Active Adjustment towards Target Capital Structure of Consumer Goods Firms

Anisa Ramadina[1], Subiakto Soekarno[2]

[1](School of Business and Management, Institut Teknologi Bandung, Indonesia)
[2](School of Business and Management, Institut Teknologi Bandung, Indonesia)
Corresponding Author: Anisa Ramadina[1]

ABSTRACT:- Indonesia has one of the most competitive and fastest growing consumer goods markets in the world. Even though the consumer goods industry is less resource intensive than the other manufacturing industries, they still need tremendous expertise and large costs for the distribution and branding of goods. As the consumer goods industries continue to grow, the companies may seek to use external financing, such as equity or debt, to maximizes the firm's value which will influence the capital structure. When managers prioritize to maximizes the firm's value, it is expected that there is an optimal target capital structure they want to achieve. Managers may or may not adjusted the capital structure toward the target. The speed of adjustment can be caused by the managers actively or passively adjusting the capital structure. This study will explore the existence of optimal capital structure and whether the managers actively adjust toward the target.

KEYWORDS:- *Active Adjustment, Capital Structure, Consumer Goods Industry, Partial Adjustment, Speed of Adjustment.*

I. INTRODUCTION

The contents of each section may be provided to understand easily about the paper. As one of the highly debated topics of financial decision-making, the structure of capital is important because it corresponds to certain variables of financial decision-making, such as dividend payment, project funding, acquisition or mergers, buyout and more. If the financial condition of the firm is affected by the financial deficit, the financial manager has the responsibility of tackling both the financial and management decisions to ensure that the viability of the firm is maintained. We can therefore say that capital structure decisions or capital restructuring decisions, in particular debt restructuring decisions, are the basis of several corporate finance decisions. Ignoring all of them in the decision-making phase of corporate finance is very difficult. The financial manager has the main goal of increasing the resources of the shareholders at the lowest cost of capital. Thus, in order to achieve this goal, a company may choose from a range of investment options to finance its assets and is called the company's capital structure. Therefore, the point at which the lowest cost of capital is achieved is known to be the optimal capital structure.

In fact, the financial structure consists of the bonds and equities utilized by the organization to fund their operations (Ross, Westerfield & Jaffe, 2009). Financial decisions must be precise according to the condition of the firm because if it is not or done incorrectly, a high cost of capital could be spent on the firm, leading to low profits. The allocation of capital would also affect public companies' net profits, debt and liabilities. To identify the correct composition, the theory of pecking order theory, trade-off theory and theory of agency cost affects several factors on the capital structure. Decisions on the capital structure must be based on the current situation. Managers have to know and identify several variables of factors that affect the structure of capital when making decisions as the determinants of the capital structure differ for every industry and heavily influenced by the company current situation. It is also important to understand how managers adjust the capital structure of the company to maximize value, to achieve an optimal capital structure.

Over the years, the consumer goods industry sector has been one of the sectors with the highest growing sector in Indonesia. As one of the fastest growing markets, companies may seek the utilization of external financing, for instance equity or debt, which likely influence the capital structure. The consumer goods industry is less resource intensive than the other manufacturing industries, but also needs tremendous expertise and large costs for the distribution and branding of goods.

This condition leads to the question of whether the managers applied the target optimal capital structure in the consumer goods firms. If managers move to achieve the ideal capital structure, there will be adjustment cost and the adjustment speed. It is still unknown whether the managers utilize the active adjustment or passive adjustment. The active adjustment is done when the managers actively retrieve the capital market and distribute the dividend of the companies. There has been no research regarding the active adjustment in consumer goods firms in Indonesia.

II.   LITERATURE REVIEW

2.1.   Capital Structure

The percentage of debt or/and equity that the corporations used to sustain their assets and daily activities is called capital structure. It is commonly either a total debt to total equity ratio or a total debt to capital ratio. The contractual claim on a company refers to a debt instrument. Also, a firm could be under pressure from debt that resulted from tax benefits. On the other hand, equity is the claim of ownership on a company. The issuance of both equity and debt exerts both merits and demerits on the particular firm.

