The Effect of Corporate Characteristics on Capital Structure in Indonesia

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ABSTRACT

This study aims to determine the effect of corporate characteristics on the company's capital structure, which plays a fundamental role in the proportion of debt and equity financing risks. The research method used is purposive sampling. This research's population is non-financial issuers listed on the Indonesia Stock Exchange with quarterly data for the period of 2010-2017. The analysis is performed using panel data with six independent variables and two control variables. The results of this study indicate that profitability and institutional ownership have a negative effect on capital structure. In contrast, market ratios, firm size, and managerial ownership have a positive effect on capital structure. Debt decision making must consider financial and ownership characteristics, especially if there is institutional or government ownership in the company because company characteristics have a significant effect on the company's capital structure.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh karakteristik perusahaan terhadap struktur modal perusahaan yang memainkan peranan fundamental terkait dengan proporsi risiko pendanaan utang dan ekuitas. Metode penelitian yang digunakan dalam penelitian ini adalah purposive sampling dengan populasi emiten non-keuangan di Bursa Efek Indonesia dengan data triwulanan periode 2010-2017. Analisis menggunakan data panel dengan enam variabel independen dan dua variabel kontrol. Kesimpulan dari penelitian ini menunjukkan bahwa profitabilitas dan kepemilikan institusional berefek negatif terhadap struktur modal, sedangkan rasio pasar, ukuran perusahaan, dan kepemilikan manajerial berkorelasi positif dengan struktur modal. Implikasi: pengambilan keputusan utang perlu mempertimbangan karakteristik finansiall dan kepemilikan, terlebih jika terdapat kepemilikan institusi atau pemerintah, karena karakteristik perusahaan berpengaruh secara signifikan terhadap struktur modal perusahaan.

1. INTRODUCTION

The rapid development of the Indonesian economy has placed higher pressure on the capital structure of Indonesian companies than it has on US-Western companies. Higher rise in the economy forces Indonesian companies to raise capital at the new rate needed to support sales growth in a growing economy.

The growth in market capitalization of 22.4 percent and an increase in the number of shares of 11.4 percent, which was quite high from 2010 to 2017, indicate increasingly high capital market dynamics. This shows that the demand for capital,

especially equity, continues to increase (Indonesia Stock Exchange, 2018). This equity is used to support business expansion strategies, massive capital expenditures, and leverage restructuring (Ross, Westerfield, & Jordan, 2013; Tan & Yang, 2016). Furthermore, according to Prieto & Lee (2019), an increase in demand for equity shows better company performance and has been responded positively by investors.

The company's capital structure is a particular mixture of long-term debt and equity that the company uses to finance its operations. The choice of optimal capital that comes from internal and

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external affects the company's leverage (Rani, Yadav, & Tripathy, 2019; Rehman, 2016). Gombola, Liu, & Chou (2019) and Khalid (2010) state that the company's capital decision depends on the category of company or industry. Internal capital comes from retained earnings, depreciation, or paid-up capital, while external capital comes from creditors in the form of debt.

Management needs to consider the capital structure so that the company continues to run and be sustainable. The company's leverage also tends to dynamically follow its performance and fluctuations in macro-economic factors (Sutrisno & Wendy, 2020; Prieto & Lee, 2019; Kasmiati & Santosa, 2019). One of the capital structure proxies is the debt to equity ratio (DER), which is used to determine each rupiah of its capital pledged as collateral. These ratios indicate the financial feasibility and risk of a company where the higher the DER, the lower its ability to get profits due to the higher interest expense (Santosa, 2019). Corporate financing decisions are influenced by the macro-economic cycle, especially those directly related to interest rate (Prieto & Lee, 2019; Koh, Durand, Dai, & Chang, 2015) and corporate sector (Koh et al., 2015).

The use of debt and equity requires capital costs, so companies must determine the type of capital and its proportion to optimize the value of the company and minimize capital costs through the capital structure policy (Prieto & Lee, 2019; Zani, Leites, Macagnan, & Portal, 2014). Since MM's theory offers classical capital structure theory, several methods and hypotheses contribute to the concept of capital structure, such as agency costs, trade-offs, asymmetric information, and speed of adjustment, to measure the dynamics of leverage (Nguyen, Bui, & Pham, 2019).

The empirical hypothesis shows that financial performance and macroeconomic factors influence companies in determining the proportion between debt and equity, depending on the dynamics of the company's internal and external conditions (Prieto and Lee, 2019; (Sutomo, Wahyudi, Pangestuti, & Muharam, 2020).

