

THE EFFECT OF MARKET TIMING ON CAPITAL STRUCTURE IN NON-FINANCIAL COMPANIES THAT DO IPO (INITIAL PUBLIC OFFERING) ON THE INDONESIA STOCK EXCHANGE FOR THE 2010-2017 PERIOD

<sup>1</sup>Mohammad Athian MANAN, <sup>2</sup>Mahatma KUFEPAKSI, <sup>3</sup>Sri HASNAWATI

<sup>1</sup>Magister Program Management, University of Lampung, Indonesia

<sup>2,3</sup>University of Lampung, Indonesia

Corresponding author: Sri HASNAWATI

E-mail: sri.hasna2015@gmail.com

Volume: 3  
Number: 1  
Page: 33 - 41

**Article History:**

Received: 2022-01-14

Revised: 2022-02-15

Accepted: 2022-03-10

**Abstract:**

Market timing theory (MTT) refers to the practice where the companies issue shares when the share prices are high prices and repurchase the shares when the share prices are low. This study aims to determine the effect of market timing on the company's capital structure and to determine whether there is a persistent (long-term) effect of market timing on the capital structure during the IPO period up to 3 years after the IPO. This study used a purposive sampling method and obtained 102 companies that conducted Initial Public Offerings on the IDX for the 2010-2017 period. The data analysis technique used is multiple linear regression analysis, while research testing is done using eviews. This study also uses four control variables, namely profitability, firm size, asset tangibility, and growth. The results of this study indicate that market timing has a significant negative effect on capital structure. However, this study also shows that market timing does not affect capital structure in the long term.

**Keywords:** Market Timing, Market Timing Persistence; Capital Structure; Profitability; Size; Asset Tangibility; Growth

Cite this as: MANAN, M.A., KUFEPAKSI, M., HASNAWATI, S., (2022). "The Effect Of Market Timing On Capital Structure In Non-Financial Companies That Do IPO (Initial Public Offering) On The Indonesia Stock Exchange For The 2010-2017 Period". "International Journal of Environmental, Sustainability, and Social Sciences, 3 (1), 33-41



**INTRODUCTION**

The development of the business world that is growing rapidly has created intense competition between companies. Intense competition between companies causes every company to face various challenges to survive; in maintaining the company, there are various obstacles and problems, one of which is funding problems. As a result, the company finances its operational activities using capital from internal sources (retained earnings) and capital from external sources (debt and share issuance).

Initial Public Offering (IPO), better known as an initial public offering, is when a company sells its shares for the first time to the general public or the public. A company conducting an initial offering or IPO is to obtain additional funds used for company operations or to carry out business expansion or expansion activities. (Karmila and Musnadi, 2019).

According to Septia (2015), a company conducting an initial offering or IPO is to improve the company's capital structure, where the company looks for alternative sources of funds or an optimal combination of funding sources so that it can fund various company operations and investment alternatives that will impact the company to maximize the value of its company which will be reflected in its share price.

Capital structure determines the proportion or combination of meeting the company's operational needs by choosing to use debt, equity, or by issuing shares (Brigham & Gapensky, 1996). The purpose of carrying out a capital structure policy is to obtain the right combination of sources of funds to minimize the cost of capital, and the company can achieve an optimal capital structure.

According to Brealey, Myers, and Marcus (2011), a company achieves an optimal capital structure when the company can minimize the overall cost of capital or the average cost of capital to maximize its firm value.

Generally, research on capital structure focuses on two theories: Trade-off theory and pecking order theory, but Baker and Wugler (2002) state that there is a new view on capital structure issues, namely equity market timing theory. When the company's market value is high and will buy back equity when the company's market value is low. The company's purpose in conducting equity market timing is to take advantage of fluctuations or temporary differences in the cost of equity against the cost of other capital components.

According to Karmila and Musnadi (2019), market timing theory is the most natural theory to identify the company's funding policies. In addition, this theory explains that the capital structure is the cumulative result of the efforts made by the company in the past in determining the time or timing when entering the market.

According to Saad and Siagian (2011), one of the market timing practices is to take advantage of stock mispricing in the capital market. Mispricing is defined as a condition when the stock price is considered too high or overvalued or vice versa, namely too low (undervalued) from its fair value (Karmila and Musnadi 2019).

