ROA, ROE, MBV, SIZE and KI variables show a significant effect on DAR. Variable ROA and ROE are significant at 1% level, and MBV, SIZE and KI are significant at α = 10%. In general, the results of FEM analysis are better than CEM and REM, because they show the most significant number of variables (five variables), with a relatively better level of significance and a slightly better coefficient of determination than the other two analyzes.

Table 5 shows the results of panel Model 2 of CEM, FEM and REM in the form of parameter coefficients, significance probabilities including their coefficient of determination. The CEM analysis found that coefficients of ROA, ROE, MBV show a significant effect on leverage, with a significance level of 1% and obtained coefficients of determination R2 and R2 adjusted respectively 0.5393 and 0.5389. Furthermore, FEM analysis shows the significance of the independent variable on leverage which is slightly different from the previous CEM results. FEM analysis results found that the variable ROA, ROE, SIZE, KM and KI significantly influence DAR. Thus the independent variables that do not affect DAR are MBV, TANG, and SG. FEM analysis produces a coefficient of determination, R^2 of 0.5822 and R^2 adjusted: 0.5694. In general, all independent variables are significant at α = 1% level except for SIZE, which is significant at α = 10%.

Table 5: Panel Data Results of Model 2

Variable	CEM Coefficient	CEM Significance	FEM Coefficient	FEM Significance	REM Coefficient	REM Significance
ROA	4.3118	0.0000	4.3405	0.0000	4.3058	0.0000
ROE	-0.2162	0.0000	-0.2082	0.0000	-0.2133	0.0000
MBV	-0.0298	0.0003	-0.0055	0.5684	-0.0167	0.0631*
TANG	-0.0307	0.4952	0.1142	0.1508	0.0134	0.8218
SIZE	-0.0081	0.1589	-0.0078	0.0653*	-0.0084	0.0913*
MO	0.1285	0.6542	-1.4706	0.0385	0.3825	0.0823*
IO	0.0099	0.9524	4.4146	0.0000	0.4404	0.0932*
SG	-0.1002	0.2928	-0.1243	0.1981	-0.0947	0.3182
C	0.5609	0.0014	-1.8765	0.0020	0.2281	0.3865
R-squared	0.5393		0.5822		0.5422	
R-sq adj.	0.5389		0.5694		0.5435	

Note: *significant at $\alpha=10\%$.

Analysis of random effects shows results that are almost the same as fixed effects with a coefficient of determination R^2 of 0.5422. ROA, ROE, MBV, SIZE, MO and IO variables show significant influence on DAR. Variable ROA and ROE are significant at 1% level, and MBV, SIZE, MO and IO are significant at $\alpha = 10\%$. In general, the results of FEM analysis are better than CEM and REM, because they show the most significant number of variables (five variables), with a relatively better level of significance and a slightly better coefficient of determination than the other two analysis models. To get the best model, this study conducted a Likelihood test between CEM and FEM; Lagrange Multiplier test between CEM and REM; and Hausman test to determine better FEM or REM models.

To choose the better panel data estimation model between CEM or FEM, we run a Likelihood test for hypothesis used is:

H_0: Common effect model

Ha: Fixed effect model

Decision-making:

If the probability of Chi-square> 0.05, H_0 is accepted.

If the probability of Chi-square <0.05, H_0 is rejected.

From the Likelihood test results in Table 4.10, it is known that the probability of the Chi-square Cross-section value is 0.0000, in other word is less than 0.05, then H_0 is rejected. Based on the results of the Likelihood test that the better panel model is FEM.

Table 6: Model 2 Likelihood Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.614226	(103,3632)	0.0000
Cross-section Chi-square	365.326994	103	0.0000

In the likelihood test, the estimated estimation model is FEM, but due to significant differences in the FEM model compared to the other two models, a comparison between CEM and REM is then conducted using the Lagrange Multiplier test. This test is conducted using the Breusch-Pagan method. The hypothesis used in this test is:

H_0: Common effect model

Ha: Random effect model

Basic decision making:

If the probability of a Breusch-Pagan cross section > 0.05, H_0 is accepted.

If the probability of the Breusch-Pagan cross-section <0.05, H_0 is rejected.

The Lagrange Multiplier test results in Table 7 show that the Pagan Breusch value <0.05.

Table 7: Lagrange Multiplier Model 2 Test Results

| | Test Hypothesis | | |
	Cross-section	Time	Both
Breusch-Pagan	174.8459	0.677331	175.5233
	(0.0000)	(0.4105)	(0.0000)

The test of Lagrange Multiplier results show that the panel model estimation that REM is better than CEM (Breusch Pagan <0.05).

Because the Likelihood test shows the best panel data estimation model is FEM, then a comparison between FEM and REM using the Hausman test. The hypothesis is:

H_0: Random effect model

Ha: Fixed effect model

Basic decision making:

If the random cross-section probability > 0.05, then H_0 is accepted.

If the random cross-section probability <0.05, then H_0 is rejected.