Corporate ownership may provide additional external financing support to the affiliates and expose them to more favorable financing conditions, especially if the owners are institutional or foreign entities (Vijayakumaran & Vijayakumaran, 2019; Avarmaa, Hazak, & Männasoo, 2011). The effect of ownership on financing strategies of investee firms is driven by shareholders' monitoring and involvement in the firms' activities (Țaran, 2019).

This study analyzes the effect of corporate

characteristics on the capital structure of the companies listed on the Indonesia Stock Exchange using quantitative methods. By using quantitative methods, this study explores in-depth information about the influence of profitability, tangibility, financial characteristics, and institutional and managerial ownership, like corporate governance, and business prospects on the capital structure of the companies listed on the Indonesia Stock Exchange. This research has a novelty that focuses on the company's internal factors by combining financial characteristics and corporate governance in terms of managerial and institutional ownership associated with business prospects.

2. THEORETICAL FRAMEWORK AND HY-POTHESES

Management policies related to the capital structure are influenced by corporate specifications or characteristics (internal factors). Some capital structure theories include market timing theory, pecking order theory, MM theory, signaling theory, trade-off theory, pecking order theory, agency theory, free cash flow theory and adjustment-speed leverage (Xuan Anh, Tuan, & Phuong, 2018) and (Cheng & Tzeng, 2011). Horne & Wachowicz (2013) explain the critical role of leverage in valuation, the effects of capital structure, or the optimal capital structure ratio. Consequently, some previous empirical studies have analyzed the implementation of these theories, especially in an emerging market, like Indonesia. However, the theoretical and empirical evidence is inconclusive, with variations related to the analyzed institutional and economic contexts (Ross et al., 2013; Balios, Daskalakis, Eriotis, & Vasiliou, 2016; Ardalan, 2017).

Internal factor, such as firm size, is positively related to leverage ratios. The firm size in the form of total assets is also used in the research by Xuan Anh et al. (2018) and Santosa (2010). The asset structure also shows the ratio of fixed assets to total assets and influences capital structure. Profitability and market ratio have an influence on capital structure in a negative direction. The company's internal factors related to growth, such as sales growth, also have a significant effect on a negative trend on the company's capital structure. Retained earnings will reduce the company's debt levels (Rani et al., 2019; Țaran, 2019; Suhendra, 2014).

Relationship between Profitability and Capital Structure

Based on the theoretical background, the researchers put forward several hypotheses to assess the effect

of corporate characteristics on capital structure. Profitable companies tend to use more debt, take advantage of the tax shield, and reduce the risk of bankruptcy. Increased profitability is positively related to leverage, which means that the more profitable it is, the more debt is used in manufacturing companies. However, the results of research conducted by Prieto & Lee (2019) show that profitability is statistically significant and negatively correlated with leverage in Pakistani textile companies. Lim (2012) and Vo (2017) conclude that there is a negative relationship between profitability and short-term leverage and between profitability and short-term and long-term debt ratios in Vietnamese companies. Research conducted by Gombola et al. (2019) shows that corporate leverage after IPO has a negative and significant effect on profitability.

Based on the description above, the first hypothesis is formulated as follows:

 \mathbf{H}_{1a} : Profitability (ROA) has a negative effect on capital structure

H_{1b}: Profitability (ROE) has a negative effect on capital structure

Relationship between Market Ratio and Capital Structure

Previous studies show that market ratio, which is proxied by the price to book, has a significant influence on corporate debt. There are two explanations: (1) the firm value is based on profitability; (2) a decrease in external capital harms leverage (Albart, Sinaga, Santosa, & Andati, 2020). The results of research conducted by Albart et al. (2020) indicate that price to book as a proxy for the firms' future growth hurts leverage. According to Gombla et al. (2019), price to book shows coefficients related to those found in US companies. As in the case of US and Chinese firms, price to book value has a significant and negative effect on capital structure.

Based on the description above, the second hypothesis is formulated as follows:

H₂: Price to book has a negative effect on capital structure

Relationship between Tangibility and Capital Structure

Tangibility affects the sources of expenditure and describes some of the amounts of assets used as collateral. Companies with a large portion of tangible assets will find it easier to make loans to external parties because they are considered to have better securable assets and guarantee repayment (Prieto and Lee, 2019). Furthermore, according to Vo (2017), who conducted a study of capital structure in Vietnam, tangible assets have a positive and negative effect on leverage depending on the company's debt terms. Prieto & Lee (2019), and Arsov & Naumoski (2016), who conducted a similar study in Balkan countries, found a significant negative relationship between tangible assets and debt ratio. Gombola et al. (2019), who examined the dynamics of capital structure in companies doing an IPO in China, found a negative relationship between leverage and tangibility, but GMM analysis found a positive correlation.

