CHAPTER 16

THE IMPACT OF EQUITY HISTORICAL MARKET PRICE ON CAPITAL STRUCTURE

Miswanto Miswanto

ABSTRACT

*The purpose of this study is to investigate whether equity market timing has a persistent impact on the firm's capital structure or not. In achieving this purpose, there are two hypotheses developed in this study. The first hypothesis is that historical price-book-value (PBV) negatively affect leverage; while the second hypothesis is that historical PBV ratio negatively affects the change of cumulative on leverage. The sample of this study is cross sectional data obtained from the Indonesia Stock Exchange for 2001–2011 research period. The author disentangles the sample into subsamples based on IPO+*k*, in which* k *is the number of years after the initial public offering (IPO). The results show that most of the regression coefficients in the historical PBV do not have negative impact on the capital structure and only a small part of the regression coefficient of the historical PBV has a statistically negative impact on the capital structure. Therefore, the findings of this research conclude that equity market timing doesn't have persistent impact on capital structure of the firms in Indonesia.*

Keywords: Capital structure; market timing; historical market price; persistent impact; Indonesia; IPO

Recent Developments in Asian Economics
International Symposia in Economic Theory and Econometrics, Volume 28, 281–290

ISSN: 1571-0386/doi:10.1108/S1571-038620210000028016

INTRODUCTION

Market timing is one of the theories of capital structure (Dhita, Achsani, Sembel, & Purwanto, 2018). Several researchers have conducted studies whether companies use market timing equity when they are going to issue equities (Gomes, Magnani, Mauricio, & Valle, 2019). Firms should issue common stock only when market conditions are favorable (Çelik & Akarim, 2013). According to Jahanzeb, et al. (2013), firm managers must wait for the position of stock prices to be better before issuing new shares. It is found that most studies carried out in various countries support that firms, in fact, have been using equity market timing when issuing equities. There have been several studies in America, regarding market timing on equity that persistently impact on capital structure. However, investigations regarding market timing equity in Indonesia – whether it persistently affects equity structure – have been lacking considerably. Concerning the previous research in several countries, the aim this study is to verify the impact of historical market price on the capital structure of non-financial firms listed on the Indonesia Stock Exchange (IDX).

Price-book-value (PBV) can be taken to represent the market price of equity. The historical market price is represented by historical PBV. Elliot, Koester-Kant, and Warr (2007) stated that PBV greater than 1 indicates over-valuation, while PBV less than 1 signifies under-valuation. Managers will issue equity when capital is over-valued. Through their research in Pakistan, Asif, Abbas, and Hassan (2018) stated that every time the deficit company would try as hard as possible to find funds. Furthermore, when there is a miss-evaluation on stock price, there is a very strong tendency in managers to increase financing through equity. Research in Indonesian firms regarding the relation between market timing on equity and the capital structure is still lacking. Moreover, the existing research employs only very basic research methods and the data are still insufficient. The historical market price of equity that is measured by historical PBV is aimed at capturing the cumulative impact of equity market timing on capital structure. The impact is derived from several years of market timing on the capital structure. When equity market timing is proved to be affecting the capital structure for years, the historical PBV might have a negative impact on the capital structure. The impact is because the issuance of equity driven by high market prices in the past several years will potentially cause the capital structure to decline (Alit, 2006). This theory differs from the tradeoff theory. While there are deviations in the capital structure, on the contrary, tradeoff theory would always try to keep the capital structure in line with the targeted capital structure. The target is the optimum capital structure (Huang & Ritter, 2004).

Referring to the problems above, the formulation of the issue used in this chapter is on the analysis of the impact of historical market price of equity on the capital structure of non-financial firms listed on the IDX. It investigates to test whether historical market price negatively affects the capital structure of firms in Indonesia or not. The aim of this chapter is to evaluate this issue. The results of this study are hoped to offer theoretical, empirical, and practical benefits to corporate managers, investors, economic observers, and academics. They will be done to acknowledge and utilize the proceeds from this study regarding

ways in which market timing may be applied to companies in Indonesia. For chief financial officers, this study is expected to be a consideration for financing decision in the capital structure.

