

# IJOEM

*by dewi ratih*

---

**Submission date:** 15-Feb-2023 05:32AM (UTC+0300)

**Submission ID:** 2014477851

**File name:** JURNAL\_INTERNASIONAL\_IJOEM-04-2018-0197.pdf (270.91K)

**Word count:** 9352

**Character count:** 48051

# Equity market timing and capital structure: evidence on post-IPO firms in Indonesia

Equity market  
timing and  
capital  
structure

Dewi Ratih

*Faculty of Economics,*

*Widya Karya Catholic University, Malang, Indonesia*

Received 29 April 2018  
Revised 19 October 2018  
21 March 2019  
Accepted 2 June 2019

## Abstract

**Purpose** – The purpose of this paper is to analyze and evaluate the impacts of equity market timing on corporate capital structure policies in Indonesia by apply Baker and Wurgler's analytical approach to firms in Indonesia to see, first, if that approach applies to Indonesian firms and, second, if it can be generalized to other emerging markets.

**Design/methodology/approach** – This study will focus on capital structure policies based on Market Timing Theory in developing countries, which uses the panel data of companies listed in Indonesian Stock Exchange after IPO. The companies used as research object are 70 firms in the non-financial/non-banking sector with the observation period of 2000–2015. The period of measurement is five years after IPO. Using a past market value in which equity market timing is measured in two-time measurements, i.e. yearly timing and long-term timing to prove its persistence.

**Findings** – Consistent with equity market timing theory, the results suggest that firms tend to issue equities when their market valuations are relatively higher than their book values and their past market values are high. As a consequence, the firms become underleveraged or have their debts reduced in the short run. The results of long-term measurement on equity market timing do not appear to affect the firms' capital structure decisions due to the firms' relatively quick adjustments of optimal capital structures. The conclusion is that equity market timing is an important element in the short run but not in the long run.

**Research limitations/implications** – The results of this study describe how firms in Indonesia take advantage of temporary market share fluctuations through equity market timing in their capital structure policies before ultimately making adjustments to the directions they are targeting.

**Practical implications** – The use of equity market timing is more aimed at reducing the debt ratio and avoiding unfavorable conditions in the debt market, as well as taking advantage of the capital gains derived from the differences in their stock prices. This study also has practical implications on investment policies that need to consider the adaptation factor of the industrial environment when it comes to making capital structure decisions, including how the entity must take policy when uncertain economic conditions.

**Social implications** – Through the research behavior of capital structure more in-depth decision is expected to provide an overview for investors widely in determining investment policy. Thus, the investment strategy is more planned and can also anticipate unexpected conditions.

**Originality/value** – This research is the first study to analyze and to evaluate the impacts of equity market timing on corporate capital structure policies on post-IPO firms in Indonesia. This research is an empirical study that investigates the relevance of equity market timing considerations in the determination of debt-equity choices in the capital structure, included in the conditions of the global financial crisis.

**Keywords** Capital structure, Post-IPO, Leverage, Buyback, Equity market timing, Indonesian stock exchange

**Paper type** Research paper

## Introduction

The company has prerogative rights to determine the time of equity issues after obtaining principle licenses from the underwriter. Generally, companies make equity issues when the stock price increases. Huang and Ritter (2005) and Pagano *et al.* (1998) suggest that companies will take advantage of a price increase situation that will cause the stock price in the industry group overvalued. This strategy is known as a “window of opportunity” useful for companies

The 2008 global financial crisis was included in the research period. This research has benefited from the helpful comments of Mamduh M. Harafi, Faculty of Economics and Business, Gadjah Mada University, during the revision process.



1 that will conduct an IPO because it reduces the risk of misjudging and detrimental to the cost of selection (Elliott *et al.*, 2007). This behavior is in line with the conclusions (Alti, 2005), which suggests that the company's IPO decision is more driven by consideration of market valuation than by pressure on financing needs. In US public companies the proportion of funds exceeds their financing deficit with external equity if the cost of equity capital is low (Huang and Ritter, 2005). A more significant IPO (hot market) company is considered a stock market timer rather than a cold market company (Alti, 2005). Elliott *et al.* (2007) suggests that equity markets with mispricing play an essential role in determining the choice between debt equity. So that corporate profits will increase external capital when they feel that their shares overvalue, even though the effects of persistent market time are not long-term.

The existing reality related to financial behavior proves that the stock market is inefficient because some stocks tend to deviate from their intrinsic value in the long run. It provides an opportunity for companies to create value by selling and repurchasing their shares due to stock price errors. Based on this, Stein (1996) shows the theory of capital structure, namely Equity Market Timing Theory (MTT). MTT relates more to funding with company equity. MTT states that companies tend to equity issues when their stock prices are high and make repurchases when stock prices are low. The company takes this step when experiencing problems with its debt, where there is a tendency for the company's debt position to exceed its limits and the company has difficulty obtaining loans from external parties. The question of the article underlying this is: does market timing affect financial decisions and change the position of the company's capital structure?

One of the general indicators used to view market valuation related to time is the market-to-book ratio, which will increase if the increase in stock prices is higher than the increase in the book value or vice versa. The probability of a company conducting an IPO during an increase in the value of the market-to-book ratio will grow. Then there is a close relationship between market conditions and the interest of the company's IPO. This conclusion is supported by Tobin (1969), which became known as Tobin's  $Q$ 12 concept, which stated a similar idea that increasing market value makes the cost of replacing capital cheaper ( $Q > 1$ ) and encourages companies to increase investment through the equity issues.

Baker and Wurgler (2002) studied the tendency of managers to use market timing using the market-to-book ( $M/B$ ) ratio and the historical value of the market-to-book ratio (external weighted historical market-to-book, EFWAMB) in US market. They reveal that market timing is significantly related to capital structure and fluctuations in their market valuation which have a significant impact on the capital structure. Market timing is "cumulative results from past attempts to equity market time" (Baker and Wurgler, 2002)[1]. The claim has successfully derived from the empirical model. The emergence of MTT is expected to provide answers to the complexity of the capital structure.

Research on the impact of market time on the capital structure attributed to MTT has been widely carried out, but not so widespread in emerging markets. The conclusions derived from previous studies also varied considerably, both in the proxy and measurement variables used. In the last ten years, there is still a lot of discussion about capital structure related to capital market conditions. Brendea (2012), in her research, said that the market timing behavior of companies registered in Romania revealed a positive correlation between the ratio of Romanian capital market income prices. The capital structure policy depends on how the market conditions (Kim *et al.*, 2015). They examine how the relationship between capital structure and macroeconomic conditions in developing countries. Based on this, the study will focus on capital structure policies based on MTT in developing countries. Indonesia is one of the developing countries in the Asian Region which has capitalization in the capital market reached Rp6,350 trillion in 2017. The capital market in Indonesia, the Indonesia Stock Exchange (IDX), was

---

established in 1912 in Batavia, currently renamed Jakarta is the capital of the country, with continuous improvement in performance.

Looking at the phenomena that occur in Indonesia, repurchase equity is intended to increase the value of earnings per share (EPS). Analysts also say that one argument that is often used to explain the motivation of publishers to buy back their equity in the market is to increase the value of EPS. Thus, the buyback is also another alternative to cash dividends where the company provides value to its investors. It means that if the market price falls (undervalued), the issuer can repurchase it, while if it is considered too high, it can be sold to obtain capital gains.

From 2000 to 2015 data there are more than 30 shares repurchase announcements listed on the IDX. There are several companies that buy back shares more than once, including: PT Berlian Laju Tanker (2001, 2005 and 2006), PT Telkom (2005, 2007 and 2011), PT HM Sampoerna (2001, 2002 and 2003), PT Bank Artha Graha in 2010, PT Bumi Resources, PT Multi Indo Citra (2011) and several other companies. During the first quarter of 2008, several issuers on the Indonesia Stock Exchange bought many repurchases, examples are PT Bank Central Asia, PT Telekomunikasi Indonesia Tbk and PT Kalbe Farma Tbk. This condition is in stark contrast to the period 1994–2005 where there was only one company that made a buyback, namely PT HM Sampoerna Tbk. It raises the question: when is the right time for the company to make a public offering and when can the company buy back its shares?

In addition to this, the Indonesian economy in the period observed was affected by the global financial crisis of 2008. Referring to the Demircuc-Kunt, Klapper, Singer and Van Oudheusden (2015), Demircuc-Kunt, Soledad Martinez-Peria and Tressel (2015) that examines the evolution of corporate capital structure during the global financial crisis and its consequences. The study found that corporate leverage and debt maturity declined in developed and developing countries during the crisis, even in states that did not experience a crisis. It became an interesting topic of research in the field of a capital structure that is very complex. Given the importance of capital structure policies in various economic conditions, it is relevant to investigate how companies in Indonesia finance their assets and determine the direction of the company's capital structure policy. Therefore, this paper is expected to contribute to the existing literature on capital structure in the reality of Indonesia's economic conditions including in the period of the financial crisis.