Based on the description above, the third hypothesis is formulated as follows:

H₃: Tangibility has a positive effect on capital structure

Relationship of Firm size and Capital Structure

Based on the trade-off theory, large companies must borrow more because the businesses managed will be more diverse, and the possibility of bankruptcy will be less. In contrast, smaller companies must operate with low leverage because they are easier to face financial difficulties and are liquidated (Gharaibeh & AL-Tahat, 2020). Furthermore, innovation and competitive market changes are quickly adopted by large companies compared to new companies and small and medium-sized businesses due to the high amount of resources for investments significant (Brav, 2009). companies have low agency costs for debt caused by low monitoring costs. Stable cash flow and easy access to the capital market create a positive relationship between size and leverage (Albart et al., 2020; Psillaki & Daskalakis, 2009). These findings are supported by Vo (2017) that firm size is positively correlated with leverage in Pakistan and Vietnam.

Based on the description above, the fourth hypothesis is formulated as follows:

H₄: Firm size has a positive effect on capital structure

Relationship between Managerial Ownership and Capital Structure

Managerial ownership influences capital decisions. Managers who have shares in a company will try to issue policies that will encourage them to develop and achieve high profits (Khafid, Prihatni, & Safitri, 2020). To develop a company requires new capital, debt, and equity. Another benefit that arises is the

reduction in agency problems because it is in line with the company's objectives, namely maximizing shareholder prosperity. So managers tend to act in harmony with other shareholders (Țaran, 2019; Mota & Moreira, 2017;). Besides, managers will directly feel the benefits and disadvantages of decisions taken.

Based on the description above, the fifth hypothesis is formulated as follows:

H₅: Managerial Ownership has a positive effect on capital structure.

Relationship of Institutional Ownership and Capital Structure

Institutional ownership can reduce agency conflict because it can control and direct managers to create debt and dividend policies that favor institutional shareholders (Brigham and Houston, 2016). This means that the higher the percentage of shares owned by institutional investors, the more effective the monitoring effort will be because it can control opportunistic behavior carried out by managers (Khafid et al., 2020; Albart et al., 2020). Adequate supervision will help creditors trust the company to provide loans and repay the obligations. Institutional shareholders prefer a high level of debt because it will reduce corporate taxes. Strong institutional ownership will control management policies over the company's cash flow and prevent managers from using capital less efficiently (Țaran, 2019). Even though the risk of bankruptcy is high, institutional shareholders will make verified investments to manage it. As a result, companies with high institutional ownership will have a high proportion of liabilities (El-Sayed Ebaid, 2009).

Based on the description above, the sixth hypothesis is formulated as follows:

H₆: Institutional ownership has a negative effect on capital structure

Relationship between Business Prospect and Capital Structure

Sales growth reflects business success and increases investment opportunities, demand indicators, and company competitiveness in industrial sector companies. Sales growth affects the ability to maintain profits, and at the same time, it serves as a tool for predicting future growth (Ross et al., 2013). Based on the results of research conducted by Chang, Fu-Min (2014), growth opportunity has a positive relationship with the debt ratio because sales growth has the potential to increase retained

earnings. Vo (2017) and Prieto and Lee (2019) concluded that sales growth has a positive relationship with growth opportunities and short-term and long-term debt of the company. The bigger the company's business, the more capital it needs.

Based on the description above, the seventh hypothesis is formulated as follows:

H₇: Sales growth has a positive effect on capital structure.

3. RESEARCH METHOD Sample

The data used in this study are obtained from the financial statements of non-financial issuers listed on the Indonesia Stock Exchange from 2010 to 2017. The sample is selected using a purposive sampling technique with criteria based on the KOMPAS100 Index issued by the Indonesia Stock Exchange on August 10, 2017.

The dependent variable is capital structure proxied by debt to equity ratio, while the independent variables are profitability, market ratio, tangibility, size, managerial ownership, institutional ownership, and business prospects. Profitability includes return on assets (ROA) and return on equity (ROE). Market ratio includes price to book value (PBV), tangibility includes fixed assets to total assets, and firm size includes total assets. The controlling variable is corporate governance that includes managerial ownership and institutional ownership. Moreover, business prospects include sales growth. The description of the variables is presented in Table 1.

Panel Data Analysis

According to Gujarati and Porter (2009), panel data is collected in a cross-section and followed at a particular time (time series). Cross-section data is data collected at one time from many people. However, time-series data is data that is collected from time to time from an individual. The panel data analysis technique is used to determine the effect of independent variables on stock's return using panel data estimation with panel data analysis models.