LITERATURE REVIEW

To investigate the impact of historical market price of equity on capital structure, two hypotheses will be examined in this study. The first hypothesis is developed based on the studies from Kasbi (2007), Weigl (2011), and Baker and Wurgler (2012). They reported that historical PBV has negative impact on corporate leverage. The historical PBV is the PBV within the period of IPO+k, in which k is the number of years after the IPO. This negative impact is obtained when a firm has a high historical value, the firm will issue equity, and there is not also an indication of the dynamic tradeoff theory applies, that is, there is not a rebalancing process for the targeted capital structure (Saadah & Prijadi, 2012). Since the company has issued equities, the capital structure represented by leverage is decreased. We define leverage as total debt to total assets ratio. Thus, the first hypothesis (*H1*) can be expressed as follows:

H1: Historical PBV has a negative impact on leverage.

The second hypothesis development (*H2*) is to test whether the equity market timing has a persistent impact on the capital structure or not. Dependent variable of this study is cumulative changes of leverage, and independent variable is the historical market price of equity acts, while the control variables are the determinants of capital structure (Alit, 2006; Baker & Wurgler, 2002; Weigl, 2011). Baker and Wurgler (2002) show that historical PBV has a negative impact on cumulative changes of firm leverage. The negative impact indicates when the historical PBV increases it can cause current leverage to decline since to the company are issuing equity. This decrease leads cumulative changes to be in the negative value. These findings support that market timing has a persistent impact on the firm's capital structure. The change of cumulative in leverage indicates firm leverage in period t minus the firm's leverage in the pre-IPO period. In line with this study, using a PBV, it can measure whether historical market price of equity affects persistently on capital structure. Therefore, *H2* can be expressed as follows:

H2: Historical PBV has a negative impact on the cumulative change of leverage.

According to Baker and Wurgler (2002) and Weigl (2011), this study uses equity finance weighted average PBV (PBV_{eqwa}) to investigate if equity market timing has a persistent impact on capital structure.

$$PBV_{eqwa,\,t} = \frac{\sum_{s=0}^{t-1} [e_s \times (PBV)_s]}{\sum_{r=0}^{t-1} e_r} \tag{1}$$

The e notation is the issuance of net equity, and period r or s of 0 indicates the period of the company when it conducted the IPO. Then, the two hypotheses can be illustrated in a research model as shown in Fig. 1.

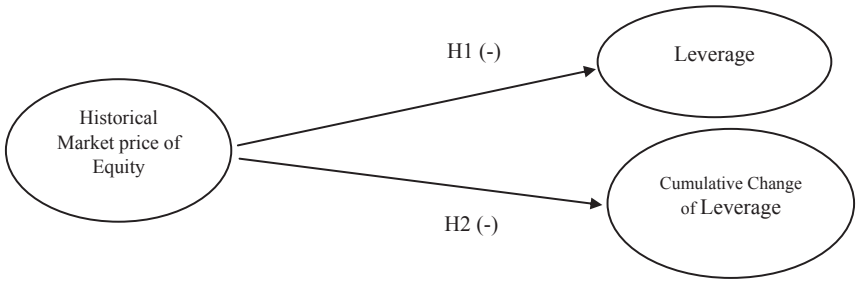

Fig. 1. Research Model (Weigl, 2011).

METHODS

Sample and Data

This study uses non-probability sampling method (i.e., purposive sampling) through sampling of judgment (Cooper & Emory, 1995). The selection of sample is equity market timing on initial public offering (IPO) and seasoned equity offering and right issue. Samples are the firms listed on IDX during the 2001–2011 period in the form of cross-section data based on IPO+k, in which k is the number of years since the IPO. The sample is disentangled into subsamples ranging from IPO+1 to IPO+10. An IPO in a company is critical sources of funding event that is known to be associated with a market price.