In corporate finance, market timing theory (MTT) refers to the practice where the companies issue shares when the share prices are high prices and repurchase the shares when the share prices are low. Baker and Wurgler (2002) asserted that the intention of this practice is to take advantage of the temporary fluctuations in the cost of equity relative to the other forms of capital. One of the market timing practices commonly used is the use of mispricing of the companies' shares in the market to obtain financing with relatively low cost of capital (Saad & Siagian, 2011). The components of market share price in an inefficient market consists of an asset value in place plus the value of growth opportunity (Myers, 1977; Kester, 1984; Reuer & Tong, 2007), investor sentiment, and the investor confidence in companies' cash flow expectations in the future, which is not supported by fundamental information (Morck, Shleifer, & Vishny, 1990; Baker, Ruback, & Wurgler, 2007). The uncertainty of investors' confidence leads to a mispricing of share price. The mispricing phenomenon is characterized by a price reversal or price reversal. Price reversal is a change in stock prices because investors make mistakes in setting stock prices or mispricing (Santosa 2010). Price reversals occur when stock prices move away from their intrinsic value, stocks that experience an increase or decrease in price will continue to increase or decrease in price even though there is no new information related to the company's fundamentals.

Table 1 shows the average initial data on stock price increases and decreases based on the Composite Stock Price Index (IHSG) seen from the difference in one trading year minus the stock price of the previous year and shows data on the number of companies conducting IPOs in the research year.

**Table 1. Data on Changes in the Composite Stock Price Index (CSPI) and IPO for the**

Years	Average IHSG	Change	Information	IPO	Change	Information
				(Company)		
		Initial Value	Initial Value		Initial Value	Initial Value
2010	3.703,51			22		
2011	3.821,99	118,48	Up	25	3	Up
2012	4.316,69	494,70	Down	22	(3)	Down
2013	4.274,18	(42,51)	Up	30	8	Up
2014	5.226,95	952,77	Up	23	(7)	Up
2015	4.593,01	(633,94)	Down	16	(7)	Down
2016	5.296,71	703,70	Up	15	(1)	Down
2017	6.335,65	1.038,94	Up	37	22	Up

Source: Data Processed by Researchers

The data in table 1 above shows that there is a price change in one particular year followed by a price change in the opposite direction in the following year, where this is known as a price reversal. It is supported by changes in the number of companies conducting IPOs on the Indonesia Stock Exchange, where there are still years in which IPOs have increased, but the average value of the JCI has decreased or vice versa. Based on these data, it can be concluded that the phenomenon of mispricing occurs in Indonesia, which is marked by a price reversal; this raises the suspicion that companies that have gone public in Indonesia take advantage of market timing in their funding decisions.

Sawitri and Suhari (2009) stated that the IPO (Initial Public Offering) market is an indication used in analyzing market timing for several reasons, namely, 1) a company going public is the most important financial event in a public company; 2) investors face uncertainty and asymmetric information; 3) timing can be more proven in the IPO market, this is because in general it can provide positive abnormal returns and there are share issuance activities.

## METHODS

This research is quantitative descriptive research conducted using secondary data, in the form of financial statements and annual reports of non-financial companies conducting initial offerings or IPOs, which were obtained from the Indonesian stock exchange website for the 2010-2017 period that met the sample selection criteria and obtained 102 companies as a sample for 8 years of the research period.

The data analysis technique used in this study is multiple linear regression analysis using panel data estimation software Eviews 10; researchers use 2 research models because researchers want to know the effect of market timing on capital structure and to determine the long-term effect of market timing on capital structure. Based on the theoretical search and the previous discussion, the research design can be described in the model below:

**Model 1** the effect of market timing on the company's capital structure

$$LEV = \alpha + \beta_1 M/B + \beta_2 Prof + \beta_3 Size + \beta_4 Tang + \beta_5 Growth + e$$

**Model 2** the effect of persistent market timing on the company's capital structure:

$$LEV = \alpha + \beta_1 M/B_{efwa} + \beta_2 Prof + \beta_3 Size + \beta_4 Tang + \beta_5 Growth + e$$

The dependent variable in this study is the capital structure which is proxied as market leverage; according to Setyawan (2011; Yuniawati 2015), market leverage as a proxy for capital structure is better able to explain the effect of market timing. According to Yuniawati (2015), market leverage indicators can be formulated as follows :

$$\text{Market Leverage} = \frac{\text{Book Debt}}{\text{Total Assets} - \text{Book Equity} + \text{Market Equity}}$$

The independent variable in this study is market timing which uses 2 proxies to measure market timing and market timing persistently.