Based on several diverse research results, the authors consider the need for further research to ascertain what factors and how these factors influence capital structure policies in Indonesian companies. The theories underlying the method, such as POT, TOT and MIT, are expected to provide potential solutions to increase targets (Lumbantobing, 2008). However, determining the target leverage cannot only be based on a practical assessment but must be empirical studies. Based on this, the authors intend to examine the market time of capital structure in Indonesia.

### Conceptual framework

The empirical model employed adopts the one found in Baker and Wurgler's (2002) study where the current capital structure is closely related to past market assessments and fluctuations in market valuation have an enormous impact on the capital structure. The main factor influencing capital structure includes market timing, via external proxy finance, weighted historical market-to-book ratio (EFWAMB). They argued that capital structure is the cumulative outcome of efforts for market timing.

Furthermore, to investigate its long-term effects, as in the study of Kayhan and Titman (2007), external finance weighted historical market-to-book ratio (EFWAMB) is divided into two measurements, i.e. yearly timing (YT) and long-term timing (LT). Adding cash flow deficit/financial deficit (FD) to find out whether there is any indication of equity use is more due to the hierarchical factor based on pecking order theory (Frank and Goyal, 2003). Control variables in this study including tangible assets, size and profitability adopt Rajan and Zingales (1995), which suggest that there are correlations of these three variables with leverage. For the next

stage, the “timing” analysis is measured, a regression model is constructed and selecting samples to be tested and analyzed with the regression model. Thus, the conceptual framework of this study can be illustrated, as shown in Figure 1.

The measurement of the effects of market timing base on two measurements: yearly period/timing (YT) and long-term period/timing (LT). It is meant to find out the persistent effects of market timing variable. YT is used to measure the extent of stock mispricing level, and long-term timing (LT) is used to find out the growth opportunity reflected in stock prices. The timeline concept can be illustrated as shown in Figure 2.

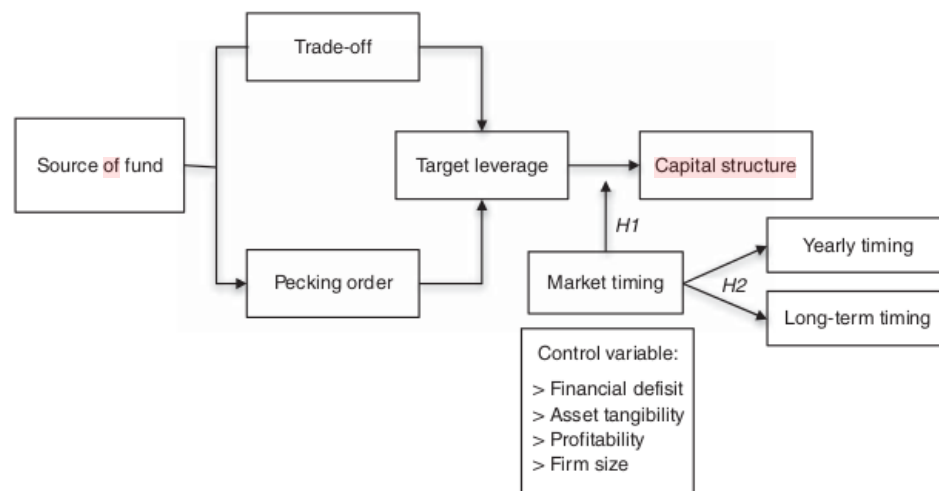
**Research methodology**

The focus of this research is market timing on the capital structure by using a frame of the empirical model developed by Baker and Wurgler (2002), where, first, the main factors that influence the capital structure include, market timing, tangible assets, size and profitability. Second, analyzing the “timing” is measured and forming a regression model. Third, select the sample to be tested and then analyze with the regression model. However, this paper uses a measure modified and built by Kayhan and Titman (2007) as a measure of market timing. Furthermore, in order to make research more compatible and applicable, we adapt to the essence of research and reality in Indonesia by modifying other variables from the model.

The integration and identification of capital structure determinants into the research hypothesis testing is based on market time theory and is carried out through the construction of two models of empirical research to solve research problems. There are two research models used in this study. First, the short-term estimation model, independent variables develop of empirical models, namely, leverage variables. Independent variables are the market-to-book ratio, external financial market-to-book ratio, asset ratio and firm size. Second, the long-term estimation model, where the dependent variable is the historical ratio of the external market-to-financial book with two measurements of time (annual and long-term time), market-to-book ratio, tangibility assets, profitability and company size.

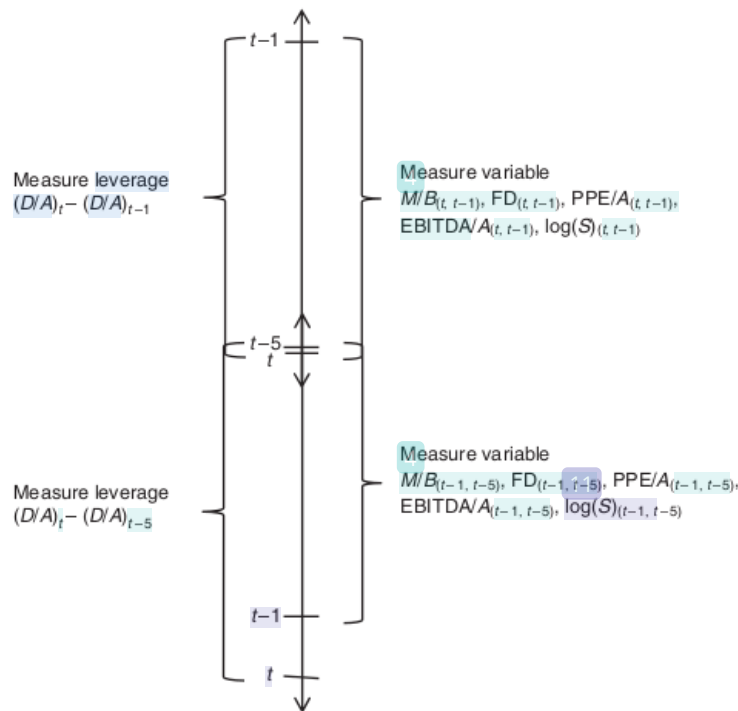
*Leverage*

The level of leverage is calculated from the ratio of total liabilities to total assets (Baker and Wurgler, 2002), based on the book value of leverage and market value of leverage. Similar to literature, leverage will be measured by comparing total liabilities and assets ( $D/A$ ) as a



**Figure 1.**  
Conceptual framework

Source: Developed for the current study



Source: Developed for the current study

Figure 2.  
Timeline concept

1 measure of capital structure. In this study, total liabilities and total assets came from the standard balance sheet in the adjusted company financial statements. Therefore, leverage can be measured by the following equation:

$$\text{Book leverage} = \frac{\text{book debt}}{\text{total assets}}$$

$$\text{Market leverage} = \frac{\text{book debt}}{\text{total asset} - \text{total equity} + \text{market equity}}$$

#### External finance weighted average market-to-book ratio ( $MB_{efwa}$ )

The market timing proxy is the market-to-book ratio, which is the total equity per share multiplied by the stock's closing price, formulated as follows:

$$\text{Market to book ratio} = \frac{\text{market value of share}}{\text{book value of share}}$$

Referring to Baker and Wurgler (2002) research,  $MB_{efwa}$  is a proxy of equity market timing for historical value.  $MB_{efwa}$  is the weighted average of the market-to-book ratio in the past. Calculations that are too large or too small, due to the mispricing of shares or the presence of the many or few growth opportunities, have the following measurement:

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

## IJOEM

Wherein the net equity issue ( $e$ ) presents the changes in the initial and end equity values ( $d$ ) the net debt issue as a net debt notification and defined as the change in the initial and debt values.  $M$  and  $B$  each represents the market value and the book value of equity.

Market timing measured employed in this study to find out the persistence impact uses two-time measurements, i.e. YT, and long-term timing, both of which are formulated as follows:

$$\text{Yearly timing (YT)} = \left( \sum_{s=0}^{t-1} \text{FD}_s \times (M/B)_s \right) / t - \overline{\text{FD}} \times \overline{M/B} = \hat{c}ov(\text{FD}, M/B),$$

$$\text{Long - term timing (LT)} = \left( \sum_{s=0}^{t-1} M/B_s / t \right) \times \left( \sum_{s=0}^{t-1} \text{FD}_s / t \right) = \overline{M/B} \times \overline{\text{FD}}.$$

The linear combination of YT and long-term timing (LT) is as follows:

$$(M/B)_{\text{timing}, t-1} = \frac{\sum_{s=0}^{t-1} \text{FD}_s \times (M/B)_s}{\sum_{s=0}^{t-1} \text{FD}_s} = \frac{\hat{c}ov(\text{FD}, M/B)}{\overline{\text{FD}}} + \overline{M/B} = (\text{YT} + \text{LT}) / \overline{\text{FD}}.$$

YT, the sample covariance between total external financing and market-to-book ratio, is based on Baker and Wurgler (2002) in that a firm which increases its external capital at the time the stock prices are relatively high aims more to lower debt ratio. In this case, managers take advantage of short-term assessments for their capital needs via issuing equities. The long-term measure is intended to test whether the managers are acting as if equity financing is inversely proportional to the market-to-book ratio. In other words, they finance their FD with equity rather than debt if their market value to equity book value is sufficiently high.