Operational Definition and Measurement of Variables

In summary, the notations, definitions, and formulas of variables applied in this study are exhibited in Table 1:

Table 1. Notation and Definition of Variables.

No	Notation	Description
1	A	Total book assets (A) calculated by adding total debt (D) and total book equity (E)
2	BLev	Total debt to total book asset ratio measured by dividing total debt (D) to total book assets (A)
3	BLev-BLev$_{pre\text{-}ipo}$	A cumulative change of book leverage
4	D	Total liability, this measurement is the sum of short-term debt and long-term debt (which is printed on the balance sheet) and total debt
5	E	Book equity = the equity value which is presented on the balance sheet
7	PROF	Profit before interest, taxes, and depreciation divided by total book assets
8	Lev	Leverage, either BL or ML
9	Log (S)	The sales logarithm
10	M	Asset's market price = total debt +capitalization of market
11	PBV	PBV = share price divided by book value of shares
12	Historical PBV	PBV equity finance weighted average
13	MLev	Total debt to total asset market price = total debt: total asset market price
14	MLev-MLev$_{pre\text{-}ipo}$	Cumulative change of market leverage
15	TANG	A tangible asset = (Net equipment, property, plant, and equipment): total assets (A)

Source: Baker and Wurgler (2002), Elliot et al. (2007), and Weigl (2011).

Hypotheses Testing Model

We use dynamic multiple regression (Gujarati & Porter, 2017) to do hypotheses testing and this study uses four determinants on capital structure or corporate characteristics as control variables. The control variables are: lagged PBV, lagged profitability (lagged PROF, lagged sales (lagged S), and lagged tangibility asset (lagged TANG). PBV has a negative impact on leverage, because (1) high PBV has higher financial distress cost, thus avoiding debt, and (2) firms lean to issue shares when their share price is relatively high compared to profit or book value. Profitability of firm has a negative impact on leverage because with the profitability of funding done with retained earnings. Size can have a negative or positive impact on book leverage (Rajan & Zingales, 1995). The bigger the company gets the trust of the bank to get the bigger loan because the bank considers that the funds lent to larger companies will be more secure. If so, the size is positively associated with leverage. Large companies are better able to issue equities than small firms. If so, large size firms are negatively related to leverage (Rajan & Zingales, 1995). The model used to test *H1* and *H2* is described as shown below (Baker & Wurgler, 2002; Xu, 2009):

$$\begin{aligned} \boldsymbol{H1:}\ & \boldsymbol{MLev_t} = \alpha_0 + \alpha_1 \boldsymbol{PBV}_{eqwa,\,t} + \alpha_2 (\boldsymbol{PBV})_{t-1} \\ & + \alpha_3 (\boldsymbol{PROF})_{t-1} + \alpha_4 \log(\boldsymbol{S})_{t-1} + \alpha_5 (\boldsymbol{TANG})_{t-1} + \varepsilon_{t-1} \end{aligned} \tag{2}$$

$$\begin{aligned} \boldsymbol{H2:}\ & \boldsymbol{MLev_t} - \boldsymbol{MLev}_{pre-IPO} = \alpha_0 + \alpha_1 \boldsymbol{PBV}_{eqwa,\,t} \\ & + \alpha_2 (\boldsymbol{PBV})_{t-1} + \alpha_3 (\boldsymbol{PROF})_{t-1} + \alpha_4 \log(\boldsymbol{S})_{t-1} \\ & + \alpha_5 (\boldsymbol{TANG})_{t-1} + \alpha_6 \boldsymbol{MLev}_{pre-IPO} + \varepsilon_{t-1} \end{aligned} \tag{3}$$

Using *t*-test, *H1* and *H2* are supported if condition of $\alpha < 0$ is satisfied.