According to Modigliani and Miller (1963) debt leads to lower taxes resulting from the reduction in interests paid. As such, debt increases leverage thus increasing the valuation of a stock while also maximizing on the firm's indebtness. Still, any debt incurred by a firm result to a higher risk on the firm. A spike in the debt of a firm increases the financial distress of the particular firm thus increasing its risk of insolvency. Van Horne & Wachowicz (2008) stated that a practical approach of debt financing would require the firm to optimize the merits of debt while also significantly lowering the levels of risk.

2.2.   Modigliani-Miller Theory

The first capital structure theory is from Modigliani-Miller. The Modigliani-Miller theory is composed of two propositions that advance to the capital structure theory. The two propositions share common assumptions, for instance, the lack of both transaction costs and taxes. Also, the capital market offers similar interest rates for both individuals and companies. According to Proposition I, both levered and unlevered firms have equal valuations. According to Proposition II, WACC has no impact on a firm's leverage. A re-evaluation of the Modigliani-Miller theory in 1963 led to the inclusion of the assumption of taxes that stipulates that debt effectively reduce the taxes of a firm. A 100% debt financing maximizes the valuation of the particular firm thus optimizing the capital structure.

2.3.   Trade-Off Theory

The trade-off theory modifies the Modigliani-Miller theory. This theory explains the concept of tax saving arising from debt financing, financial distress, reduced agency costs, and bankruptcy costs (Myers, 1984). The trade-off theory does not put into consideration the fact that debt is negatively correlated to probability (Agha et al., 2013). Static and dynamic models consist of the categories of this theory at hand. An assumption of the use of the capital structure that trades off debt and equity against their respective and combined benefits refers to the static trade-off theory (Agha et al., 2013). As such, companies are able to optimize their valuations. Debt is merited with providing a debt tax shield. A lot of debt financing puts a firm into the risk of financial distress. According to studies by Marsh (1982), Korajczyk & Levy (2003), and Hovakimian & Tehranian (2004), underscored that target leverage is essential to a firm. Still, Rajan & Zingales (1995), Titman & Wessels (1988), and Fama & French (2002) established that low levels of debt lead to high levels of profitability. Firms that use debt conservatively usually have higher profitability coupled with little financial distress.

The static trade-off theory and the dynamic trade-off theory both influence the speed of adjustment. An adjustment will occur instantly when the capital structure does not optimize according to the static trade-off. As such, optimal level is the most preferred condition of the capital structure according to the static trade-off. The specific speed of adjustment (SOA) optimizes the capital structure yearly on a partial level as per the dynamic trade-off theory. Also, firms change the capital structure frequently (Flannery & Rangan, 2006; Faulkender et al., 2012). However, according to Baker & Wurgler (2002), the capital structure is not actively adjusted by firms. Indonesia's SOE is relatively slower than in other regions of the world (Soekarno & Prayogo, 2018). Fundamental reasons influence the high heterogeneity of in SOA according to Flannery & Hankins (2007). Variable factors such as different tax structures, institutions, economic conditions, and governance policies offer some explanation to the heterogeneity of the SOA among countries (Antoniou et al. 2008).

According to Faulkender et al. (2012), an adjustment cost exists whenever there is an adjustment to the capital structure. Such an adjustment will be to ensure that the firms achieve their optimal capital structure. As such, there exists both passive and active capital structure adjustments. The passive adjustment is when the managers incurred the net income to the retained earnings, meanwhile the active adjustment is when the managers access the capital market, even if it is only to pay the dividend to the shareholders. The dynamic capital structure model will be employed in this study to monitor the adjustments incurred when achieving an optimal capital structure.