### Financial deficit

FD plays the central role in the pecking order effect, as described in Shyam-Sunder *et al.* (1999) and Frank and Goyal (2003), and in the timing effect, as discussed by Baker and Wurgler (2002):

$$\text{Financial deficit (FD)} = \Delta \text{WC} + I + D - \text{CF} \equiv \Delta e + \Delta d.$$

FD is defined as the amount of investment ( $I$ ), dividend ( $D$ ) and changes in working capital (WC), after being reduced by net cash flow (CF). The amount is identical to net debt ( $d$ ) plus net equity ( $e$ ).

### Asset tangibility (PPE/A)

Proxied via fixed asset to a total asset used as a collateral may be associated with high leverage. With the presence of asset owned by the firm, it can be used as collateral when a default occurs. Asset tangibility is measured as:

$$\text{Asset tangibility} = \frac{\text{Net plant + property + equipment}}{\text{total assets}}.$$

### Profitability (EBITDA/A)

Profitability is the firm's ability to make a profit. Pecking order theory shows that funding comes from internal sources and the leverage level is low (Shyam-Sunder *et al.*, 1999; Myers, 1984). Various proxies have been used to measure a firm's profitability. Return on Assets proxy Cassar and Holmes (2003) and Tong and Green (2005), operating income to total assets proxy Wessels and Titman (1988) and Rajan and Zingales (1995). In this study,

profitability is proxied as the ratio of EBITDA to total assets Baker and Wurgler (2002), Strebulaev (2007) and (Gaud *et al.* 2005), namely:

$$\text{Profitability} = \frac{\text{EBITDA}}{\text{Total assets}}$$

Equity market  
timing and  
capital  
structure

### Firm size (log (S))

Firm size is expected to have a significant effect on the level of leverage. Large companies usually diversify their businesses so that the chances of bankruptcy are small. In addition, large companies are more accessible to the public and hence have lower debt costs depend on Wessels and Titman (1988), Rajan and Zingales (1995), Ghosh *et al.* (2000) and Baker and Wurgler (2002), this study employs Log(NetSales)[2] proxy in measuring size.

### Model hypothesis testing I

Equity market timing proxy is the external finance weighted historical market-to-book ratio  $(M/B)_{efwa}$ , wherein the proxy is used to evaluate the mispricing of a firm's historical market value in order to issue at share prices which are relatively higher than the shares' book value (Baker and Wurgler, 2002). This model is used to find out if market timing affects leverage changes:

$$\begin{aligned} (D/A)_t = & \alpha + \beta_1 (M/B)_{efwa,t-1} + \beta_2 (FD)_{t-1} + \beta_3 (NFA/A)_{t-1} \\ & + \beta_4 (EBITDA/A)_{t-1} + \beta_5 \log(S)_{t-1} + \varepsilon_t. \end{aligned}$$

### Model hypothesis testing II

The regression in the following model incorporates a time measurement factor, following the concept in Kayhan and Titman (2007) and Bie and Haan (2004), which is YT and long-term timing. This is done to examine whether the effects of market timing will persist or have a permanent impact. Share price over a five-year period from year  $t-5$  to  $t$  will affect the leverage ratio for a full five-year period:

$$\begin{aligned} (D/A)_t - (D/A)_{t-5} = & \alpha + \beta_1 (YT)_{t-5} + \beta_2 (LT)_{t-5} + \beta_3 (FD)_{t-5} \\ & + \beta_4 (NFA/A)_{t-5} + \beta_5 (EBITDA/A)_{t-5} + \beta_6 \log(S)_{t-5} + \varepsilon_t. \end{aligned}$$

### Analysis and discussion

Companies sampled in this study are those that conducted IPO between 2000 until 2015 with industry classification outside of finance and banking. This study uses eight variables, consisting of dependent variable  $D/A$  and independent variables  $(M/B)_{efwa}$ , YT, LT and control variables FD, NFA/A, EBITDA/A and log(S). Measurement of descriptive statistics in this study is the minimum and maximum values, average value and standard deviation.

### Regression analysis of model I – book leverage

The hypothesis of regression coefficients in the model I which explains the effect of the variable  $(M/B)_{efwa}$ , FD, NFA/A, EBITDA/A and log(S) to  $D/A$  are using multiple linear regression analysis. The description of regression analysis obtained is presented in Table I.



From the table above, the following regression equation is obtained:

$$(D/A)_t = 0.062 - 0.021(M/B)_{efwa,t-1} + 0.0000000325FD_{t-1} + 0.284(NFA/A)_{t-1} - 0.284(EBITDA/A)_{t-1} + 0.003 \log(S)_{t-1} R^2 = 25.8\%$$

Table I describes the simultaneous test results and the partial effects of the five independent variables on book-leverage-based  $(D/A)_t$ . In the value of  $F$ -test obtained = 3.203 and the coefficient of determination is 25.8 percent. The results of this test describe that a significant effect is simultaneously obtained from the five independent variables on  $(D/A)_t$  with a contribution of 25.8 percent.

The result of  $t$ -test for the partial effect of  $(M/B)_{efwa,t-1}$  to  $(D/A)_t$  is significant ( $p$ -value < 0.05). The variable  $(M/B)_{efwa,t-1}$  with a regression coefficient of -0.021 significantly and negatively affects  $(D/A)_t$ . This is evident from the  $t$ -test value = 2.111 which is greater than  $t$ -table = 2.013 or  $p$ -value = 0.040 which is smaller than  $\alpha = 0.05$ , thus statistically there is a significant effect with negative direction of  $(M/B)_{efwa,t-1}$  to  $(D/A)_t$ . These results suggest that the diversity of  $(D/A)_t$  can be explained by  $(M/B)_{efwa,t-1}$ .

The effect of the financial deficit variable  $(FD)_{t-1}$  to  $(D/A)_t$  is partially achieved using  $t$ -test. The  $t$ -test result for this regression coefficient is not significant ( $p$ -value > 0.05).  $FD_{t-1}$  variable with a regression coefficient of 0.0000000325 has no significant effect on  $(D/A)_t$ . This is evident from the  $t$ -test value = 0.093 which is smaller than  $t$ -table = 2.013 or  $p$ -value = 0.926 which is greater than  $\alpha = 0.05$ , thus statistically there is no significant effect of  $FD_{t-1}$  to  $(D/A)_t$ . These results suggest that the diversity of  $(D/A)_t$  cannot be explained by  $FD_{t-1}$ .

The next variable is the partial influence of the variable  $(NFA/A)_{t-1}$  to  $(D/A)_t$  which is achieved using  $t$ -test. The  $t$ -test result for this regression coefficient is significant ( $p$ -value < 0.05). Variable  $(NFA/A)_{t-1}$  with a regression coefficient of 0.186 has the positive and significant effect to  $(D/A)_t$ . This is evident from the value of  $t$ -test = 2.309 which is greater than  $t$ -table = 2.013, or  $p$ -value = 0.025 which is smaller than  $\alpha = 0.05$ , thus statistically there is a significant influence with the positive direction of  $(NFA/A)_{t-1}$  to  $(D/A)_t$ . This result suggests that the diversity of  $(D/A)_t$  can be explained by  $(NFA/A)_{t-1}$ .

The variable  $(EBITDA/A)_{t-1}$  to  $(D/A)_t$ , as a proxy of profitability, is achieved using  $t$ -test. The  $t$ -test result for this regression coefficient is not significant ( $p$ -value > 0.05). Variable  $(EBITDA/A)_{t-1}$  with a regression coefficient of -0.284 has no significant effect to  $(D/A)_t$ . This is evident from the  $t$ -test value = 1.074 which is smaller than  $t$ -table = 2.013, or  $p$ -value = 0.288 which is greater than  $\alpha = 0.05$ , thus statistically there is no significant effect of  $(EBITDA/A)_{t-1}$  to  $(D/A)_t$ .

The  $t$ -test result regression of coefficient the partial influence of variable  $\log(S)_{t-1}$  to  $(D/A)_t$  is not significant ( $p$ -value > 0.05). Variable  $\log(S)_{t-1}$  with a regression coefficient

Variable	B	t-test	p-value	Effect
$(M/B)_{efwa}$	-0.021	-2.111	0.040	Negative and significant
FD	3.25E-009	0.093	0.926	Not significant
NFA/A	0.186	2.309	0.025	Positive and significant
EBITDA/A	-0.284	-1.074	0.288	Not significant
Log(S)	0.003	0.118	0.906	Not significant

**Table I.**  
The results of regression analysis of model I on book-leverage-based  $D/A$

**Notes:** Constanta = 0.062; coefficient of critical region: determination ( $R^2$ ) = 25.8 percent  $t_{tabel} = 2.013$ ;  $F$ -test = 3.203  $F_{tabel} = 2.417$   
**Source:** Treated secondary data, 2015

of 0.003 has no significant effect to  $(D/A)_t$ . This is evident from the  $t$ -test value = 0.118 which is smaller than  $t$ -table = 2.013, or  $p$ -value = 0.906 which is greater than  $\alpha = 0.05$ , thus statistically there is no significant effect of  $\log(S)_{t-1}$  to  $(D/A)_t$ .