H1 and H2 Testing Model

The model used to test hypotheses is dynamic multiple regression (Gujarati & Porter, 2017). In testing the hypothesis, this study uses four determinants on capital structure or corporate characteristics as control variables. The control variables are: lagged PBV, lagged profitability (lagged PROF, lagged sales (lagged S), and lagged tangibility asset (lagged TANG). PBV has a negative impact or correlation on leverage, because (1) high PBV has higher financial distress cost, thus avoiding debt, and (2) firms lean to issue share of common stock when their share price is relatively high compared to profit or book value. Profitability of firm has a negative impact on book leverage because with the profitability of funding done with retained earnings. Size can have a positive or negative impact on leverage. The bigger the company gets the trust of the bank to get the bigger loan because the bank considers that the funds lent to larger companies will be more secure to Rajan and Zingales (1995), if so, the size is positively associated with leverage. Large companies are better able to issue equities than small firms. If so, large size firms are negatively correlated to leverage. The model used to test *H1* and *H2* is shown below (Baker & Wurgler, 2002; Xu, 2009):

$$H1: MLev_t = \alpha_0 + \alpha_1 PBV_{eqwa,t} + \alpha_2 (PBV)_{t-1} + \alpha_3 (PROF)_{t-1} + \alpha_4 \log(S)_{t-1} + \alpha_5 (TANG)_{t-1} + \varepsilon_{t-1} \quad (2)$$

$$H2: MLev_t - MLev_{pre-IPO} = \alpha_0 + \alpha_1 PBV_{eqwa,t} + \alpha_2 (PBV)_{t-1} + \alpha_3 (PROF)_{t-1} + \alpha_4 \log(S)_{t-1} + \alpha_5 (TANG)_{t-1} + \alpha_6 MLev_{pre-IPO} + \varepsilon_{t-1} \quad (3)$$

Using *t*-test, *H1* and *H2* are supported if statistical measurement that $\alpha < 0$ is satisfied.

RESULTS AND DISCUSSION

Description of Research Variables

In each period (subsample), most of the average BLev value is greater than MLev because in each period most of the average PBV is greater than one. Low value of BLev and MLev indicate funding with relatively low debt, while high value of BLev and MLev indicate high debt funding. In IPO approaching year, e.g., IPO + 1 and IPO + 2, generally BLev and MLev are relatively low compared to further year from IPO, e.g., IPO + 7 and IPO + 10. The further the period from the IPO, companies generally have higher BLev and MLev. Similarly, where ΔBLev pre-ipo and ΔMlev pre-ipo, BLev and MLev increase, it means there are relatively no indications of persistent market equity influence on leverage or capital structure. If BLev and MLev increase, there is an indication of the dynamic tradeoff theory which may apply, that is, there is a rebalancing process for the targeted or planned capital structure, while the target is optimum capital structure.

Results

The results of hypotheses testing are presented in Table 2. Regression coefficients on control variables are not presented in the table. Based on *F*-test results, all of these regression models can be used to test *H1* and *H2* with the dependent variable of market leverage (Kuncuro, 2007). Arguably based on the classical assumption test, all regression capital in the table has passed from the classical assumption test. *H1* testing proved only in subsample of IPO + 4, and so does *H2* testing which proved only in subsamples of IPO+4 and IPO+7 because statistical assumption of $\alpha < 0$ is satisfied.

Table 2 explains a summary of the proceeds of regression estimation to examine *H1* and *H2* based on IPO+*k* in which *k* data is the year after IPO. The numbers in parentheses show the probability values in the *t*-test. Regression of coefficients on control variables is not presented in the table. *** = statistically supported at 1 percent level of significant; ** = statistically supported at 5 percent level of significant; * = statistically supported at 10 per cent level of significant; +/− in parentheses indicates the direction of the regression coefficient as expected.

Table 2. Hypotheses Testing Result.