There are two steps in choosing an estimation method in panel data. The first step is to compare the pooling least square method using OLS or the Common Effect Method (CEM) with the Fixed Effect Model (FEM) using the Chow-test or Likelihood ratio test. If the test results show the best OLS model, then the OLS or CEM will be compared with the Random Effect Model using the Lagrange Multiplier (LM) test. However, suppose the Fixed Effect Model

(FEM) is better than CEM. In that case, the random effect method uses the Hausman test to determine

which regression model will be used as the best model (Gujarati and Porter 2009).

Table 1. Variable Description

Name of Variable	Notation	Measurement	Expected Signed
Capital Structure/leverage	DER	Total debt/equity	
Profitability/Return on Assets	ROA	EBITDA/total assets	-
Profitability / Return on Equity	ROE	Net profit /equity	-
Market ratio	PBV	Price/book value	-
Tangibility	TANG	Fixed assets/total assets	+
Firm Size	SIZE	Ln Total assets	+
Managerial ownership	MO	Directors share/Company share	+
Institutional ownership	IO	Institutional share/Company share	; -
Business prospects	SG	Sales growth	+

Panel Data Analysis Design

The data analysis technique is used to determine the effect of company characteristics on the company's capital structure, which is done using panel data estimation with econometric analysis models. Models estimated based on previous studies can be presented as follows (Forte, Barros, & Nakamura, 2013; Abdur Rouf, 2015; Vo, 2017):

$$\begin{aligned} DER_{it} &= \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 ROE_{it} + \alpha_3 PBV_{it} \\ &+ \alpha_4 TANG_{it} + \alpha_5 SIZE_{it} + \alpha_6 MO_{it} \\ &+ \alpha_7 IO_{it} + \alpha_8 SG_{it} + e_{it} \end{aligned}$$

Where,

DER_{it} : debt to equity ratio of a company i at

time t

 ROA_{it} : profitability of a company i at time t ROE_{it} : profitability of a company i at time t PBV_{it} : price to book of a company i at time t

TANG_{it}: tangibility of a company i at time t SIZE_{it}: log natural of a firm size i at time t

 MO_{it} : managerial ownership of a company i

at time t

 IO_{it} : institutional ownership of a company

i at time t

: error term

 SG_{it} : sales growth of a company i at time t

 $\begin{array}{lll} \alpha_0 & : constants \\ \alpha_1 \dots \alpha_8 : parameters \\ i & : company \\ t & : period \end{array}$

4. DATA ANALYSIS AND DISCUSSION Descriptive statistics

The descriptive statistics of the sample are presented in Table 2. The total observations are 4140. The average DER is 1.358, and the mean values of the independent variables ROA, ROE, PBV, TANG, and SIZE are 0.058, 0.136, 2.592, 0.414, and 18.668 respectively, while the mean values of managerial ownership, institutional ownership, and business prospects are 0.035, 0.646, and 0.281. Moreover, standard deviations indicate an excellent distribution.

Correlation Analysis

Correlation coefficient analysis between research variables shows the types of direction (direct or reverse) and the intensity of the relationship. The correlation coefficient can be positive or negative, with a value between -1 and +1. Table 3 shows the results of the correlation between the dependent variable (leverage) and the independent variables (company characteristics) that represent factors of the internal financial performance of the company. Leverage (DER) has a negative relationship with profitability (ROA and ROE), whereby an increase in profitability causes a decrease in the DER ratio. In addition to profitability, which has a negative correlation with leverage, other variables such as tangibility, firm size, managerial, and institutional ownership also have a negative relationship (reverse) with leverage.

Other independent variables, such as market ratio (PBV) and business prospects (SG), positively correlated with leverage. The increase in PBV and SG is responded positively by leverage.

Panel Data Results

Table 4 shows the results of three-panel data analysis, namely common effect model (CEM), fixed

effect model (FEM), and random effect model (REM) in the form of parameter coefficients, significance probabilities, and coefficient of determination (R²).

Table 2. Descriptive Statistics

	DER	ROA	ROE	PBV	TANG	SIZE	MO	Ю	SG
Mean	1.3581	0.0584	0.1360	2.5924	0.4141	18.6682	0.0345	0.6458	0.2813
Median	0.8960	0.0300	0.0590	1.6700	0.2800	17.1205	0.0000	0.6500	0.3280
Maximum	55.163	21.2200	111.303	116.2508	65.5100	30.3400	1.0000	1.0000	8.2990
Minimum	-49.080	-3.5830	-14.5800	-49.5000	0.0000	0.0820	0.0000	0.0000	-1.0000
Std. Dev.	2.6349	0.51138	2.1009	4.3046	1.2495	4.7513	0.1115	0.2025	0.4857
Skewness	3.4678	34.4996	40.3773	7.5856	36.2583	0.1571	5.7413	-0.5535	0.9605
Observation	s 4140	4140	4140	4140	4140	4140	4140	4140	4140