Next, to determine the best model between FEM and REM, the Hausman test is performed, which results:

Table 8: Results of Hausman test Model 2

Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	61.687736	8	0.0000

The Hausman test results show that the Cross Section Random <0.05, which means the FEM model is better than REM. Thus the best model among the three models is FEM.

Discussion

Correlation of capital structure with profitability that is ROA and ROE shows a positive correlation which means that every increase in ROA and ROE causes increased leverage. However, the results of FEM panel data analysis found that the ROA coefficient (4.3405) and the ROE coefficient (-0.2082) were the opposite directions and both showed significant effects at the level of α = 1%. ROA shows a positive effect on DAR caused by the conformity of the ratio used by the two variables, while ROE gives a negative influence and is following the previous hypothesis.

Then the DAR correlation with MBV shows a negative relationship, thus increasing MBV causes a decrease in the debt ratio. FEM analysis results show that the MBV coefficient of -0.0055, but have no a significant effect, so the research hypothesis does not prove that the market ratio influences the DAR several previous studies support the findings of the influence of ROA and ROE on leverage, but generally presents that the influence of profitability on capital structure is negative (Arsov & Naumoski, 2016; Lim, 2012; Vijayakumaran & Vijayakumaran, 2019), however Nguyen, Bui, & Pham (2019) argue that correlation profitability and debt ratio level in Vietnam is positive.

Correlation analysis found a negative correlation between leverage and tangibility However, FEM panel data analysis resulted in a tangibility coefficient of 0.1142 and no significant effect. Thus the research hypothesis is not proven that tangible assets effect on capital structure positively. Different results obtained from FEM analysis resulted in a firm size coefficient of -0.0078 and a significant effect on the level of α = 10% which shows that the research hypothesis is proven that firm size effect on leverage negatively in long-term relationship. These findings are supported by several previous studies such as (Nguyen et al., 2019; Mokhova et al., 2018; Arsov & Naumoski, 2016; Castro et al., 2016).

Growth opportunity was proxied by market-to-book value relationship with leverage firm ratio negatively. The analysis of FEM finds that the coefficient of -0.0055 and insignificantly. This empirical evidence proved that the growth opportunity of the firm does not influence the debt ratio. However, some study results between

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PBV with leverage of the company has a positive correlation (Arsov & Naumoski, 2016; Nguyen et al., 2019; Prieto & Lee, 2019). This evidence explains why firms with crucial growth opportunities will be considered as risky and have constrained in raising debt ratio on favorable terms.

The impact of implementing controlling variables on leverage seems to vary, where managerial ownership effect negatively with a relatively large coefficient of -14,706 and is significant at α = 5%. This finding shows that increasing the percentage of managerial ownership reduced the company's debt ratio because management tends to be more concerned and cautious in using debt. Furthermore, the influence of institutional ownership on capital structure is found to be the opposite, which is positive, where each increase in the institutional ownership portion has the potential to increase corporate leverage. This evidence, due to an increase in the firm's image and trust so that investors are more confident with the company's management (Vijayakumaran & Vijayakumaran, 2019; Mokhova et al., 2018; Arsov & Naumoski, 2016).

Other controlling variables, namely sales growth, according to the hypothesis, show influence on leverage negatively, where each increase in sales growth will reduce the company's leverage. This impact is caused by the increase in sales growth that has the potential to increase the profitability of the company, thereby increasing retained earnings as internal equity capital for the company. Thus the potential to reduce the level of debt (Arsov & Naumoski, 2016; Vijayakumaran & Vijayakumaran, 2019). Kasmiati & Santosa (2019) and Brealey et al. (2020) stated that the growth of the company can trigger moral hazard effects and may direct firms to take more risk. Thus, firms with sales growth record will tend to have lower debt ratio.

Conclusion

Capital structure is an essential part of a company's long-term funding, which must be well managed to guarantee the company's operations and investments in the future. Another thing is to protect the company's finances from financial distress. The need is empirical that every firm has an appropriate debt ratio, at the beginning of its capital expenditure and investments. For this reason, an understanding of the factors that influence company leverage is needed.

In general, the correlation of leverage with profitability shows a negative correlation where an increase in profitability has the potential to reduce the level of corporate leverage caused by an increase in internal equity capital due to increased retained earnings. ROE shows a negative correlation with capital structure, however, ROA shows a positive effect on the debt to assets ratio due to the disproportionate relationship between ROE and ROA because asset management needs improvement.

Tangibility and firm size show a positive affect on capital structure which shows that the intensive use of debt for corporate investment is selective and appropriate for short-term operations. A company whose assets are managed more efficiently will need more proportional funding to be more competitive and highly competitive, thereby increasing the trust of bond-holders and bankers.

The study finds and suggests that there is a statistically significant correlation between controlling variables such as ownership and sales growth using incentives in debt financing increase investments. Furthermore, we detect a statistically significant effect of managerial ownership and institutional ownership on negative leverage. Likewise, this study observes a significant linkage between sales growth and debt ratio.

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