		H1 Testing Result			H2 Testing Result		
IPO+k	N	PBVeqwa [-]	*Adj* R^2	*F-test*	PBVeqwa [-]	*Adj* R^2	*F-test*
IPO +1	146	0.0198	0.136	2.7323	0.022	0.639	16.352
		(0.018)		(0.029)**	(0.008)		(0)***
IPO +2	131	−0.0018	0.102	2.2856	0.012	0.449	7.385
		(0.914)		(0.059)*	(0.523)		(0.0)***
IPO +3	140	−0.0176	0.281	4.6853	−0.025	0.474	6.2609
		(0.327)		(0.001)***	(0.240)		(0.0)***
IPO +4	120	−0.0047	0.115	2.6445	−0.004	0.592	10.682
		(0.033)**		(0.032)**	(0.048)**		(0.0)***
IPO +5	111	0.0148	0.309	6.4606	0.035	0.509	6.3634
		(0.327)		(0.00)***	(0.258)		(0.0)***
IPO +6	151	−0.0026	0.183	3.8257	−0.092	0.491	4.871
		(0.858)		(0.004)***	(0.969)		(0.00)***
IPO +7	161	−0.0144	0.248	5.3712	−0.056	0.734	11.5817
		(0.274)		(0.00)***	(0.021)**		(0.00)***
IPO +8	160	0.0145	0.324	9.7487	−0.018	0.604	6.086
		(0.313)		(0)***	(0.635)		(0.00)***
IPO +9	173	0.0040	0.197	5.6822	0.020	0.360	2.973
		(0.745)		(0.00)***	(0.505)		(0.040)**
IPO +10	203	−0.0007	0.043	1.9263	0.017	0.391	2.7171
		(0.310)		(0.096)*	(0.520)		(0.078)*

Source: Results of Data Analysis with Eviews.
Notes:
H1 test result proved only in sub sample of IPO + 4 because statistically $\alpha 1 < 0$ as expected.
H2 test result proved only in subsamples of IPO+4 and IPO+7 because statistically $\alpha 1 < 0$ as expected.

$$\boldsymbol{H1:}\ \boldsymbol{MLev_t = \alpha_0 + \alpha_1 PBV_{eqwa,t} + \alpha_2 (PBV)_{t-1} + \alpha_3 (PROF)_{t-1} + \alpha_4 \log(S)_{t-1} + \alpha_5 (TANG)_{t-1} + \varepsilon_{t-1}}$$

$$\boldsymbol{H2:}\ \boldsymbol{MLev_t - MLev_{pre-IPO} = \alpha_0 + \alpha_1 PBV_{eqwa,t} + \alpha_2 (PBV)_{t-1} + \alpha_3 (PROF)_{t-1} + \alpha_4 \log(S)_{,t-1} + \alpha_5 (TANG)_{t-1} + \alpha_6 MLev_{pre-IPO} + \varepsilon_{t-1}}$$

Discussion

H1 and *H2* are aimed at testing whether the historical market price of equity impacts the capital structure on non-financial listed firms on IDX or not. Based on the proceeds of the statistical hypothesis testing, most of the subsamples in the regression coefficients of the historical PBV do not have negative impact on market leverage; in addition, only a few subsamples have the regression coefficient from historical PBV that statistically affect dependent variable negatively. The findings of this study are not analogous to those that were conducted by Huang and Ritter (2004). Thus, the results show that equity market timing does not have a persistent influence on the capital structure of non-financial companies listed

on IDX. Therefore, the results are not in line with Baker and Wurgler (2002), Huang and Ritter (2004), and Fahima, Soeharto, and Sulistyowati (2016), and Zhao, Lee, and Yu (2020). If the equity market timing impacts on the capital structure, its influence is merely temporary.

The result of *H1* and *H2* test in this research, however, is similar to studies conducted by Bie and Haan (2007) and Fahima et al. (2016). Their findings show it is not proven that market timing has a persistent impact on capital structure. Bruinshoofd and de Haan (2007) denoted that in the companies originated in UK and countries of continental European, equity market timing does not have a persistent influence on capital structure. Refer to Xu (2009), if market timing does not affect persistently on leverage, there is an indication that the company has made a speed adjustment process (rebalancing) on the capital structure toward the targeted capital structure. The process of speed adjustment is found in the dynamic tradeoff as one of the theories of to optimize capital structure, where sometimes is also affected by firm cash flow as stipulated by Dufour, Luu, and Telle (2020). The indication is in line with the studies conducted by Darminto and Manurung (2008) and Surwanti (2015). Darminto and Manurung (2008) stated that the determinants of capital structure based theory of tradeoff influence the capital structure of companies in Indonesia. The study conducted by Surwanti (2015) on the speed of adjustment in companies in Indonesia and the results also indicate that the dynamic tradeoff theory applies in Indonesia since there is a process of speed adjustment for the targeted capital structure. The target is optimal capital structure.