#### Regression analysis of Model II – book leverage

Model II is a hypothesis that explains the influences of variables YT, LT, FD, NFA/A, EBITDA/A and  $\log(S)$  on  $D/A$  using multiple linear regression analysis. The outline of the regression results is presented in Table II.

From the table above, the following equation is obtained:

$$\begin{aligned} (D/A)_t - (D/A)_{t-5} = & -0.039 + 0.000000185YT_{t-5} \\ & - 0.000000166LT_{t-5} - 0.00000000207FD_{t-5} + 0.401(NFA/A)_{t-5} \\ & + 2.78(EBITDA/A)_{t-5} + 0.043 \log(S)_{t-5} \quad R^2 = 9.1\% \end{aligned}$$

Table II describes the simultaneous test results and the partial influence of the six independent variables on  $(D/A)_t - (D/A)_{t-5}$  based on book leverage. In the  $F$ -test section, the  $F$ -test value obtained = 0.650 (smaller than  $F$ -table) and the coefficient of determination is 9.1 percent. The results of this test explain that simultaneously there are non-significant effects from the six independent variables on  $(D/A)_t - (D/A)_{t-5}$  with a contribution of 9.1 percent. The non-significance of the simultaneous test results explains that partial test results need not be explained in more detail, as the results say that the effects of all independent variables are not significant.

#### Regression analysis of model I – market leverage

The regression coefficients on Model I which explains the effects of variables  $(M/B)_{efwa}$ , FD, NFA/A, EBITDA/A and  $\log(S)$  on  $D/A$  with multiple linear regression analysis. The outline of the regression analysis results is presented in Table III.

From the Table III, a regression equation is obtained as thus:

$$\begin{aligned} (D/A)_t = & 0.181 - 0.024(M/B)_{efwa,t-1} + 0.00000000245FD_{t-1} \\ & + 0.157(NFA/A)_{t-1} - 0.385(EBITDA/A)_{t-1} \\ & + 0.018 \log(S)_{t-1} \quad R^2 = 25.7\% \end{aligned}$$

Table III describes the simultaneous test results and partial effects of the five independent variables on  $(D/A)_t$  based on market leverage. The value obtained for  $F$ -test = 3.183 (greater

Variable	B	$t$ -test	$p$ -value	Effect
YT	1.85E-007	0.772	0.444	Not significant
LT	-1.66E-007	-0.640	0.525	Not significant
FD	-2.07E-008	-0.049	0.961	Not significant
NFA/A	0.401	0.767	0.447	Not significant
EBITDA/A	2.781	1.663	0.103	Not significant
Log(S)	0.043	0.263	0.794	Not significant

**Notes:** Constant = -0.39; coefficient of critical region: determination ( $R^2$ ) = 9.1 percent;  $t$ -table = 2.014;  $F$ -count = 0.650;  $F$ -table = 2.308

**Source:** Treated secondary data, 2015

**Table II.**  
Results of model II  
regression analysis on  
book-leverage-based  
 $D/A$

than F-table) and the coefficient of determination is 25.7 percent. The results of this test explain that simultaneously there are significant influences of the five independent variables on  $(D/A)_t$ , with a contribution of 25.7 percent.

The partial effect analysis of variable  $(M/B)_{efwat-1}$  on  $(D/A)_t$  is done using  $t$ -test. The  $t$ -test result for this regression coefficient is significant ( $p$ -value  $< 0.05$ ). Variable  $(M/B)_{efwa,t-1}$  with a regression coefficient of  $-0.024$  has a negative and significant effect on  $(D/A)_t$ . This is evident from the value of  $t$ -test  $= 2.305$  which is greater than  $t$ -table  $= 2.013$ , or  $p$ -value  $= 0.026$  which is smaller than  $\alpha = 0.05$ , thus there is a statistically significant influence with a negative direction from  $(M/B)_{efwa,t-1}$  to  $(D/A)_t$ .

The second independent variable is a FD, in which the effects of variable  $(FD)_{t-1}$  on  $(D/A)_t$  is achieved via  $t$ -test. The  $t$ -test result for this regression coefficient is not significant ( $p$ -value  $> 0.05$ ).  $FD_{t-1}$  with a regression coefficient of  $0.0000000245$  has no significant effect on  $(D/A)_t$ . This is evident from the value of  $t$ -test  $= 0.093$  which is smaller than  $t$ -table  $= 0.690$ , or  $p$ -value  $= 0.494$  which is greater than  $\alpha = 0.05$ , hence there is no statistically significant influence of  $FD_{t-1}$  on  $(D/A)_t$ .

The partial effect of the variable  $(NFA/A)_{t-1}$  on  $(D/A)_t$  is achieved using  $t$ -test. The  $t$ -test result for this regression coefficient is not significant ( $p$ -value  $> 0.05$ ). Variable  $(NFA/A)_{t-1}$  with a regression coefficient of  $0.157$  has no significant effect on  $(D/A)_t$ . This is evident from the  $t$ -test value  $= 1.912$  which is smaller than  $t$ -table  $= 2.013$ , or  $p$ -value  $= 0.062$  which is greater than  $\alpha = 0.05$ , hence there are statistically significant influences with positive direction of  $(NFA/A)_{t-1}$  on  $(D/A)_t$ . This result explains that the diversity of  $(D/A)_t$  cannot be explained by  $(NFA/A)_{t-1}$ . The  $t$ -test result for variable  $(EBITDA/A)_{t-1}$  on  $(D/A)_t$  regression coefficient is not significant ( $p$ -value  $> 0.05$ ). Variable  $(EBITDA/A)_{t-1}$  with a regression coefficient of  $-0.385$  has no significant effect on  $(D/A)_t$ . This is evident from the value of  $t$ -test  $= 1.427$  which is smaller than  $t$ -table  $= 2.013$ , or  $p$ -value  $= 0.160$  which is greater than  $\alpha = 0.05$ , thus there is no statistically significant influence of  $(EBITDA/A)_{t-1}$  on  $(D/A)_t$ .

The  $t$ -test result for the regression coefficient of  $\log(S)_{t-1}$  on  $(D/A)_t$  is not significant ( $p$ -value  $> 0.05$ ). Variable  $\log(S)_{t-1}$  with regression coefficient of  $0.003$  has no significant effect on  $(D/A)_t$ . This is evident from the value of  $t$ -test  $= 0.708$  which is smaller than  $t$ -table  $= 2.013$ , or  $p$ -value  $= 0.483$  which is greater than  $\alpha = 0.05$ , thus there is no statistically significant influence of  $\log(S)_{t-1}$  on  $(D/A)_t$ .

### Regression analysis of model II - market leverage

The hypothesis of regression coefficients in model II which explains the effects of variables YT, LT, FD, NFA/A, EBITDA/A and  $\log(S)$  on market-leverage-based  $D/A$  is achieved using multiple linear regression analysis. The description of the regression analysis obtained is presented in Table IV.

Variable	B	$t$ -test	$p$ -value	Effect
$(M/B)_{efwa}$	-0.024	-2.305	0.026	Negative and significant
FD	2.45E-008	0.690	0.494	Not significant
NFA/A	0.157	1.912	0.062	Positive and significant
EBITDA/A	-0.385	-1.427	0.160	Not significant
Log(S)	-0.018	-0.708	0.483	Not significant

Notes: Constant = 0.181; coefficient of critical value: determination ( $R^2$ ) = 25.7 percent;  $t$ -table = 2.013;  $F$ -test = 3.183;  $F$ -table = 2.417

Source: Treated secondary data, 2015

**Table III.**  
Results of model I  
regression analysis on  
market-leverage-based  
 $D/A$

The Table IV, a regression equation is presented as follows:

$$(D/A)_t - (D/A)_{t-5} = -0.383 + 0.000000319YT_{t-5} - 0.000000147LT_{t-5} - 0.00000000147FD_{t-5} + 0.432(NFA/A)_{t-5} + 0.543(EBITDA/A)_{t-5} + 0.062 \log(S)_{t-5} R^2 = 12.1\%$$

Table IV describes the simultaneous test results and partial influence of the six independent variables on  $(D/A)_t - (D/A)_{t-5}$  based on market leverage. In the  $F$ -test value obtained is 1.037 (smaller than  $F$ -table) and the coefficient of determination is 12.1 percent. The results of this test explain that simultaneously there are insignificant influences of the six independent variables on  $(D/A)_t - (D/A)_{t-5}$  with the contribution of 12.1 percent. The simultaneous test results are not significant so that the partial test results need not be described as the effects of all independent variables are not significant.