The first hypothesis is the independent variable (market timing) in this study using the market-to-book ratio (M/B) proxy. According to Pratiwi (2019), the market to book ratio indicator can be formulated as follows:

$$M/B = \frac{\text{Total Assets} - \text{Book Equity} + \text{Market Equity}}{\text{Total Assets}}$$

The hypothesis of the two independent variables (market timing) in this study uses an external finance weighted average market to book ratio (EFWAMB) proxy. According to Baker & Wugler (2002), indicators of external finance weighted average market to book ratio (EFWAMB) can be formulated as follows:

$$M/B_{efwa} = \sum_{s=0}^{t-1} \frac{e_s + d_s}{\sum_{r=0}^{t-1} e_r + d_r} \cdot \left(\frac{M}{B}\right)_s$$

According to Rajan and Zingales (1995) in Karmila and Musnadi (2019), other variables are related to market leverage, namely size, asset tangibility, profitability and company growth. Therefore, these four variables will be the control variables in this study, so that the influence of the independent variable (market timing) on the dependent variable (capital structure), which is proxied as market leverage, is not influenced by external factors not examined in this study.

In this study, profitability is measured using the following equation (Pratiwi, 2019)

$$\text{Profitabilitas} = \frac{\text{EBIT}}{\text{Total Aset}}$$

According to Riyanto (2010) in Karmila and Musnadi (2019), company size can be formulated as follows:

$$\text{Size} = \log (\text{Sales})$$

According to Karmila and Musnadi (2019), asset tangibility can be formulated as follows:

$$\text{Tangibility} = \frac{\text{Fixed Asset}}{\text{Total Asset}}$$

According to Pratiwi (2019), company growth or growth can be formulated as follows:

$$\text{Tangibility} = \frac{\text{Harga per lembar saham}}{\text{Earning per share}}$$

Before performing the Multiple Regression Analysis, the credibility of the data was tested using the classical assumption test consisting of data normality, heteroscedasticity, autocorrelation, and multicollinearity. Hypothesis testing using the coefficient of determination (R2) t-test and f-test.

## RESULT AND DISCUSSION

### Descriptive Statistical

Table 2. Descriptive Statistical Test Results

	Leverage(Y)	M/B(X1)	Efwamb(X2)	Prof(Z1)	Size(Z2)	Tang(Z3)	Growth(Z4)
<b>Mean</b>	0.339315	0.397199	10.02060	0.185089	1.074373	0.500287	1.383464
<b>Maximum</b>	1.700659	1.840000	644.0303	1.072838	1.180000	1.438092	1.320000
<b>Minimum</b>	0.005009	-0.760000	-35.07818	0.000251	0.950000	0.003058	2.920000
<b>Std. Dev.</b>	0.276298	0.350229	9.99538	0.158558	0.025491	0.274344	-0.700000
<b>N</b>	408	408	408	408	408	408	408

Source: Processed Data and Output Eviews 10

Multiple linear regression analysis in this study was conducted using two models: the market to book to calculate market timing and external finance weighted average market to book ratio (EFWAMB). Based on the results of calculations using the computer statistical program Eviews 10, the following results were obtained:

**Table 3 Test Results of Multiple Linear Regression Analysis First Model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.906765	0.241423	-3.755913	0.0002
MARKET_TO_BOOK	-0.015409	0.002436	-6.326152	0.0000
PROFITABILITY	-0.237764	0.083566	-2.845231	0.0047
SIZE	0.107287	0.019911	5.388268	0.0000
TANGIBILITY	0.126357	0.048047	2.629881	0.0089
GROWTH	-0.000122	6.52E-05	-1.872873	0.0618

Source: Processed Data and Output Eviews 10

**Table 4. Test Results of the Second Model Multiple Linear Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.148780	0.644201	-3.335572	0.0009
MARKET_TO_BOOK_EFWA	0.000182	0.000341	0.533440	0.5940
PROFITABILITY	-0.306939	0.085877	-3.574185	0.0004
SIZE	0.484732	0.593240	4.188409	0.0000
TANGIBILITY	0.139356	0.049452	2.817990	0.0051
GROWTH	-0.141794	0.024901	-5.694207	0.0000

Source: Processed Data and Output Eviews 10

Based on table 3, the results of the first multiple linear regression test can be formulated as follows:

$$\text{Leverage} = -0,9068 - 0,0154 (\text{Market to Book}) - 0,2378 (\text{Profitability}) + 0,1073 (\text{Size}) + 0,1264 (\text{Tangibility}) - 0,0001 (\text{Growth})$$