ROBUSTNESS TEST

Robustness test is carried out to see the consistency and to strengthen the results of research. Many ways can be carried out to see the consistency and corroborate research (Brian & Martani, 2014). Robustness test is in this study conducted by changing dependent variable on *H1* with book leverage. Moreover, the dependent variable on *H2* is replaced by cumulative change from book leverage. Using the same regression model and same data for independent variables testing *H1* and *H2*, robustness test results on both *H1* and *H2* are similar to the previous test results. Thus, it can be concluded that most of the coefficients of historical market price regression do not negatively affect on the capital structure. Therefore, the consistent proceeds of the study show that market timing for equity does not have a persistent impact on the capital structure on non-financial firms listed on IDX.

CONCLUSION

The results of this study show that the historical market prices of equity don't have negative impact on the capital structure; in addition, only a few parts of the test indicate that historical market price of equity has negative impact on the capital structure. Based on these results, this study finds out that there is insufficient evidence to assert that the historical market price of equity affects the capital structure. Therefore, market timing for equity does not have a persistent impact on

the capital structure of Indonesian firms. When the equity market timing affects the capital structure, its influence is merely temporary. Xu (2009) stated that market timing for equity is not persistently impacts leverage indicates that there is an immediate process of re-adjusting the capital structure for the targeted capital structure. The immediate process of re-adjustment is found in the capital structure tradeoff theory. The influence of this tradeoff theory is in line with the results of research conducted by Darminto and Manurung (2008) that the determinants of the capital structure to the tradeoff theory influence the capital structure of companies in Indonesia. Studies conducted by Brian and Martani (2014) and Surwanti (2015) reported that the theory of dynamic tradeoff is occurred in Indonesia since there is a process of speed adjustment for the targeted capital structure.

The application of the market timing concept has not only influenced the making of policy on the firm but also affects the investment policy-making and as in behavioral corporate finance, the inefficiency of the market – that irrational investor signals –has significant consequences, that is, the irrationality of the investor may have an impact on the capital market price or the firm's financial policy, which can lead to the transfer of wealth among investors (Baker & Wurgler, 2012; Szyszka, 2014). We suggest that market timing should also be examined regard to investment Policies in Indonesian firms for the future research.

ACKNOWLEDGMENT

This study is promoted by the Competitive Research Scheme held by Indonesia Ministry of Research, Technology, and Higher Education.

REFERENCES

Alit, A. (2006). How persistent is the impact of market timing on capital structure? *The Journal of Finance LXI*, *4*, 1681.

Asif, J., Abbas, S. K., & Hassan, H. A. (2018). Valuation based test of market timing theory. *International Journal of Academic Multidisciplinary Research (IJAMR)*, *1*(4), 28–30.

Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, *57*(1), 1–32. https://doi.org/10.1111/1540-6261.00414

Baker, M., & Wurgler, J. (2012). Behavioral corporate finance: A current survey. In *Handbook of economic finance* (Vol. 2, pp. 357–424). New York, NY: Elsevier Press.

Bie, T. D., & Haan, L. D. (2007). Market timing and capital structure: Evidence for Dutch firms. *Economist*, *155*(2), 183–206. https://doi.org/10.1007/s10645-007-9054-1

Brian, I., & Martani, D. (2014). Analisis Pengaruh Pengindaran Pajak dan Kepemilikan Keluarga Terhadap Waktu Pengumuman Laporan Keuangan Tahunan Perusahaan. *SNA*, *17*, Pontianak, September 24–27.