Table 3. Spearman/Pearson Correlation Matrix of Model Variables

Correlation Variables									
Probability	DER	ROA	ROE	PBV	TANG	SIZE	MO	Ю	SG
DER	1.0000								
Prob.									
ROA	-0.0132	1.0000							
Prob.	0.4184								
ROE	-0.0235	0.2103	1.0000						
Prob.	0.1489	0.0000							
PBV	0.3257	0.0471	0.0165	1.0000					
Prob.	0.0000	0.0039	0.3106						
TANG	-0.0460	-0.0031	-0.0033	-0.0497	1.0000				
Prob.	0.0049	0.8457	0.8364	0.0023					
SIZE	-0.0189	-0.0400	-0.0235	-0.1130	-0.3097	1.0000			
Prob.	0.2462	0.0143	0.1492	0.0000	0.0000				
МО	-0.0473	-0.0026	-0.0101	-0.0170	0.0020	0.0794	1.0000		
Prob.	0.0037	0.8730	0.5340	0.2983	0.8900	0.0000			
IO	-0.0528	-0.0294	-0.0287	0.0809	0.0822	0.0448	-0.3852	1.0000	
Prob.	0.0012	0.0712	0.0781	0.0000	0.0000	0.0060	0.0000		
SG	0.0036	0.0137	0.0055	-0.0325	-0.0259	-0.0495	-0.0209	0.0071	1.0000
Prob.	0.8219	0.4005	0.7332	0.0462	0.1215	0.0024	0.1998	0.6607	

Table 4. Panel Data Results: CEM, FEM, and REM

	CEM		FEM		REM	
Variable	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
ROA	-0.0611	0.4289	-0.0515	0.4071	-0.0396	0.5226
ROE	-0.0851	0.0000	-0.0630	0.0000	-0.0661	0.0000
PBV	0.1688	0.0000	0.2159	0.0000	0.2105	0.0000
TANG	-0.0147	0.6405	-0.0025	0.9267	-0.0052	0.8519
Ln SIZE	0.0236	0.0050	0.0689	0.0001	0.0577	0.0002
MO	2.6455	0.0000	10.910	0.0000	4.6020	0.0000
IO	-1.8117	0.0000	-0.7047	0.0206	-0.4704	0.0301
SG	0.0994	0.2149	0.0280	0.6630	0.0376	0.5580
С	1.7312	0.0000	-0.5743	0.2465	0.1931	0.6634
R-squared	0.1003		0.4428		0.1476	

The CEM analysis results show that the parameters/ coefficients of ROA, ROE, PBV, Size, MO, and IO have a significant effect on leverage, with a significance level of 1%, 5%, and 10%. Based on the analysis of the CEM model, it is found the coefficients of determination R^2 of 0.1003. Furthermore, the FEM analysis results show that the independent variables significantly affect leverage, which is slightly different from the previous CEM results. In FEM, it is found that the effect of ROA, TANG, and SG on leverage is not significant. Thus the independent variables that affect DER are ROE, PBV, SIZE, MO, and IO, with a coefficient of determination, R^2 of 0.4428. In general, all independent variables are significant at the levels of α =1% and α = 5%.

Moreover, the random effect model (REM) analysis shows the same results as FEM with the coefficient of determination R² of 0.1476. In general, CEM is better than FEM and REM, because it shows the most significant variables (six variables), but with a relatively weak level of significance. The coefficient

of determination of FEM is considered the best compared to CEM and REM.

Lagrange Multiplier (LM) testing between CEM and REM, Chow testing between CEM and FEM, and Hausman testing to determine better FEM or REM models are carried out to find the best model of the three results above.

Likelihood Test

To choose the panel data estimation model between CEM and FEM, a Likelihood-test is performed using hypotheses:

Ho: Common Effect Model Ha: Fixed Effect Model

Decision-making:

If the probability value of Chi-square > 0.05, H₀ is accepted.

If the probability value of Chi-square < 0.05, H₀ is rejected.

Table 5. Likelihood Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	20.328547	(103,3632)	0.0000
Cross-section Chi-square	1704.290739	103	0.0000

The results of the Likelihood-test in Table 5 show that the probability value of the Chi-square is 0.0000. Because the probability value of Chi-square is smaller than 0.05, then H_0 is rejected. It can be concluded that based on the results of the Likelihood-test, the best panel data estimation model is FEM. Chow test is

conducted to test a better panel model between FEM and CEM. The results show that FEM is better than CEM (Cross Section Chi-Square < 0.05).