2.4. Pecking Order Theory

The pecking order theory was expounded by Myers and Maljuf in 1984. As per the pecking order theory, companies operate under a hierarchy of financial preference; the presence of asymmetrical information makes internal financial more preferred to external financing. Also, asymmetric information is the cause of false valuation of a firm that may lead to an undervaluation of a company. Mispriced valuation results from poor communication of managers on their firms' valuations. Equity are mispriced in equity financing. Debt is mispriced in debt financing. According to Myers, internal financing is more advantageous when a firm is additional financing. According to Rajan & Zingales (1995), Titman & Wessels (1988), and Fama & French (2002) firms which have incurred low debts are usually associated with high levels of profit. On the other hand, as per, Leary & Roberts (2010), the pecking order theory is not providing a substantial metric for the evaluation of the decisions to be taken by a firm during its financing.

III.   METHODOLOGY

The data for this research is obtained from 32 consumer goods Indonesia listed firms from the year 2008 until 2018. The reason for this is because the information availability of the listed firms and easy capital market access. The variables used in this research are profitability, liquidity, tangibility, firm size, growth opportunities, non-debt tax shield, and dividend policy. The research will use the unbalanced panel data because of the inadequate data from each company.

The model for this research is the dynamic trade-off theory. The notion of targets among companies that maximize their profits is emphasized by the dynamic trade-off theory. The target adjustment hypothesis is provided through the framework of Frank & Goyal (2009);

$$Lev_{i,t} - Lev_{i,t-1} = \lambda \left(Lev_{i,t}^* - Lev_{i,t-1} \right) + e_{i,t} \tag{1}$$

Then, the equation below will represent the firm's determinants of capital structure,

$$Lev_{i,t}^* = \beta x_{i,t-1} + e_{i,t} \tag{2}$$

The research then developed by Indonesian researcher, Soekarno and Prayogo (2018). In order to eliminate the portion of passive adjustment pace, Soekarno and Prayogo (2018) have already changed the model to consider the company's net profit as the initial leverage. The following is the equation for estimating the effect of research variable on capital structure:

$$Lev_{i,t} = (\lambda \beta)x_{i,t-1} + (1 - \lambda)Lev_{i,t-1}^p + e_{i,t} \tag{3}$$

The Lev^p will represent the portion of only the active adjustment. To calculate the leverage without the passive adjustment, the leverage will be calculated using the long-term debt to total assets and the net income of the companies. This is because in the active adjustment model the net income supposedly have already incurred in the initial leverage. The coefficient of the variables will be represented by (β) and the active adjustment speed to achieve the capital structure is indicated as λ. The value of λ should be between 0 and 1. The Generalized Method of Moments (GMM) will be used to estimates the model because of it yields adequate estimation that could overcomes the potential biases, error in measurement, and lagged dependent variable presence in the model.

IV.   DISCUSSION

Based on the Table 1.1, the regression findings indicate that multiple independent variables have significant relationships with the dependent variable. When the value P>|z| is smaller than the significance level of 0.05 there is a significance level of effect. The variables that have significance level of influence are lagged profitability, lagged tangibility, lagged liquidity, lagged firm size, and lagged non-debt tax shield.

Table 1: Results of the Regression

Variables	Coef.	Std. Err.	z	P > |z|	[95% Conf. Interval]	
LEVP_L1	0.3877342	0.0045433	85.34	0.000	0.3788295	0.3966388
PROF_L1	- 0.4936142	0.0194889	- 25.33	0.000	- 0.5318118	- 0.4554166
LIQ_L1	- 0.0001907	5.35e-06	- 35.66	0.000	- 0.0002012	- 0.0001802
TANG_L1	0.0867669	0.0099738	8.70	0.000	0.0672186	0.1063135
SIZE_L1	- 0.0272005	0.0013571	- 20.04	0.000	- 0.0298604	- 0.0245407
NDTS_L1	- 0.1507061	0.0179026	- 8.42	0.310	- 0.1857946	- 0.1156177
GROW_L1	- 0.00053	0.0005771	- 0.92	0.358	- 0.0016611	0.0006012
DVPR_L1	0.0018317	0.0018032	1.02	0.000	- 0.0017026	0.005366