### Results and discussion

#### *Analysis of the effect of equity market timing ( $M/B_{efwd}$ ) on leverage*

The results of the statistical test on equity market timing on the model I with both book leverage and market leverage indicate significant figures wherein the regression coefficients are negative with real test level  $\alpha = 0.05$ , although it is not absolute for model II. The results of this test show that the issuance of equity when last year stock prices are high will cause companies to increase their operational fund needs by issuing shares. These results provide evidence that managers and investors of industrial companies outside of financial services and banking in Indonesia are utilizing their rationality in making decisions on the time of the market. In which the issuance of equity when stock prices are high will result in managers refusing debt financing to improve the optimum leverage target so that this will change the composition of the company's capital structure.

The time span of the observations included during the 2008 crisis period. The impact of the financial crisis that began with the collapse of Lehman Brother in America in 2008 had shaken the world including Indonesia. Effects that occur in Indonesia are not like other countries. However, Indonesia's economic growth could still reach 7.4 percent in 2008 and 4.7 percent in 2009. While other countries including ASEAN neighboring countries have achieved negative growth such as Singapore -0.6 percent, Malaysia -1.5 percent, Thailand -2.3 percent and Brunei Darussalam -1.8 percent in 2009 (International Monetary Fund, 2015). The Indonesian Government adopted a policy of increasing interest rates with the aim of holding back the flow of capital outflows. This condition did not

Variable	B	t-test	p-value	Effect
YT	4.77E-007	1.921	0.061	Not significant
LT	-3.19E-007	-1.192	0.239	Not significant
FD	-1.47E-007	-0.334	0.740	Not significant
NFA/A	0.432	0.799	0.428	Not significant
EBITDA/A	0.543	0.314	0.755	Not significant
Log(S)	0.062	0.366	0.716	Not significant

Notes: Constant = -0.383; coefficient of critical value: determination ( $R^2$ ) = 12.1 percent;  $t$ -table = 2.014;  $F$ -test = 1.037;  $F$ -table = 2.308

Source: Treated secondary data, 2015

Equity market timing and capital structure

Table IV. Results of model II regression analysis on market-leverage-based  $D/A$

1 confirm Demircug-KunDemircug-Kunt, Klapper, Singer and Van Oudheusden (2015), Demircug-Kunt, Soledad Martinez-Peria and Tressel (2015) research, because the company's capital structure decisions in Indonesia relied more on debt due to sluggish stock exchange trading due to the global financial crisis. In other words, the equity market timing cannot be observed during the crisis. It was evident that smaller scale companies were more able to survive because there is no connection between the capital market and market timing decisions (Proença *et al.*, 2014; Cassar and Holmes, 2003).

The results of this study are empirically able to prove the main premise of Baker and Wurgler (2002), main findings show that firms with low debt ratios will increase their funds when market valuation is high, while firms with high debt ratios will increase their funds when market valuation is low. Their study on capital structure is explicitly influenced by a significantly negative effect of market valuation on leverage through equity issuance. These results reveal the fact that the strength of the creditor can motivate the management and shareholders of firms in Indonesia to adjust their efforts to the optimal leverage target even if it is not for the long run. In other, high-market valuation will encourage managers to issue of equity and refuse financing with debt to avoid increasing future agency costs of equity (Fama and French, 2002). Myers and Majluf (1984) affirmed that rational managers and investors would issue securities rather than debt when they were very enthusiastic about the outlook of corporate earnings.

#### *Analysis of the effect of FD on leverage*

Based on the results a regression coefficient value for the FD of 0.093 is obtained with probability value 0.926, wherein this value is not significant at the 0.05 significance level. In this first model, which is viewed from book leverage, it is suggested that FD does not affect target leverage. So it can be concluded that the hypothesis for FD on leverage is rejected because the FD variable in this study does not have enough significance although there is positive leverage. This means that firms with high (low) FDs tend to have no effect on leverage targets. The results are inconsistent with (Kayhan and Titman, 2007), which stated that FD positively affected leverage.

#### *Analysis of the effect of asset tangibility (NFA/A) on leverage*

The composition of a firm's tangible assets structure that could be used as collateral had a positive effect on the structure of corporate capital (Kuo and Wang, 2005). Companies that have debt guarantees will be more accessible to get debt than ones that do not have a debt guarantee because investors will always provide loans when there are collateral assets. The results are consistent with the consensus of financial researchers that the debt ratio is positively influenced by asset tangibility, so NFA/A is an essential element of the capital structure.

The results of the test on the Model I in this study reveal that the hypothesis that assets tangibility positively affects a firm's debt ratio is accepted, although the findings are not in agreement for the second model. These findings prove that large asset tangibility allows firms to apply for high loans. It can be used by firms to finance investments when they are experiencing financial difficulties, but the desire to invest will decrease as business risks and guarantee for tangible assets are needed to obtain higher debts.

Management of assets into productive investment projects leads to a decrease in the availability of assets that can be used as collateral to obtain external sources. It will, therefore, reduce the firm's reliance on external funding sources and will encourage the management to productively use the assets to obtain better sources of revenue and business opportunities. This revenue source is internal funds to finance the firm's operations, thereby reducing its reliance on external funding sources. This fact is consistent with the pecking order theory that firms with high structural assets

---

composition fund their investments internally Tong and Green (2005) and Kuo and Wang (2005). Thus, the findings of this study successfully answer the first research question that assets tangibility is a determinant of the corporate capital structure.

#### *Analysis of the effect of profitability (EBITDA/A) on leverage*

The research model shows that profitability has a negative value on the ratio of corporate debt with prob. 0.288, which means it is not significant, both for the models I and II. Pecking order theory shows that if a firm is more profitable, then its funding comes mostly from internal sources. Weston and Copeland (1992) said that profitable companies generally borrowed in small numbers, while less profitable firms tend to have high debt ratios due to inadequate internal funds and debt being the preferred source of external funds rather than internal. Baskin (1989) argued that the more profitable a company is, it is expected to have higher internal funding. Therefore, pecking order theory states that profitability has a negative relationship with debt ratio (Myers, 1984; Cassar and Holmes, 2003; Akhtar, 2005).

#### *Analysis of the effect of firm size (log(S)) on leverage*

Hypothesis testing of firm size's effect on leverage suggests that there are no effects on the models I and II. These results are inconsistent with the findings in previous studies, that firms with larger and more complex asset sizes have no difficulty in obtaining external sources of funds or loans. Conversely, few companies with smaller assets get external sources of funds. Therefore, based on the trade-off hypothesis, the amount of assets (SIZE) has a positive effect on the ratio of corporate debt. Ozkan (2001) also mentioned that big companies that had the ability to recover their debts would gain the trust of creditors to issue high debts. Other empirical evidence are presented by Bevan and Danbolt (2004), Chen *et al.* (2014), Low and Chen (2004). However, the empirical studies of Frank and Goyal (2003) reveal contrary evidence, that firm size negatively affects the debt ratio.

### **Conclusion**

The results of this study successfully answer the first research question that market timing, proxied through external finance weighted historical market-to-book ratio ( $(M/B)_{efwa}$ ), has a significant negative effect on  $D/A$ , on book leverage and market leverage. The results of the analysis show that the measurements of variable  $(M/B)_{efwa}$  based on market leverage is more capable of explaining its influence to  $D/A$  variable. It indicates that market timing will have more impact on market leverage changes. The results also indicate that the current capital structure is closely related to the past market value, wherein the firm will issue equity based on the stock market valuation. So it can be concluded that when their stock price is high, the company increases the number of its shares in circulation and repurchases them when the company's stock price is low.

The results also support the opinion of Baker and Wurgler (2002) who examined the tendency of managers to consider market timing via the use of market-to-book ratio ( $M/B$ ) and external finance weighted historical market-to-book ratio (EFWAMB) as a measure of market timing. They found that market timing was significantly related to capital structure and that fluctuations in market valuation had an enormous impact on the capital structure. The results of the study excluded when the 2008 crisis occurred, the timing was not a consideration in determining its capital structure. Proved that there were no corporate actions on the stock exchange both buybacks and the sale of their shares, companies tend to choose funding sources in the form of debt.

In the second research model, when long-term measurements are used by including time measurements,  $t$  on  $t-5$ , the results show that market timing does not influence the sampled

---

## IJOEM

---

firms' decision making of whether they will add or will buy shares of the company. Test results figures show insignificant values, either based on book value or market value.

This result is consistent with the research conducted by Kayhan and Titman (2007) that divides EFWAMB into two parts, namely YT, which is used to measure stock mispricing levels, and long-term timing (LT) used to find out growth opportunities reflected in stock price. In their research, they found that market timing did have an impact on capital structure, but the impact was not persistent.

### Managerial implications

The practical implications of the results of this study for management will guide for managers in considering the benefits and the costs of chosen funding sources when it comes to balancing capital structure. Selection and screening of important factors that determine capital structure can be decided from the findings of this study. Similarly, they may provide management guidance on the timing of the market or equity market timing when it comes to deciding when to issue equity or debt. The results of this study also have practical implications on investment policies that need to consider the adaptation factor of the industrial environment when it comes to making capital structure decisions. Managers at least get an idea of how funding decisions are when faced with periods of crisis or uncertain economic conditions.