Lagrange Multiplier (LM) Test

In the LM test, the estimated model is FEM, but because there are significant differences in the FEM model compared to the other 2 (two) models, a comparison between CEM and REM is then performed using the Lagrange Multiplier test. This test is carried out using the Breusch-Pagan method. The hypotheses used in this test are:

Ho: Common Effect Model Ha: Random Effect Model

Basic decision making:

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

If the probability value of the Breusch-Pagan cross-section < 0.05, H₀ is rejected.

Table 6 presents the LM test results, which show that the value of Breusch-Pagan < 0.05.

Table 6. Lagrange Multiplier Test Result

	Test Hypothesis			
	Cross-section	Time	Both	
Breusch-Pagan	7437.290 (0.0000)	1.735634 (0.1877)	7439.026 (0.0000)	

LM test results indicate that REM is better than CEM (Breusch Pagan <0.05).

Hausman Test

Because the Likelihood-test test shows that the best panel data estimation model is FEM, a comparison is made between FEM and REM using the Hausman test. The hypotheses used in this test are:

Ho: Random Effect Model Ha: Fixed Effect Model Basic decision making:

If the probability value of random cross-section > 0.05, H₀ is accepted.

If the probability value of random cross-section < 0.05, H₀ is rejected.

Furthermore, the Hausman test is performed to determine the best model between FEM and REM.

Tabel 7. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	34.0669	8	0.0000

Hausman test results show that Cross Section Random < 0.05 means that FEM is better than REM. Thus the best model among the three models is the Fixed Effect Model (FEM).

Discussion

Profitability, which is proxied by ROE, has a significant adverse effect on capital structure. This finding is consistent with the conclusion of Prieto & Lee (2019), Gombola et al. (2019), and Vo (2017), who conducted leverage research in Korea, China, and Vietnam. Thus, the higher the firm's profitability, the smaller the need for funding through debt due to increased potential for retained earnings as internal funding (Albart et al., 2020). The panel regression estimates shown in Table 4 are based on the hypothesis that profitability with sales volatility affects the capital structure, primarily in the short term (Gombala, 2019).

PBV, which is proxied by market ratio, has a positive and significant effect on the debt ratio. This

finding is also confirmed by Gombola et al. (2019) and Onaolapo & Kajola (2010). The increased market ratios will increase creditor confidence in corporate debt securities, thereby encouraging creditors and investors to offer new loans and bonds to finance their business in the economic growth for the long-term (Albart et al., 2020).

Firm size also plays an essential role in capital structure and shows consistent results with the hypothesis: Firm size has a significant effect on corporate leverage. This finding is supported by Kasmiati & Santosa (2019) and Santosa (2020), who concluded that the larger the firm size, the more diversified the business and the higher the guarantee so that the default risk is low. According to Vo (2017) and Santosa, Tambunan, & Kumullah (2020), large companies have greater access to external funding through banks and capital markets.

Other findings related to controlling variables are consistent with the hypothesis. Corporate governance, which is proxied by managerial

ownership and institutional ownership, significantly affects the debt ratio. Both of these variables indicate that governance, in case of ownership, affects the company's leverage. These findings are supported by the results of research conducted by Forte, Barros, & Nakamura (2013) and Abdur Rouf (2015). Increased managerial ownership makes creditors trust more in the credibility and commitment of management so that access to funding will also increase. So, managerial ownership has a positive influence. An increase in institutional ownership can also increase investor commitment to corporate equity funding and increase the amount of new equity in the capital market, thereby reducing leverage (Albart et al., 2020; Khafid et al., 2020).

However, the analysis results of the ROA variable as a proxy for profitability, tangibility, and business prospects are not consistent with the hypothesis. ROA has an insignificant correlation with corporate structure because the value of EBITDA as a proxy for operational profit has not been burdened by a financial bearing so that it has not yet shown earnings that could potentially influence leverage (Kasmiati & Santosa, 2019; Prieto & Lee, 2019). Besides, tangibility and business prospects have not demonstrated a significant influence on the capital structure. (Kim, 2019; Peng Chow, 2019).

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Based on the findings and discussion, it can be concluded that several important factors, such as the company's capital structure (leverage), are influenced by several internal variables that become the company's specifications. The dynamics of the issuer's capital structure on the Stock Exchange are influenced by profitability (ROE), market ratio, firm size, and corporate governance using a proxy of managerial and institutional ownership. However, this study finds three variables that do not affect the capital structure, such as profitability (ROA), tangibility, and sales growth as the proxy for business prospects.

Profitability (ROE) has a negative effect on capital structure. This means that an increase in company profit decreases the debt ratio due to increased potential for retained earnings as internal equity. Whereas market ratio and size have a significant positive effect on the capital structure because an increase in the two variables increases investor confidence in management, thereby expanding access to better bond funding in the capital market.