Table 2: Results Comparison

Determinants	Previous Studies	Results
Profitability	Positive Significant (+)	Negative Significant (-)
Liquidity	Positive Significant (+)	Negative Significant (-)
Tangibility	Positive Significant (+)	Positive Significant (+)
Firm Size	Positive Significant (+)	Negative Significant (-)
Non-Debt Tax Shield	Negative Significant (-)	Negative Significant (-)
Growth Opportunities	Negative Significant (-)	Not Significant
Dividend Policy	Negative Significant (-)	Not Significant

The lagged profitability is found to be significant toward the active capital structure adjustment, which is a contrast to previous studies. This indicates that total net income which is the proxy for profitability significantly affect the capital structure active adjustment. It can be interpreted that funding internally significantly caters to the operations and investment activities of such companies.

Trade-off theory and pecking order theory support the findings that lagged tangibility is positively significant to capital structure. The significant correlation means that the presence of net fixed asset is important in the active adjustment. It is said that the fixed asset could be utilize as a guarantee. This means that the firms that holds more net fixed assets encourages them to hold high levels of leverage.

The lagged liquidity holds a significant association with the active adjustment. As the proxy of liquidity, current assets are greatly influencing the capital structure. This is because the high current assets reflect the condition of a highly liquid firm, that means they are able to repay their debt. The companies that produce consumer goods and with prominent amounts of liquidity fancy internal funding for the funding of both their operational and investment activities.

The lagged non-debt tax shield also holds a significant association with the active adjustment. This indicates that the presence of depreciation has a strong influence for active capital structure adjustment. It can be interpreted that the tax benefit from depreciation can substitute the tax benefit from the debt or leverage. The firms will hold lower leverage or have less debt due to the high depreciation level.

Lagged firm size is identified to have a significant association toward capital structure active adjustment. The total assets which represented the firm size measurement has a significant input, which means small costs of equity financing are present in large firms. This also proves that the large firms incline to have a better access toward capital market, and they will incline to have more leverage or debt.

As per the dynamic trade-off theory, to achieve the optimal capital structure it will generate an adjustment cost for the company. When the adjustment cost is less than the benefit formed by the adjustment, the companies will attempt to adjust their capital structure toward the ideal or optimal level. The cost and benefit of the adjustment will be signified through the speed of adjustment. The coefficient $(1-\lambda)$ of lagged leverage displayed the value of 0.3877342, which means that the speed of active adjustment (λ) is 0.6122658 or 61.23%. The speed of adjustment indicates that most of the consumer goods industry on Indonesia adjust their leverage actively. These results prove that the managers do adjust the capital structure actively through the method of dividend payment or accessing the capital market. As for the period of adjustment, the firms will need

approximately 1.9312 years or around 2 years for firms to close the gap of capital structure. Below is the figure for the visualisation of the speed of adjustment.
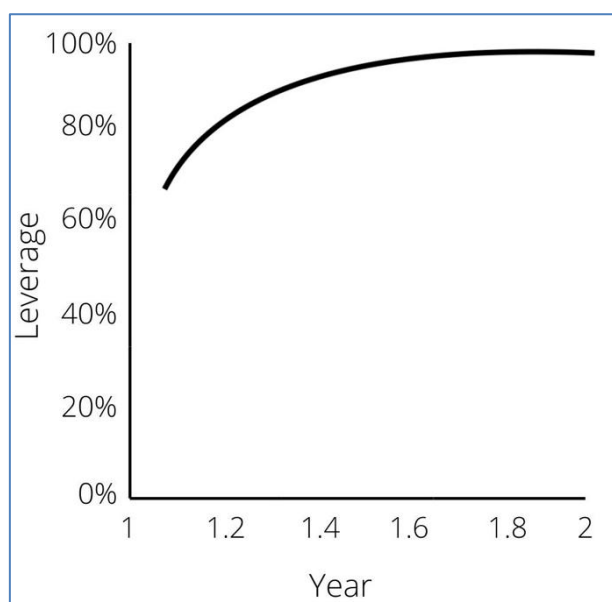