### Recommendations

Based on the results of this study, the author would like to provide some suggestions which may be useful for the development of capital structure theory of public companies in Indonesia for further research. They are encouraged to increase the number of firm samples and have more extended observation periods, so that the results obtained may reflect the general condition of the firms. Using hot-cold market proxy as a proxy of market timing, so that rational or not rational behavior of the sample firm can be detected. Besides, other proxies of market timing, such as the earnings-based valuation model and stock returns, have characteristics similar to market-to-book ratios, and proxies that use manager survey can only produce qualitative analysis thereby reducing the prevalence rate of research data because quantitative data do not support it. Taking into consideration other factors that can explain changes in corporate leverage. So it is expected that research factors can thoroughly explain the changes in leverage.

Selecting sample firms from the industrial sector or similar industry segments, so the characteristics of the industrial sector can be known and compared to other sectors or segment characteristics under the topic of the research.

### Notes

1. Although Myers (1984) actually said that market timing was not a new idea. His views are also enforced by Graham and Harvey (2001) that there were indications of management behavior in equity issuance. While (Hovakimian *et al.* (2001) said that when stock prices rose, the firm would conduct equity bidding. Then, Lucas and Mcdonald (1990) also mentioned the problem of adverse selection during the issuance (see details in Frank and Goyal 2003).
2. We consider natural logarithm or lag of the data series for our analysis to inverse one another which allows for modeling. The natural logarithm is used if a distribution of data where some values are too large for some periods and other values are too small for other periods. Therefore, to reduce the impact of these outliers on our data, we take the natural log of the entire distribution (instead of the raw values) to normalize the distribution of the data (Keene, 1995).

---

**References**

- Akhtar, S. (2005), "The determinants of capital structure for Australian multinational and domestic corporations", *Australian Journal of Management*, Vol. 30 No. 2, available at: <https://doi.org/10.1177/031289620503000208>
- Alti, A. (2005), "IPO market timing", *Review of Financial Studies*, Vol. 18 No. 3, pp. 1105-1138, available at: <https://doi.org/10.1093/rfs/hhi022>
- Baker, M. and Wurgler, J. (2002), "Market timing and capital structure", *Journal of Finance*, Vol. 57 No. 1, available at: <https://doi.org/10.1111/1540-6261.00414>
- Baskin, J. (1989), "An empirical investigation of the pecking order hypothesis", *The Journal of the Financial Management Association*, Vol. 18 No. 1, pp. 26-35, available at: <https://doi.org/10.2307/3665695>
- Bevan, A.A. and Danbolt, J. (2004), "Testing for inconsistencies in the estimation of UK capital structure determinants", *Applied Financial Economics Journal*, Vol. 14 No. 1, November, pp. 55-66, available at: <https://doi.org/10.1080/0960310042000164220>
- Bie, T.D. and Haan, L.De. (2004), "Does market timing drive capital structures? A panel data study for Dutch firms", DNB Working Paper, Netherlands Central Bank, Research Department, available at: <https://doi.org/10.5596/c13-063>
- Brendea, G. (2012), "Testing the impact of market timing on the Romanian Firms' capital structure", *Procedia Economics and Finance*, Vol. 3 No. 12, pp. 138-143, available at: [https://doi.org/10.1016/S2212-5671\(12\)00132-3](https://doi.org/10.1016/S2212-5671(12)00132-3)
- Cassar, G. and Holmes, S. (2003), "Capital structure and financing of SMEs: Australian evidence", *Accounting and Finance*, Vol. 43 No. 2, pp. 123-147, available at: <https://doi.org/10.1111/1467-629X.t01-1-00085>
- Chen, Y., Zhang, X. and Liu, Z. (2014), "Manager characteristics and the choice of firm 'low leverage': evidence from China", *American Journal of Industrial and Business Management*, Vol. 4 No. 10, pp. 573-584, doi: 10.4236/ajbm.2014.410062.
- Demirguc-Kunt, A., Soledad Martinez-Peria, M. and Tressel, T. (2015), "The impact of the global financial crisis on firms' capital structure", policy research working paper, Development Group, December, available at: <http://econ.worldbank.org> (accessed September 6, 2018).
- Demirguc-Kunt, A., Klapper, L., Singer, D. and Van Oudheusden, P. (2015), "The Global Findex Database 2014: measuring financial inclusion around the world", available at: <https://doi.org/10.1596/1813-9450-7255> (accessed September 6, 2018).
- Elliott, W.B., Koeter-Kant, J. and Warr, R.S. (2007), "A valuation-based test of market timing", *Journal of Corporate Finance*, Vol. 13 No. 1, pp. 112-128, available at: <https://doi.org/10.1016/j.jcorpfin.2006.12.001>
- Fama, E.F. and French, K.R. (2002), "Testing trade-off and pecking order predictions about dividends and debt", *The Review of Financial Studies*, Vol. 15 No. 1, pp. 1-33.
- Frank, M.Z. and Goyal, V.K. (2003), "Testing the pecking order theory of capital structure", *Journal of Financial Economics*, Vol. 67 No. 2, pp. 207-248, available at: [https://doi.org/10.1016/S0304-405X\(02\)00252-0](https://doi.org/10.1016/S0304-405X(02)00252-0)
- Gaud, P., Jani, E., Hoesli, M. and Bender, A. (2005), "The capital structure of Swiss companies: an empirical analysis using dynamic panel data", *European Financial Management*, Vol. 11 No. 1, pp. 51-69, available at: <https://doi.org/10.1111/j.1354-7798.2005.00275.x>
- Ghosh, C., Nag, R. and Sirmans, C.F. (2000), "The pricing of seasoned equity offerings: evidence from REITs", *Real Estate Economics*, Vol. 11 No. 1, pp. 51-69, available at: <https://doi.org/10.1111/j.1354-7798.2005.00275.x>
- Graham, J.R. and Harvey, C.R. (2001), "The theory and practice of corporate finance: evidence from the field", Vol. 60 Nos 2-3, pp. 187-243, *Journal of Financial Economics*, available at: [https://doi.org/10.1016/S0304-405X\(01\)00044-7](https://doi.org/10.1016/S0304-405X(01)00044-7)



- Hovakimian, A., Opler, T. and Titman, S. (2001), "The debt-equity choice", *The Journal of Financial and Quantitative Analysis*, Vol. 36 No. 1, pp. 1-24, available at: <https://doi.org/10.2307/2676195>
- Huang, R. and Ritter, J. (2005), "Testing the market timing theory of capital structure", Working Paper University of Florida, pp. 1-44, available at: [www3.nd.edu/~pschultz/HuangRitter.pdf](http://www3.nd.edu/~pschultz/HuangRitter.pdf)
- Kayhan, A. and Titman, S. (2007), "Firms' histories and their capital structures", *Journal of Financial Economics*, Vol. 83 No. 1, pp. 1-32, available at: <https://doi.org/10.1016/j.jfineco.2005.10.007>
- Keene, O.N. (1995), "The log transformation is special", *Statistics in Medicine*, Vol. 14 No. 8, pp. 811-819, available at: <https://doi.org/10.1002/sim.4780140810>
- Kim, H.J., Sohn, P. and Seo, J.Y. (2015), "The capital structure adjustment through debt financing based on various macroeconomic conditions in Korean market", *Investigacion Economica*, Vol. 74 No. 294, pp. 155-172, available at: <https://doi.org/10.1016/j.inveco.2015.11.005>
- Kuo, H. and Wang, L. (2005), "The effect of the degree of internationalization on capital structure for listed multinational corporations in Taiwan during the Asian financial crisis", *Review of Pacific Basin Financial Markets and Policies*, Vol. 8 No. 3, pp. 447-466, available at: <https://doi.org/10.1142/S0219091505000464>
- Low, P. and Chen, K. (2004), "Diversification and capital structure: some international evidence", *Review of Quantitative Finance and Accounting*, Vol. 23 No. 1, pp. 55-71, available at: <https://doi.org/10.1023/B:REQU.0000037064.15144.04>
- Lucas, D.J. and McDonald, R.L. (1990), "Equity issues and stock price dynamics", *The Journal of Finance*, Vol. 45 No. 4, pp. 1019-1043, available at: <https://doi.org/10.1111/j.1540-6261.1990.tb02425.x>
- Lumbantobing, R. (2008), "Rudolf lumbantobing. Studi Mengenai Perbedaan Struktur Modal Perusahaan Penanaman Modal Asing Dengan Perusahaan Modal Dalam Negeri Yang GO Public Di Pasar Modal Indonesia", dissertation, Doctoral Program of Diponegoro University, Semarang.
- Myers, S.C. (1984), "The capital structure puzzle", *The Journal of Finance*, Vol. 39 No. 3, pp. 574-592, available at: <https://doi.org/10.1111/j.1540-6261.1984.tb03646.x>
- Myers, S.C. and Majluf, N.S. (1984), "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics*, Vol. 13 No. 2, pp. 187-221, available at: [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- Ozkan, A. (2001), "Determinants of capital structure and adjustment to long run target: evidence from UK company panel data", *Journal of Business Finance and Accounting*, Vol. 28 No. 12, pp. 175-198, available at: <https://doi.org/10.1111/1468-5957.00370>
- Pagano, M., Panetta, F. and Zingales, L. (1998), "American finance association why do companies go public? An empirical analysis", *The Journal of Finance*, Vol. 53 No. 1, pp. 27-64, available at: <https://doi.org/10.1111/0022-1082.25448>
- Proença, P., Laureano, R.M. and Laureano, L.M. (2014), "Determinants of capital structure and the 2008 financial crisis: evidence from Portuguese SMEs", *Social and Behavioral Science*, Vol. 150 No. 1, pp. 182-191, available at: <https://doi.org/10.1016/j.sbspro.2014.09.027>
- Rajan, R.G. and Zingales, L. (1995), "American finance association what do we know about capital structure? Some evidence from international data author", *The Journal of Finance*, Vol. 50 No. 5, pp. 1421-1460, available at: <https://doi.org/10.1111/j.1540-6261.1994.tb00086.x>
- Shyam-Sunder, L., Myers, S.C. and Myers, S.C. (1999), "Testing static trade off against pecking order models of capital structure", *Journal of Financial Economics*, Vol. 51 No. 2, pp. 219-244, available at: [https://doi.org/10.1016/S0304-405X\(98\)00051-8](https://doi.org/10.1016/S0304-405X(98)00051-8)
- Stein, J.C. (1996), "Rational capital budgeting in an irrational world", *The Journal of Business*, Vol. 51 No. 2, pp. 219-244, available at: <https://doi.org/10.1086/209699>
- Strebulaev, I.A. (2007), "Do tests of capital structure theory mean what they say?", *Journal of Finance*, Vol. 62 No. 4, pp. 1747-1787, available at: <https://doi.org/10.1111/j.1540-6261.2007.01256.x>