The results of this study also show that three

internal variables have no direct effect on capital structure, namely, profitability (ROA), tangibility, and business prospects. These three variables are based on operating income, fixed assets, and sales, which cannot directly influence leverage.

The Indonesian capital market is expected to be a consideration to encourage the growth of company value and policies that can support the growth of the capital market, as well as an insight for investors when doing investment analysis that can generate profits from the project carried out compared to the burden borne from the use of debt.

This research is expected to guide investors, managers, and creditors to understand the effect of corporate characteristics on capital structure. Besides, managers can apply an appropriate strategy to increase company value. Future research is recommended to examine further the factors that can affect the capital structure by including the speed of adjustment. However, firms that are heavily owned by institutions such as government, the government plays an essential role in debt policies. Investors should pay particular attention to the part of the SOE and its subsidiaries. There are some limitations to this study. This study only uses a limited period of data and limited corporate characteristics as variables. Therefore, it is recommended that the next researchers broaden the variables by using other organizational attributes to make the results more comprehensive.

REFERENCES

Abdur Rouf, M. (2015). Capital Structure and Firm Performance of Listed Non-Financial Companies in Bangladesh. *The International Journal of Applied Economics and Finance*, 9(1), 25–32.

Albart, N., Sinaga, B., Santosa, P. W., & Andati, T. (2020). The Controlling role of Ownership on Financial Performance and Capital Structure in Indonesia. *International Journal of Finance & Banking Studies*, 9(3), 15–20.

Ardalan, K. (2017). Capital structure theory: Reconsidered. *Research in International Business and Finance*, *39*, 696–710.

Arsov, S., & Naumoski, A. (2016). Determinants of capital structure: An empirical study of companies from selected post-transition economies. *Journal of Economics and Business*, 34(1), 119–146.

Avarmaa, M., Hazak, A., & Männasoo, K. (2011). Capital structure formation in multinational and local companies in the Baltic States. *Baltic Journal of Economics*, 11(1), 125–145.

- Balios, D., Daskalakis, N., Eriotis, N., & Vasiliou, D. (2016). SMEs capital structure determinants during severe economic crisis: The case of Greece. *Cogent Economics & Finance*, 4(1).
- Benton, D. (2002). Financial Management Financial Management (13th Ed., Vol. 16). New York: McGraw-Hill/Irwin.
- Brav, O. (2009). Access to Capital, Capital Structure, and the Funding of the Firm. *The Journal of Finance*, 64(1), 263–308.
- Chang, F.-M., Wang, Y., Lee, N. R., & La, D. T. (2014). Capital Structure Decisions and Firm Performance of Vietnamese Soes. *Asian Economic and Financial Review*, 4(11), 1545–1563.
- Cheng, M.-C., & Tzeng, Z.-C. (2011). The effect of leverage on firm value and how the firm financial quality influence on this effect. *World Journal of Management*, 3(2), 30–53.
- El-Sayed Ebaid, I. (2009). The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *Journal of Risk Finance*, 10(5), 477–487.
- Forte, D., Barros, L. A., & Nakamura, W. T. (2013). Determinants of the capital structure of small and medium-sized Brazilian enterprises. *Brazilian Administration Review*, 10(3), 347–369.
- Gombola, M., Liu, F.-Y., & Chou, D.-W. (2019). Capital structure dynamics with restricted equity issuance: Evidence from Chinese post-IPO firms. *Asia Pacific Management Review*, 24(1), 72–85
- Indonesia Stock Exchange. (2018). Indeks Saham. Retrieved from https://www.idx.co.id/datapasar/data-saham/indeks-saham/
- K. Gharaibeh, O., & AL-Tahat, S. (2020). Determinants of capital structure: evidence from Jordanian service companies. *Investment Management and Financial Innovations*, 17(2), 364–376.
- Kasmiati, M., & Santosa, P. W. (2019). The effect of earning information, cash flow componens, firnancing decision, and Stock Return: Empirical Evidence on Indonesia stock exchange. *Journal of Economics, Business & Accountancy Ventura*, 22(2), 157–166.
- Khafid, M., Prihatni, R., & Safitri, I. E. (2020). The Effects of Managerial Ownership, Institutional Ownership, and Profitability on Capital Structure: Firm Size as the Moderating Variable. *International Journal of Financial Research*, 11(4), 493–501.
- Khalid, S. (2010). Financial Reforms and Dynamics of Capital Structure Choice: A Case of Publically Listed Firms of Pakistan. *Journal of*