Based on table 4, the results of the second model of multiple linear regression can be arranged as follows:

$$\text{Leverage} = -2,1488 + 0,0002 (\text{Market to Book-EFWA}) - 0,3069 (\text{Profitability}) + 0,4847 (\text{Size}) + 0,1393 (\text{Asset Tangibility}) - 0,1418 (\text{Growth})$$

First Model Hypothesis Test Results

**Table 5. Results of T-Test, F-Test and Coefficient of Determination (R<sup>2</sup>) First Model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.906765	0.241423	-3.755913	0.0002
MARKET_TO_BOOK	-0.015409	0.002436	-6.326152	0.0000
PROFITABILITY	-0.237764	0.083566	-2.845231	0.0047
SIZE	0.107287	0.019911	5.388268	0.0000
TANGIBILITY	0.126357	0.048047	2.629881	0.0089
GROWTH	-0.000122	6.52E-05	-1.872873	0.0618
R-squared	0.476100	Mean dependent var		0.339956
Adjusted R-squared	0.465852	S.D. dependent var		0.276262
S.E. of regression	0.252315	Akaike info criterion		0.098316
Sum squared resid	25.59237	Schwarz criterion		0.157305
Log-likelihood	-14.05646	Hannan-Quinn criteria.		0.121658
F-statistic	17.18466	Durbin-Watson stat		0.369411
Prob(F-statistic)	0.000000			

Source: Processed Data and Output Eviews 10

Based on the table above, it is known that market timing in this study was proven to have a significant negative effect on the capital structure of non-financial companies that carried out IPOs for the 2010-2017 period or the first hypothesis in this study was accepted, besides that the control

variables in this study were profitability, size and asset tangibility. Therefore, proven to affect the capital structure, but the growth control variable does not affect the company's capital structure.

It is also known in the table above that simultaneously or together, the independent variables and control variables in this study influence the dependent variable.

Based on the table above, it is known that the adjusted R2 value during the research period has a value of 0.4658 which means that the independent variable and control variable in this study is only able to explain the dependent variable of 46.58% and the remaining 53.42% is explained by other factors outside this research model.

Results of the Second Model Hypothesis Testing

**Table 6. Results of T-Test, F-Test and Coefficient of Determination (R<sup>2</sup>) Second Model**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
C	-2.148780	0.644201	-3.335572	0.0009
MARKET_TO_BOOK_EFWA	0.000182	0.000341	0.533440	0.5940
PROFITABILITY	-0.306939	0.085877	-3.574185	0.0004
SIZE	0.484732	0.593240	4.188409	0.0000
TANGIBILITY	0.139356	0.049452	2.817990	0.0051
GROWTH	-0.141794	0.024901	-5.694207	0.0000
R-squared	0.142956	Mean dependent var		0.339315
Adjusted R-squared	0.132270	S.D. dependent var		0.276298
S.E. of regression	0.257377	Akaike info criterion		0.138081
Sum squared resid	26.56336	Schwarz criterion		0.197179
Log-likelihood	-22.09947	Hannan-Quinn criteria.		0.161468
F-statistic	13.37750	Durbin-Watson stat		0.340365
Prob(F-statistic)	0.000000			

Source: Processed Data and Output Eviews 10

Based on the table above, it is known that the long-term market timing in this study proved to not affect the capital structure of non-financial companies that conducted IPOs for the 2010-2017 period or the second hypothesis in this study was rejected, besides that all control variables in this study were profitability, size, asset tangibility and growth proved to affect the capital structure.

It is also known in the table above that simultaneously or together, the independent variables and control variables in this study influence the dependent variable.

Based on the table above, it is known that the adjusted R2 value during the study period has a value of 0.1323 which means that the independent variable and control variable in this study is only able to explain the dependent variable by 13.23% and other factors outside the model explain the remaining 86.77%. This research.

The first hypothesis in this study is that market timing has a negative effect on the capital structure of non-financial companies that conduct IPOs (Initial Public Offerings) on the Indonesia Stock Exchange for the 2010-2017 period. Therefore, based on the results of hypothesis testing in table 5, the market timing variable has a significant negative effect on the capital structure, or H1 is accepted.