---

Tobin, J. (1969), "A general equilibrium approach to monetary theory", *Journal of Money, Credit and Banking*, Vol. 1 No. 1, pp. 15-29, available at: <https://doi.org/10.2307/1991374>

Tong, G.Q. and Green, C.J. (2005), "Pecking order or trade-off hypothesis? Evidence on the capital structure of Chinese companies", *Applied Economics*, Vol. 37 No. 19, pp. 2179-2189, available at: <https://doi.org/10.1080/00036840500319873>

Wessels, S. and Titman, R. (1988), "American finance association the determinants of capital structure choice author (s): Sheridan Titman and Roberto Wessels source", *The Journal of Finance*, Vol. 43 No. 1, pp. 1-19.

Weston and Copeland (1992), *Managerial Finance*, 9th ed., The Dryden Press, A Harcourt Brace Jovanovic College Publisher.

#### Further reading

Franco Modigliani, M.H.M. (1958), "The cost of capital, corporation finance and the theory of investment", *The American Economic Review*, Vol. 48 No. 3, pp. 261-297, available at: [www.jstor.org/stable/1809766?origin=JSTOR-pdf](http://www.jstor.org/stable/1809766?origin=JSTOR-pdf)

Harris, M. and Raviv, A. (1991), "The theory of capital structure", *The Journal of Finance*, Vol. 46 No. 1, pp. 297-355, available at: <https://doi.org/10.1111/j.1540-6261.1991.tb03753.x>

1

#### Corresponding author

Dewi Ratih can be contacted at: [dewiratih@widyakarya.ac.id](mailto:dewiratih@widyakarya.ac.id)

---

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgrouppublishing.com/licensing/reprints.htm](http://www.emeraldgrouppublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

**97%**  
SIMILARITY INDEX

**79%**  
INTERNET SOURCES

**96%**  
PUBLICATIONS

**19%**  
STUDENT PAPERS

### PRIMARY SOURCES

<b>1</b>	Dewi Ratih. "Equity market timing and capital structure: evidence on post-IPO firms in Indonesia", International Journal of Emerging Markets, 2019 Publication	<b>87%</b>
<b>2</b>	<a href="http://www.emerald.com">www.emerald.com</a> Internet Source	<b>6%</b>
<b>3</b>	<a href="http://icafma.org">icafma.org</a> Internet Source	<b>2%</b>
<b>4</b>	<a href="http://www.coursehero.com">www.coursehero.com</a> Internet Source	<b>&lt;1%</b>
<b>5</b>	Submitted to Regis University Student Paper	<b>&lt;1%</b>
<b>6</b>	<a href="http://www.researchgate.net">www.researchgate.net</a> Internet Source	<b>&lt;1%</b>
<b>7</b>	Kayhan, A.. "Firms' histories and their capital structures", Journal of Financial Economics, 200701 Publication	<b>&lt;1%</b>
<b>8</b>	<a href="http://www.fma.org">www.fma.org</a> Internet Source	<b>&lt;1%</b>

---

9	<a href="http://www.course.sdu.edu.cn">www.course.sdu.edu.cn</a> Internet Source	<1 %
10	Submitted to National Research University Higher School of Economics Student Paper	<1 %
11	<a href="http://adt.lib.rmit.edu.au">adt.lib.rmit.edu.au</a> Internet Source	<1 %
12	<a href="http://pt.scribd.com">pt.scribd.com</a> Internet Source	<1 %

---

Exclude quotes Off

Exclude matches Off

Exclude bibliography Off



YAYASAN PERGURUAN TINGGI KATOLIK "ADISUCIPTO" MALANG  
**UNIVERSITAS KATOLIK WIDYA KARYA MALANG**  
STATUS TERAKREDITASI

**FAKULTAS**

- 1 EKONOMI & BISNIS
- 2 PERTANIAN
- 3 TEKNIK
- 4 HUKUM
- PROGRAM DIPLOMA III

**PROGRAM STUDI / PROGRAM STUDI**

- 1. MANAJEMEN
- 1. TEKNOLOGI PANGAN
- 1. TEKNIK MESIN
- 1. HUKUM
- 1. SISTEM INFORMASI
- 2 AKUNTANSI
- 2 AGRIBISNIS
- 2 TEKNIK SIPIL
- 2 ADMINISTRASI PERKANTORAN

Kantor : Jl. Bondowoso No. 2 Malang 65115 Telp. (0341) 554418 P.O. Box 121 Situs Web : www.widyakarya.ac.id, ukw.siakadcloud.com/spmbifront •E-mail : widyakarya@widyakarya.ac.id

**SURAT KLARIFIKASI CEK PLAGIASI DAN INDEKS *PRIMARY SOURCES***

Nomor: 012/TIM-JAFA/IV/2023

Saya yang bertanda tangan di bawah ini:

Nama : **Dr. Dra. Silvia Indrarini, Ak., M.M.**  
NIK : 199301210027  
Pangkat/Gol. Ruang : Penata/ Golongan IIIc  
Jabatan Akademik : Lektor  
Jabatan : Ketua Tim Penilai Jabatan Akademik Dosen Universitas Katolik Widya Karya Malang

dengan ini menyatakan klarifikasi perihal hasil cek plagiasi menunjukkan angka di atas 25% dan indeks *primary sources* di atas 3%, terhadap hasil publikasi atas:

Nama : **Dewi Ratih, S.E., M.SM.**  
NIK : 201304210065  
Pangkat / Gol. Ruang : Penata Muda Tk. I/Golongan IIIb  
Jabatan Akademik : Asisten Ahli  
Jabatan : Dosen Prodi Manajemen Fakultas Ekonomi dan Bisnis Universitas Katolik Widya Karya Malang

bahwa cek plagiasi menggunakan software Turnitin, dengan hasil publikasi serta alasan klarifikasi dijelaskan sebagai berikut:

No	Hasil Publikasi	Alasan Klarifikasi
1	<p><b>Judul:</b> Pengaruh Marketing Mix Terhadap Keputusan Pembelian Pada Food Center (UKM Binaan Pjt I) Di Kawasan Wisata Waduk Selorejo Malang.</p> <p><b>Penulis:</b> Jovita Vicka, Dewi Ratih</p> <p><b>Nama Jurnal:</b> Akubis: Jurnal Akuntansi dan Bisnis</p> <p><b>Volume Jurnal:</b> 1, Nomor 2</p> <p><b>Terbit Jurnal:</b> 15 Desember 2016</p> <p><b>Halaman:</b> 46-51,</p> <p><b>e-ISSN:</b> 2503 - 4618,</p> <p><b>Penerbit:</b> Fakultas Ekonomi Universitas Katolik Widya Karya Malang,</p> <p><b>URL:</b> <a href="https://garuda.kemdikbud.go.id/documents/detail/3348041">https://garuda.kemdikbud.go.id/documents/detail/3348041</a></p>	<p>Bahwa Jurnal telah terbit pada bulan Desember 2016, sedangkan pengecekan plagiasi dilakukan oleh Akubis: Jurnal Akuntansi dan Bisnis tanpa diberikan hasil plagiasi kepada penulis dan dinyatakan lulus plagiasi. Pengecekan plagiasi dilakukan kembali menggunakan software Turnitin pada tanggal 15 Februari 2023, dan didapatkan hasil plagiasi dan <i>primary source</i> 97%. Hal ini disebabkan jurnal telah terpublikasi dan tersimpan 97% pada sumber internet yang terkait dengan artikel tersebut pada jurnal AKUBIS dan pada <a href="https://garuda.kemdikbud.go.id/documents/detail/3348041">https://garuda.kemdikbud.go.id/documents/detail/3348041</a>.</p> <p style="text-align: right;"><b>Lampiran 1</b></p>