- Management Research, 3(1), 1-16.
- Koh, S. K., Durand, R. B., Dai, L., & Chang, M. (2015). Financial distress: Lifecycle and corporate restructuring. *Journal of Corporate Finance*, 33(August), 19–33.
- Lim, T. C. (2012). Determinants of Capital Structure Empirical Evidence from Financial Services Listed Firms in China. *International Journal of Economics and Finance*, 4(3), 191–203.
- Mota, J. H. F., & Moreira, A. C. (2017). Determinants of the capital structure of Portuguese firms with investments in Angola. *South African Journal of Economic and Management Sciences*, 20(1).
- Nguyen, C. T., Bui, C. M., & Pham, T. D. (2019). Corporate Capital Structure Adjustments: Evidence from Vietnam Stock Exchange Market. *The Journal of Asian Finance, Economics, and Business*, 6(3), 41–53.
- Onaolapo, A. A., & Kajola, S. O. (2010). Capital structure and firm performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 4(25), 70–82.
- Peng Chow, Y. (2019). Sectoral Analysis of the Determinants of Corporate Capital Structure in Malaysia. *Organizations and Markets in Emerging Economies*, 10(2), 278–293.
- Prieto, A. B. T. & Lee, Y. (2019). Internal and External Determinants of Capital Structure in Large Korean Firms. *Global Business and Finance Review*, 24(3), 79–96.
- Psillaki, M., & Daskalakis, N. (2009). Are the determinants of capital structure country or firm-specific? *Small Business Economics*, 33(3), 319–333.
- Rani, N., Yadav, S. S., & Tripathy, N. (2019). Capital structure dynamics of Indian corporates. *Journal of Advances in Management Research*, 17(2), 212–225.
- Rehman, O. U. (2016). Impact of Capital Structure and Dividend Policy on Firm Value. *Journal of Poverty, Investment and Development*, 21(2), 308–324.
- Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2013). Fundamentals of Corporate Finance. In *The McGraw-Hill Companies, Inc.* (Tenth). New York: McGraw-Hill/Irwin.
- Santosa, P. W. (2010). Longterm Performance Trends Analysis and Managing Expectation for Active Value (Case study PT Indocement Tunggal Prakarsa, Tbk). *Finance & Accounting Journal*, 12(02), 94–101.
- Santosa, P. W. (2019). Financial performance, exchange rate and stock return: Evidence from manufacturing sector. *Jurnal Manajemen*

- Teknologi, 18(3), 205-217.
- Santosa, P. W. (2020). The moderating role of firm size on financial charactersitics and Islamic firm value at Indonesian equity market. *Business: Theory and Practice*, 21(1), 391–401.
- Santosa, P. W., Tambunan, M. E., & Kumullah, E. R. (2020). The role of moderating audit quality relationship between corporate characteristics and financial distress in the Indonesian mining sector. *Investment Management and Financial Innovations*, 17(2), 88–100.
- Suhendra, E. S. (2014). Factors Impacting Capital Structure in Indonesian Food and Beverage Companies. *International Conference on Eurasian Economies* 2014, 75–82.
- Sutomo, S., Wahyudi, S., Pangestuti, I., & Muharam, H. (2020). The determinants of capital structure in coal mining industry on the Indonesia Stock Exchange. *Investment Management and Financial Innovations*, 17(1), 165–174.
- Sutrisno, B. & Wendy, W. (2020). The Effect of Eco-Efficiency and Quality Management System on Firm's Performance: Moderating Role of Profitability and Leverage. *Journal of Economics*, *Business*, & Accountancy Ventura, 22(3), 372-382

- Tan, Y. & Yang, Z. (2016). Contingent capital, capital structure, and investment. *The North American Journal of Economics and Finance*, 35, 56–73.
- Țaran, A. (2019). Corporate ownership and capital structure: Evidence from Romania. *Eastern Journal of European Studies*, 10(1), 133–150.
- Vijayakumaran, S., & Vijayakumaran, R. (2019). Corporate Governance and Capital Structure Decisions: Evidence from Chinese Listed Companies. *The Journal of Asian Finance, Economics, and Business*, 6(3), 67–79.
- Vo, X. V. (2017). Determinants of capital structure in emerging markets: Evidence from Vietnam. *Research in International Business and Finance*, 40, 105–113.
- Xuan Anh, T. T., Tuan, L. Q., & Phuong, B. N. (2018). Impact of ownership structure on capital structure-empirical evidence from listed firms in Vietnam. *DLSU Business and Economics Review*, 28(1), 128–149.
- Zani, J., Leites, E., Macagnan, C., & Portal, M. (2014). Interest on equity and capital structure in the Brazilian context. *International Journal of Managerial Finance*, 10(1), 39–53.