

The Effect of Return on Equity, Current Ratio, and Earnings Volatility on Capital Structure

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ABSTRAK

Struktur modal perusahaan merupakan aspek penting bagi pertumbuhan perusahaan di masa yang akan datang. Perusahaan yang memiliki struktur modal yang optimal dapat menjadi dasar untuk mengembangkan perusahaan ke arah yang lebih baik. Fenomena pandemi COVID-19 memberikan dampak besar bagi berbagai perusahaan di Indonesia, namun menariknya perusahaan kesehatan mendapatkan momentum untuk meningkatkan keuntungan perusahaan. Penelitian ini bertujuan untuk menganalisis pengaruh Return on Equity, Current Ratio, dan Earnings Volatility terhadap Struktur Modal. Penelitian ini menggunakan pendekatan kuantitatif dengan metode deskriptif dan kausal, data penelitian menggunakan perusahaan Indo Farma (INAF). Peneliti menggunakan sumber data utama untuk diolah dalam analisis ini. Hasil pengujian data menggunakan evIEWS-10 dikategorikan menjadi tiga bagian, yaitu uji deskriptif, uji asumsi klasik, dan uji hipotesis. Berdasarkan hasil penelitian menunjukkan bahwa ROE berpengaruh negatif terhadap struktur modal, artinya semakin rendah ROE maka semakin tinggi struktur modal. CR berpengaruh positif terhadap struktur modal, artinya semakin tinggi CR maka semakin tinggi struktur modal. Volatilitas laba berpengaruh positif terhadap struktur modal, artinya semakin tinggi volatilitas laba, maka struktur modal juga akan semakin tinggi. Hasil penelitian ini menunjukkan kesamaan dengan penelitian sebelumnya, baik di negara maju maupun negara emerging market.

ABSTRACT

The company's capital structure is an important aspect for the company's growth in the future. Companies that have an optimal capital structure can be the basis for developing the company in a better direction. The phenomenon of the COVID-19 pandemic has had a major impact on various companies in Indonesia, but it is interesting that health companies are gaining momentum to increase company profits. This study aims to analyze the effect of Return on Equity, Current Ratio, and Earnings Volatility on Capital Structure. This study uses a quantitative approach with descriptive and causal methods, research data using the Indo Farma company (INAF). The researcher uses the main data sources to be processed in this analysis. The results of the data test using evIEWS-10 are categorized into three parts, namely the descriptive test, the classical assumption test, and hypothesis testing. Based on the results of the study, it shows that ROE has a negative effect on the capital structure, meaning that the lower the ROE, the higher the capital structure. CR has a positive effect on the capital structure, meaning that the higher the CR, the higher the capital structure. Earnings volatility has a positive effect on the capital structure, meaning that the higher the earnings volatility, the higher the capital structure. The results of this study show similarities with previous studies, both in developed countries and emerging market countries.

1. INTRODUCTION

At the beginning of the development of the study of capital structure was stated that the problem of adverse selection was conceptually extended to information asymmetry through the incorporation of pecking order theory. Previous study suggest that dividend changes are associated with managers' knowledge of on-site firm assets (Myers & Majluf, 1984). Thus, when managers have superior information and issue shares to finance new investments, share prices will fall. Issuing or repaying debt is equivalent to funding a current deficit when internal cash flows are short for real investments and when dividend commitments as a form of equity financing do not make sense (Abor, 2005; Shyam-Sunder & Myers, 1999).

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This is model documents that loss of information asymmetry does not apply to firms with small growth when issuing equity. Different types of asymmetric information have different predictions on capital structure and investment efficiency.

Further study found that capital structures remain persistent because of the persistence of determinants, which include the type of firm growth and related fundamental variables such as tangible versus intangible investment style (Acedo-Ram rez, MA and Ruiz-Cabestre, 2014; Alipour et al., 2015; Wu & Au Yeung, 2012). The growth type contains information that allows the company to choose an appropriate and persistent method of capital structure, which does not always require frequent adjustments. Furthermore it suggest that the behavior of the debt ratio target is not statistically significant and that this target debt behavior does not explain the company's financing (Chang & Dasgupta, 2009; Fama, FE, French, 2002). In fact, the mean-reverting speed is too slow, which makes the dynamic trade-off theory less plausible.