The negative effect on this hypothesis indicates that the increasing value of the market to book ratio will result in a lower level of company leverage; it can be concluded that companies conducting IPOs in Indonesia, especially in the 2010-2017 period, are indicated to practice market timing. This result follows the market timing theory proposed by Baker and Wugler (2002). According to Baker and Wurgler (2002), the high market-to-book value indicates that it is the right time to issue equity (in this case, through an initial offering), so it tends to reduce the proportion of funding originating from debt (leverage) to fund all activities. Based on this, the relationship between the market timing ratio, which in this study is proxied as a market to book ratio with the company's capital structure or in this study is proxied as leverage, has a negative influence relationship.

The research results conducted on non-financial companies that conducted IPOs in the 2010-2017 period proved to be indicated by market timing practices, namely by issuing shares when the market value was high and buying back when the market price was down. It happens because companies will tend to choose funding from equity when their market-to-book ratio is high to take advantage of fluctuations in the cost of equity. Therefore, it can be concluded that the companies in this study also support the trade-off theory proposed by Myers (2001) which states that companies use external funds or debt to finance their operations and achieve an optimal capital structure.

This study also proves that the pecking order theory, which states that the company will first use internal funds in the form of retained earnings then issue debt and as a last resort will issue equity securities or shares to finance the company's activities, is not following the results found, because non-profit companies Financial institutions that conducted an IPO for the 2010-2017 period tended to issue shares to finance their operational needs when the market value was high and repurchase when the market value was low, because the IPO is the company's highest-cost source of external funds, the company minimizes the costs incurred by practice market timing.

The results of this study are in line with the results of research conducted by Pratiwi (2019), Karmila and Musnaidi (2019), Valendro, et al. (2015) and Alti (2006), which have the result that market timing has a significant negative effect on the company's capital structure.

The second hypothesis in this study is that there is a persistent (long-term) effect of market timing on the capital structure of non-financial companies that conduct IPOs (Initial Public Offerings) on the Indonesia Stock Exchange for the 2010-2017 period. Therefore, based on the hypothesis test results in table 6, the market timing variable does not affect the capital structure, or H2 is rejected.

No effect in this study shows that increasing the value of the external finance weighted average market to book ratio will not affect the level of leverage of companies conducting IPOs in Indonesia, especially for the 2010-2017 period. To improve the size of equity market timing, Baker & Wurgler (2002) built a variable model, namely external finance weighted average market to book ratio (EFWAMB). This variable is the weighted average of the market-to-book ratio and the external finance (equity or debt) of a company in the past. Baker and Wurgler use this variable to see the business of a company in doing equity market timing, as stated by Baker & Wurgler (2002) in Sulistyowati (2015), which states that companies that use external capital when their share prices are relatively high are more likely to reduce leverage. It shows that managers take short-term profits from overvalued stock prices to finance capital needs by issuing shares. According to the market timing theory proposed by Baker & Wurgler (2002), the effect of persistence is meant that the events of issuing shares or equity when the market value was high in the past few years affect the current capital structure, but this study failed to prove empirically that persistence market timing affects the company's capital structure.

This study can also prove that the pecking order theory, which states that the company will first use internal funds to finance its company activities, can be following the results found, because non-financial companies that carried out IPOs for the 2010-2017 period tended to issue shares when the market value was moderate. On the other hand, high and buy back when the market value is low has no effect in the long term. The results of this study are in line with the results of research conducted by Pratiwi (2019), Yulaichah (2017) and Sulistyowati (2015), with the results research that market timing persistence does not affect the company's capital structure.

## **CONCLUSION**

The first hypothesis (H1) is obtained, which states that market timing has a negative effect on the capital structure. Thus, the first hypothesis in this study which states "market timing has a negative effect on capital structure," is accepted.

The results of this study support the market timing theory, which states that companies tend to issue shares when the market value is high and buy back when the market value is low. Based

on this theory, market timing has a negative effect on the capital structure, which in this study is proxied as leverage. The higher the market timing ratio, the lower the company's leverage level.

The second hypothesis (H2) is obtained, stating that market timing persistence does not affect capital structure. Thus the second hypothesis in this study which states, "There is a persistence (long-term) effect of market timing on capital structure," is rejected.

The results of this study do not support the market timing theory which states that companies will tend to issue shares when the market value is high and buy back when the market value is low. Based on this theory, the persistence of market timing affects the capital structure, which in this study is proxied as leverage, but this study proves that market timing does not affect the capital structure of non-financial companies conducting IPOs for the 2010-2017 period.

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