Bruinshoofd, W. A., & de Haan, L. (2007). *Market timing and corporate capital structure: A Transatlantic Comparison (DNB)*. Working Paper, No. 144/August.

Çelik, S., & Akarim, Y. D. (2013). Does market timing drive Capital structure? empirical evidence from an emerging market. *International Journal of Economics and Financial Issues*, *3*(1), 140–152.

Cooper, D. R., & Emory, C. W. (1995). *Business research method* (5th ed.). Chicago, IL: Richard D. Irwin Inc.

Darminto, A. H. & Manurung. (2008). PengujianTeori Trade-off dan Teori Pecking Order Dengan Satu Model Dinamis Pada Perusahaan Publik Di Indonesia. *Jurnal Manajemen Bisnis*, *1*(1), 35–52.

Dhita, S., Achsani, N. A., Sembel, R., & Purwanto, S. (2018). Equity market timing and Capital structure: Evidence from Indonesia stock exchange. *Jurnal Manajemen Teknologi*, *17*(1), 1–9.

Dufour, D., Luu, P., & Telle, P. (2020). The influence of cash flow on the speed of adjustment to the optimal Capital structure. *Research in International Business and Finance*, *45*, 62–71.

Elliot, W. B., Koester-Kant, J., & Warr, R. S. (2007). A valuation–based test market timing. *Journal of Finance*, *13*, 112–128.

Fahima, N., Soeharto, S. M., & Sulistyowati, C. (2016). Equity market timing dan struktur modal. *Jurnal Manajemen Teori Dan Terapan*, (2), 73–80.

Gomes, M. D C., Magnani, V. M., Mauricio, T. A., & Valle, R. D. (2019). Effects of market timing on primary share issues in the Brazilian Capital market. *The North American Journal of Economics and Finance*, *49*(2019), 361–377.

Gujarati, D. N., & Porter, D. C. (2017). *Basic econometric* (6th ed.). New York: McGraw-Hill.

Huang, R., & Ritter, J. (2004). Testing the market timing theory of capital structure. *Journal of Financial and Quantitative Analysis*, *1*(October), 221–246.

Jahanzeb, A., et al. (2013). Trade-off theory, pecking order theory and market timing theory: A comprehensive review of Capital structure theories. *International Journal of Management and Commerce Innovations (IJMCI)*, *1*(1), 11–18.

Kasbi. (2007). Market timing and capital structure: Evidence from a decomposition of the market-to-book ratio. *Working Capital*.

Kuncuro, M. (2007). *Metode Kuantitatif: Teori dan Aplikasi untuk Bisnis dan Ekonomi, Edisi Ketiga*. Yogyakarta: UPP STIM YKPN.

Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? *Journal of Finance*, *5*, 1421.

Saadah, S., & Prijadi, R. (2012). Capital structure's dynamic response to exogeneous variables: Case of listed manufacturing firms in Indonesia. *International Journal Financial Research*, *3*(2) DOI: 10.5430/ijfr.v3n2p86

Surwanti, A. (2015). *Kecepatan Penyesuaian Leverage Perusahaan di Indonesia: Pengujian Model Dinamis*. Working Paper, Universitas Gadjah Mada, Indonesia.

Szyszka, A. (2014). Factoring influencing IPO decision. Do corporate manager use market and corporate timing. *International Journal of Management and Economics*, *42*(April–June), 30–39.

Weigl, J. (2011). *Market-timing of capital structure and factors influencing the leverage decision of firms*. Working Paper, Inaugural-Dissertation, Technischen Universitat Chemnitz.

Xu, Z. (2009). *The impact of market timing on Canadian and US. Firms' Capital Structure (Bank of Canada Working Paper 2009-1)*. Working Paper.

Zhao, Y., Lee, C.-F., & Yu, M.-T. (2020). Does equity market timing have a persistent impact on Capital structure? Evidence from China. *The British Accounting Review*, *52*(2020), 100838.