While some factors do not change a firm's financing behavior, they do change the efficiency with which a firm adjusts its capital structure. Previous study modeled the dynamic capital structure choice theory, which considers the role of transaction costs (Fischer et al., 1989). Existing empirical studies show that transaction costs affect capital market timing and capital structure rebalancing, as countries with low transaction costs rebalance their capital structures more quickly after deviations from targets occur (Amjed & Shah, 2016; Bancel & Mottoo, 2004; Lee et al., 2020). There have been numerous empirical studies on the determinants of capital structure factors associated with the debt ratio depend on the two opposing theories described above: the trade-off theory and the pecking order theory. However, previous researchers provide reasons why, even with these two dominating theories, capital structure theory does not have a single model to help identify the determinants of capital structure choice (Frank & Goyal, 2008; Harris & Roark, 2019).

In the Indonesian context, there is an interesting phenomenon when there is a national health insurance program and a COVID-19 pandemic where company shares in the health sector show a significant increase. Medicines that are products from the company are needed not only when they are sick (curative) but also in good health (preventive) and during post-illness recovery (rehabilitative). It is expected that by owning a stake in a health company, the profits will be greater than the losses. In principle, companies in the health sector, like other companies, also have a funding system, both internal and external to the company. Funds obtained from both internal and external companies will be used for company management. Funds sourced from internal companies (capital from company owners and retained earnings) (Koksal & Orman, 2015; Paredes Gomez et al., 2016; Vo, 2017). This method of meeting the need for funds originating from internal companies is known as the equity financing method. In addition, there are also sources of funds originating from external parties (sales of shares, issuance of bonds, sales of securities or loans from banks) (Khemiri & Noubbigh, 2018; Li & Islam, 2019).

At the beginning of 2020, the health industry was reported to continue to develop businesses and even expand. The COVID-19 outbreak that has hit the world is suspected to be an opportunity for this business sector, where the demand for medical devices and multivitamins has increased. On the basis of these conditions, it is interesting to examine the effect of microeconomics on health companies. Previous study conducted a study using a large number of potential factors in the choice of capital structure based on previous research (Frank & Goyal, 2008). These factors are: market-to-book ratio, tangible assets, company profitability, company size, and expected inflation. Since these determinants were identified, they have been used to some extent by much of the capital structure literature (Dewi & Ramli, 2016; Moradi & Paulet, 2019). There is evidence that other factors may also have an influence on capital structure decisions.

The determinants of capital structure are different for long-term and short-term indicators, indicating that large companies tend to use long-term debt while small companies use short-term debt to finance their investments. This may be because larger firms do not take advantage of the bargaining power of creditors or bankers as much as smaller firms for long-term borrowing. Also, liquidity problems limit companies' ability to borrow long term, and liquidity management is an important issue for success (Booth et al., 2001; Campbell & Rogers, 2018; Dasman et al., 2021). Firms with higher cash flow volatility have higher debt levels, but this positive relationship is only for firms with the weakest financial performance as measured by operating cash flows (Brounen et al., 2006; De Jong et al., 2008; Deesomsak et al., 2004). When firms are ranked by operating cash flow, those in the lower half increase their use of leverage in the face of increased cash flow risk. For firms with operating cash flows in the upper half, the relationship between the cash flow risk faced by the firm and the use of leverage is not statistically significant (Dewi & Ramli, 2016; Muktiadji & Sastra, 2013; Saif-Alyousfi et al., 2020).

Over the last decade, capital structure studies have become increasingly popular for comparing different countries. Some studies implicitly assume that the effect of firm-specific factors on firm leverage is the same in each country (Acedo-Ram rez, MA and Ruiz-Cabestre, 2014; Giannetti, 2003). More recently,

studies covering the United States and European countries have argued that the environment of state institutions and international operations influences the behavior of financial managers and their financial policies (Bancel & Mottou, 2004; Brounen et al., 2006). Previous study reported that firm leverage should be analyzed appropriately because they found that the determinants of capital structure have significant direct and indirect results for 42 countries (De Jong et al., 2008). They also found that some attributes were not the same across countries. In addition, supported by other study found that capital structure stability is an action, not a rule (De Angelo & Roll, 2015). In addition, other research states that companies with a highly volatile capital structure tend to earn less profit and have a tighter dividend policy compared to companies with a stable capital structure (Campbell & Rogers, 2018). Based on the problem and finding from previous studies, the purpose of this research is to look into current issues concerning capital structure. The focus of this research is the influence of microeconomics on the capital structure of health companies in Indonesia.