**YAYASAN PERGURUAN TINGGI KATOLIK "ADISUCIPTO" MALANG**  
**UNIVERSITAS KATOLIK WIDYA KARYA MALANG**  
**STATUS TERAKREDITASI**

**FAKULTAS**

1. EKONOMI & BISNIS
  2. PERTANIAN
  3. TEKNIK
  4. HUKUM
- PROGRAM DIPLOMA III

**PROGRAM STUDI / PROGRAM STUDI**

- |                     |                             |
|---------------------|-----------------------------|
| 1. MANAJEMEN        | 2. AKUNTANSI                |
| 1. TEKNOLOGI PANGAN | 2. AGRIBISNIS               |
| 1. TEKNIK MESIN     | 2. TEKNIK SIPIL             |
| 1. HUKUM            |                             |
| 1. SISTEM INFORMASI | 2. ADMINISTRASI PERKANTORAN |

Kantor: Jl. Bondowoso No. 2 Malang 65115 Telp. (0341) 554418 P.O. Box 121 Situs Web: [www.widyakarya.ac.id](http://www.widyakarya.ac.id), [ukwk.siakadcloud.com/spmbfront](http://ukwk.siakadcloud.com/spmbfront) \*E-mail: [widyakarya@widyakarya.ac.id](mailto:widyakarya@widyakarya.ac.id)

2	<p><b>Judul:</b> Struktur Modal Optimal Dalam Menghasilkan Laba Untuk Usaha Kecil Menengah Di Kota Malang  <b>Penulis:</b> Dewi Ratih, M.A.F. Suprapti.  <b>Nama Jurnal:</b> Akubis: Jurnal Akuntansi dan Bisnis  <b>Volume Jurnal:</b> 1, Nomor 2.  <b>Terbit Jurnal:</b> Desember 2016.  <b>Halaman:</b> 60 - 70,  <b>e-ISSN:</b>  <b>Penerbit:</b> Fakultas Ekonomi Universitas Katolik Widya Karya Malang  <b>URL:</b> <a href="https://garuda.kemdikbud.go.id/documents/detail/3348044">https://garuda.kemdikbud.go.id/documents/detail/3348044</a></p>	<p>Bahwa Jurnal telah terbit pada bulan Desember 2016, sedangkan pengecekan plagiasi dilakukan oleh jurnal Akubis: Jurnal Akuntansi dan Bisnis tanpa diberikan hasil plagiasi kepada penulis dan dinyatakan lulus plagiasi. Pengecekan plagiasi dilakukan kembali menggunakan software Turnitin pada tanggal 15 Februari 2023, dan didapatkan hasil plagiasi dan <i>primary source</i> 98%. Hal ini disebabkan jurnal telah terpublikasi dan tersimpan 74% pada sumber internet <a href="https://garuda.kemdikbud.go.id/documents/detail/3348044">https://garuda.kemdikbud.go.id/documents/detail/3348044</a> dan 14% pada prosiding tempat dimana artikel diseminasikan (akuntansi.polinema.ac.id) <b>Lampiran 2</b></p>
3	<p><b>Judul Artikel:</b> Labor Union And The Company Performance: Industrial Conflict..  <b>Penulis:</b> Dewi Ratih, Achmad Yunus.  <b>Nama Jurnal:</b> International of Business, Economic, and Law (IJBEL)  <b>Volume Jurnal:</b> 11, Nomor 1.  <b>Terbit Jurnal:</b> Desember 2016  <b>Halaman:</b> 1 - 10,  <b>e-ISSN:</b> ISSN 2289-1552  <b>Penerbit:</b> <b>URL:</b> <a href="http://ijbel.com/wp-content/uploads/2017/01/ACC-62.pdf">http://ijbel.com/wp-content/uploads/2017/01/ACC-62.pdf</a></p>	<p>Bahwa Jurnal telah terbit pada bulan Desember 2016, sedangkan pengecekan plagiasi dilakukan oleh jurnal International of Business, Economic, and Law (IJBEL) tanpa memberikan hasil plagiasi kepada penulis dan dinyatakan lulus plagiasi. Pengecekan plagiasi dilakukan kembali menggunakan software Turnitin pada tanggal 15 Februari 2023, dan didapatkan hasil plagiasi dan <i>primary source</i> 100%. Hal ini disebabkan jurnal telah terpublikasi dan tersimpan 100% pada sumber internet <a href="http://ijbel.com/wp-content/uploads/2017/01/ACC-62.pdf">http://ijbel.com/wp-content/uploads/2017/01/ACC-62.pdf</a> <b>Lampiran 3</b></p>
4	<p><b>Judul Artikel:</b> Equity Market Timing and Capital Structure: Evidence on Post-IPO Firms in Indonesia  <b>Penulis :</b> Dewi Ratih  <b>Nama Jurnal:</b> International Journal of Emerging Market  <b>Volume Jurnal:</b> Vol. 16, Nomor 2  <b>Terbit Jurnal:</b> 25 September 2019  <b>Halaman:</b> pp.391-407  <b>e-ISSN :</b> 1746-8809  <b>Penerbit:</b> Emerald  <b>URL:</b> <a href="https://www.emeraldgrouppublishing.com/journal/ijoem">https://www.emeraldgrouppublishing.com/journal/ijoem</a>  <b>DOI:</b> <a href="https://doi.org/10.1108/IJOEM-04-2018-0197">https://doi.org/10.1108/IJOEM-04-2018-0197</a></p>	<p>Bahwa Jurnal telah terbit pada bulan September 2019, dan telah dilakukan pengecekan plagiasi oleh International Journal of Emerging Market (IJoEM) tanpa memberikan hasil plagiasi kepada penulis dan dinyatakan lulus plagiasi dan dinyatakan <i>accepted</i> pada tanggal 2 Juni 2019. Pengecekan plagiasi dilakukan kembali menggunakan software Turnitin pada tanggal 15 Februari 2023, dan didapatkan hasil plagiasi dan <i>primary source</i> 97%. Hal ini disebabkan jurnal telah terpublikasi dan tersimpan 87% pada tautan artikel jurnal IJoEM <a href="https://doi.org/10.1108/IJOEM-04-2018-0197">https://doi.org/10.1108/IJOEM-04-2018-0197</a> dan 8% lainnya pada tautan prosiding seminar internasional dimana artikel telah diseminasikan sebelumnya pada website</p>



YAYASAN PERGURUAN TINGGI KATOLIK "ADISUCIPTO" MALANG  
**UNIVERSITAS KATOLIK WIDYA KARYA MALANG**  
STATUS TERAKREDITASI

**FAKULTAS**

- 1. EKONOMI & BISNIS
- 2. PERTANIAN
- 3. TEKNIK
- 4. HUKUM
- PROGRAM DIPLOMA III

**PROGRAM STUDI / PROGRAM STUDI**

- 1. MANAJEMEN
- 1. TEKNOLOGI PANGAN
- 1. TEKNIK MESIN
- 1. HUKUM
- 1. SISTEM INFORMASI
- 2. AKUNTANSI
- 2. AGRIBISNIS
- 2. TEKNIK SIPIL
- 2. ADMINISTRASI PERKANTORAN

Kantor : Jl. Bondowoso No. 2 Malang 65115 Telp. (0341) 554418 P.O. Box 121 Situs Web : [www.widyakarya.ac.id](http://www.widyakarya.ac.id), [ukwk.siakadcloud.com/spmbfront](http://ukwk.siakadcloud.com/spmbfront) •E-mail : [widyakarya@widyakarya.ac.id](mailto:widyakarya@widyakarya.ac.id)

	icafma.org dan sumber internet
	<a href="http://www.emerald.com">www.emerald.com</a> ✓ Lampiran 4

Secara garis besar bahwa hasil publikasi telah terpublikasi antara tahun 2018-2022 dan pada tanggal 27 Januari 2023 dilakukan cek plagiasi kembali, dikarenakan bukti plagiasi dilakukan oleh pemilik jurnal dan hasilnya tidak diberikan kepada penulis pada saat jurnal akan diterbitkan.

Demikian surat klarifikasi ini dibuat dengan sebenarnya untuk diketahui dan dipergunakan sebagaimana mestinya.

Malang, 13 April 2023

Ketua Tim Penilai Jabatan Akademik Dosen  
Universitas Katolik Widya Karya Malang



*Silvia*  
Dr. Dra. Silvia Indrarini, Ak., M.M.  
NIK: 199301210027