2. METHODS

Researchers used two techniques, namely descriptive and causal methods, according to the research objectives. This method is focused on the accumulated scientific evidence seeking to characterize the objective factual picture of the object being examined. Whereas, causality analysis is a research technique that aims to clarify the causal relationship of the variables studied. This study uses shares of a health company, namely Indofarma (INAF), during 2010-2020. The researcher uses the main data sources to be processed in this analysis, such as financial reports published by the IDX and supervised by the OJK. In addition, the data from each paper is selected based on the needs of the study and then submitted as raw data to the table. Data analysis was carried out using a data regression analysis panel using the eviews-10 application.

3. RESULTS AND DISCUSSIONS

Results

The results of the data test using eviews-10 are categorized into three parts, namely the descriptive test, the classical assumption test, and hypothesis testing. The results of descriptive test is show in Table 1.

Table 1. Descriptive Test Result

	Profitability (ROE)	Current Ratio (CR)	Earnings Volatility (Earnings Per Share)	Capital Structure
mean	-0.329091	9476.000	-0.091818	534.1670
median	1.250000	10487.00	0.080000	587.7020
Maximum	6.520000	18808.00	3.660000	650.1020
Minimum	-9.180000	1807,000	-4.050000	311.2700

Based on Table 1, it shows that INAF's profitability during 2010-2020 has a median value of 1.25, with the maximum profitability being 6.52 and the lowest being -9.18. INAF's liquidity value has a median value of 10,487, with a maximum liquidity of 18,808 and the lowest being 1,807. INAF's Earnings Volatility has a median value of 0.08, with a maximum value of 3.66 and the lowest value of -4.05. The value of INAF's capital structure has a median value of 587,702, with a maximum value of 650,102 and a minimum value of 311,270. For heteroscedasticity test result is show in Table 2.

Table 2. Heteroscedasticity Test Result

F-statistics	0.726765	Prob. F(3,7)	0.5676
Obs *R-squared	2.612469	Prob. Chi-Square(3)	0.4553
Scaled explained SS	3.015513	Prob. Chi-Square(3)	0.3892

Base on Table 2, the decision on whether or not heteroscedasticity occurs in the linear regression model is made by looking at the Prob value. F-statistic (F count). If the value of Prob. The calculated F is greater than the alpha level of 0.05 (5%), then H₀ is accepted, which means there is no heteroscedasticity, whereas if the Prob value, F count is smaller than the alpha level of 0.05 (5%), then H₀ is rejected, which means heteroscedasticity occurs. Prob value The calculated F of 0.5676 is greater than the alpha level of 0.05 (5%) so that, based on the hypothesis test, H₀ is accepted, which means that there is no heteroscedasticity. Then for the result of linearity test is show in Table 3.

Table 3. The Result of Linearity Test

	Value	df	Probability
t-statistics	0.207916	6	0.8422
F-statistics	0.043229	(1, 6)	0.8422
Likelihood Ratio	0.078969	1	0.7787
F-test summary:			
	Sum of Sq.	df	Mean Squares
SSR test	2.01E+09	1	2.01E+09
Restricted SSR	2.81E+11	7	4.02E+10
Unlimited SSR	2.79E+11	6	4.66E+10
LR test summary:			
	Value		
Restricted LogL	-147.4174		
Unrestricted LogL	-147.3779		

Table 3 show Prob. F count is greater than the alpha level of 0.05 (5%), then the regression model meets the assumption of linearity, and vice versa, if the value of Prob. F count is less than 0.05, then the model does not meet the assumption of linearity. Prob value The calculated F can be seen in the F-statistic row of the Probability column. In this case, the value is 0.8422, which is greater than 0.05, so it can be concluded that the regression model has met the assumption of linearity. The result of autocorrelation test is show in Table 4.

Table 4. Autocorrelation Test Result

F-statistics	0.934618	Prob. F(2.5)	0.4520
Obs *R-squared	2.993287	Prob. Chi-Square(2)	0.2239

Base on Table 4 show Prob value F (2.5) of 0.4520 can also be referred to as the calculated F probability value. Prob value The calculated F is greater than the alpha level of 0.05 (5%) so that, based on the hypothesis test, H₀ is accepted, which means that there is no autocorrelation. On the other hand, if the value of Prob. If F count is less than 0.05, it can be concluded that there is an autocorrelation. The result of Multicollinearity test is show in Table 5.

Table 5. Multicollinearity Test Result

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	1.86E+10	5.099242	NA
ROE	175.9809	14.75986	1.470801
CR	162.4986	518.0269	1.188146
Earnings_Volatility	110.9810	14.87127	1.484596

Base on Table 5 show the results of the multicollinearity test can be seen in the center VIF column table. The total VIF value for all variables cannot exceed 10. Because the VIF value of the two variables is not greater than 10 or 5 (many books require no more than 10, but there are also those that require no more than 5), it can be said there is no multicollinearity in the two independent variables. Based on the classical assumptions of linear regression with OLS, a good linear regression model is one that is free from multicollinearity. Thus, the above model is free from multicollinearity. Then for hypothesis testing of t-test is show in Table 6.

Table 6. Hypothesis Testing T-test

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	-15041.47	136521.4	-0.110177	0.0054
ROE	-17785.36	41834.69	-0.425134	0.0835
CR	6.874078	12.74750	0.539249	0.0064
Earnings_Volatility	34055.61	104758.0	0.325088	0.0546

Based on [Table 6](#), it shows that ROE partially has a negative effect on the capital structure, CR has a positive effect on the capital structure, and earnings volatility has a positive effect on the capital structure. Then the result of F test result is show in [Table 7](#).

Table 7. The Result of F Test

R-squared	0.764378	Mean dependent var	528.2337
Adjusted R-squared	0.736603	SD dependent var	173.4375
SE of regression	200513.8	Akaike info criterion	27.53044
Sum squared resid	281761.1	Schwarz criterion	27.67513
Likelihood logs	-147.4174	Hannan-Quinn criter .	27.43924
F-statistics	116,0550	Durbin-Watson stat	2.323384
Prob(F-statistic)	0.000096		

Based on [Table 7](#) it shows that ROE, CR, and earnings volatility simultaneously affect the capital structure with a Prob value of 0.000096. This research model contributes 76% to the changes in the capital structure.

Discussion

Research results compared with research before show similarities, such as studies empirical studies in developed countries, especially the United States ([Bradley, M., Jarrel, GA and Kim, 1984](#); [Titman & Wessels, 1988](#)). Similarly, previous study show that a specific company's determinant was correlated with the ratio of debt for US non-financial companies ([Rajan & Zingales, 1995](#)). This result is very similar to those of other G7 countries. Based on these studies, more comparative research __ international to analyze leverage determinants ([De Jong et al., 2008](#); [Wald, 1999](#)). Besides that, some empirical studies have investigated the determinant capital structure in developed countries ([Chen, 2004](#); [Kremp, E. and Stoss, 2001](#)). However, since the mid-1990s, a number of studies have researched determinants of leverage in developing countries ([Huang & Song, 2006](#); [Pandey, 2004](#); [Wiwattanakantang, 1999](#)). In this context previous study show that financial influence and financing choices in developing countries are similar to those in developed countries ([Booth et al., 2001](#)). However, the observed difference appears at the level of the economy's macro-country specific. Of course, literature empirical has been used in a number of contexts (developed and developing countries) ([Paredes Gomez et al., 2016](#); [Qureshi, 2009](#)).

Previous study used data from Thailand, Malaysia, Singapore, and Australia to study situation-determinant capital structure in Asia-Pacific ([Deesomsak et al., 2004](#)). Report a specific company's size-related positive with growth and liquidity-related negative with him. Similar study examined importance factors specific to 42 countries in company leverage options ([De Jong et al., 2008](#)). Other study reported that the size of firms in France, Greece, Portugal, and Italy is correlated positively with leverage, while structure assets, profitability, and risk are negatively correlated with the capital structure ([Psillaki & Daskalakis, 2009](#)). Temporarily, growth continues to be a significant leverage determinant by statistics for one of four countries; in other words, they discover that effect specific company more responsible answer on difference determinant capital structure determines effect country specific capital structure.

Previous study use profitability, growth opportunities, collateral, corporate tax, tax shields, non-debt tax shields, liquidity, earning volatility, and cash flow volatility to analyze the effect on the capital structure ([Saif-Alyousfi et al., 2020](#)). This study serves as the foundation for researchers developing a research model in microeconomics to capital structure. Other study tested the influence of microeconomics on price ingredient raw to speed adjustment through targeting capital structure dynamics in the company textiles listed on the Indonesia Stock Exchange for the year 2012 and the second quarter of 2020 ([Dasman et al., 2021](#)). Target capital structure factors include company size, tangible, liquidity, and opportunity growth; asset utilization; and profit retained. On the other hand, contributing factors to speed adjustment include size, company, opportunity growth, volatility profit, utilization assets, profit hold, distance with targets, and growth economy. Other factors that also influence speed adjustment include price fluctuations, cotton prices, and oil prices.

Previous results empirically support the existence of a dynamic capital structure target in Pakistan for the fifth group industry ([Amjed & Shah, 2016](#)). The capital structure of speed adjustment varies significantly across the sector industry and over time. Pakistani companies adapt their capital structure to dynamic target direction, starting from 23% to 46% per year depending on the country's macroeconomics like performance sector banking, growth economy, and ethnicity. Similar study researched company capital structure dynamics in Central and Eastern Europe to get a better understanding of the development of quantitative and qualitative system finance in this area ([De Haas & Peeters, 2006](#)). A dynamic model was used to homogenize target leverage and adjust speed. This applied to microeconomic data for ten countries.

Moreover previous study investigate factors determinant of varied target capital structure time using an adjustment model dynamic and panel methodology (Drobetz & Wanzenried, 2006). The results reveal an interesting relationship between speed adjustments and variables in famous business cycles. Most importantly, speed adjustment is more difficult when spread across more variables and when the economy is good. Acquisition growth companies (Growth) as a result of processing sales and profitability data on both sample companies as a whole experience an increase that is influenced by one of the two factor determinants of growth, namely sales and profitability (Muktiadji & Kamage, 2009; Muktiadji & Sastra, 2013).

Previous study found that concurrent profitability, company size, growth opportunity, liquidity, asset structure, risk business, and non-debt tax shield have an effect on capital structure in sub-sector companies listed on the Indonesia Stock Exchange (IDX) from 2008 to 2012 (Prasetya, 2014). For the period 2008-2012, partial profitability affects capital structure in sub-sector companies' goods consumption listed on the Indonesia Stock Exchange (IDX). Growth opportunity, liquidity, structure assets, risk business, and non-debt tax shield have no effect on capital structure in sub-sector companies' goods consumption listed on the Indonesia Stock Exchange (IDX) from 2008 to 2012. Other study identified a set of six "core" factors that have been used by the broad in the past (Frank & Goyal, 2008). This core factor has been found to have a significant relationship with the ratio of corporate leverage. This includes: profitability, tangible, company size, industry median leverage, ratio of market-to-book assets, and expected inflation.

The implications of this study provide an overview related to the effect of return on equity, current ratio, and earnings volatility on capital structure. This research will be useful in the field of economics and can be a reference for companies in implementing their business. However, this research also has limitations, one of the limitations in this study lies in the research subject which only involves one market, namely Indofarma (INAF) and in a relatively short period of time. Therefore, it is hoped that future research will be able to deepen and broaden the scope of research related to the Effect of Return on Equity and other variables in capital structure.

4. CONCLUSION

Based on the results of the study, it shows that ROE has a negative effect on the capital structure, meaning that the lower the ROE, the higher the capital structure. CR has a positive effect on the capital structure, meaning that the higher the CR, the higher the capital structure. Earnings volatility has a positive effect on the capital structure, meaning that the higher the earnings volatility, the higher the capital structure. The results of this study show similarities with previous studies, both in developed countries and emerging market countries.

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