Figure 1: Speed of Adjustment Visualisation

V. CONCLUSION

The results of the study acknowledged that the consumer goods industry indeed have an optimal target capital structure, which is consistent with the trade-off theory. The determinants that affect the capital structure of the firms are liquidity, tangibility, profitability, non-debt tax shield, and firm size. The results also indicate that the managers do adjust the capital structure actively with a relatively fast speed of adjustment. Consumer goods firms have a speed of 61.23% per year. The firms will achieve the optimal capital structure target within only 2 years.

The results of this study are contradictory with the previous researches. The previous studies have found that firms mostly done the passive adjustment. For this research, this means that the consumer goods industry firms might have benefited from the low cost of adjustment and the optimal capital research. Further research can investigate the source of the adjustment cost and the active adjustment in other industry or sector.

REFERENCES

[1]. Agha, Ahmadimousaabad, A., Bajuri, N.H., Jahanzeb, Karami, M., & Khan, S. (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*, Vol. 1. October 2013 Issue. pp. 11 – 18.

[2]. Antoniou, A., Guney, Y., & Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market-Oriented versus Bank-Oriented Institutions. *The Journal of Financial and Quantitative Analysis, 43*(1), 59-92. Retrieved June 14, 2020, from www.jstor.org/stable/27647340

[3]. Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *Journal of Finance*, 57(1), pp. 1–32.

[4]. Blundell, R., Bond, S. (1998). Initial Conditions and Moment Restrictions In Dynamic Panel Data Models. *Journal of Econometrics* 87, 115–143.

[5]. Deesomsak, R., Paudyal, K., & Pecetto, G. (2004). The determinants of capital structure: evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14(4), 387-405.

[6]. Fama, E., & French, K. (2002). Testing Trade-Off and Pecking Order Predictions about Dividends and Debt. *The Review of Financial Studies, 15*(1), 1-33. Retrieved June 14, 2020, from www.jstor.org/stable/2696797

[7]. Faulkender, M., Flannery, M.J., Hankins, K.W. & Smith, J.M. (2012). Cash Flows and Leverage Adjustments. *Journal of Financial Economics*, Vol. 103, No. 3, pp.632–646.

[8]. Fitzgerald, J., & Ryan, J. (2018). The Impact of Firm Characteristics on Speed of Adjustment to Target Leverage: A UK Study. *Applied Economics*. DOI: 10.1080/00036846.2018.1495822

[9].   Flannery, M. and Hankins, K. (2007). A Theory of Capital Structure Adjustment Speed. unpublished manuscript, University of Florida, Gainesville, FL.

[10].   Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, *79*(3), 469–506. https://doi.org/10.1016/j.jfineco.2005.03.004

[11].   Frank, M.Z. & Goyal, V.K. (2009). Capital Structure Decisions: Which Factors Are Reliably Important? Financial Management, 38, 1-37. http://dx.doi.org/10.1111/j.1755-053X.2009.01026.x

[12].   Getzmann, A., Lang, S., & Spremann, K. (2014). Target Capital Structure and Adjustment Speed in Asia. *Asia-Pacific Journal of Financial Studies*, 43, pp. 1-30.

[13].   Harris, M., & Raviv, A. (1991). The Theory of Capital Structure. *The Journal of Finance*, *46*(1), pp. 297-355. https://doi.org/10.1111/j.1540-6261.1991.tb03753.x

[14].   Hovakimian, A., Hovakimian, G., & Tehranian, H. (2004). Determinants of Target Capital Structure: The Case of Dual Debt and Equity Issues. *Journal of Financial Economics*, 71, (3), 517-540.

[15].   Huang, R., & Ritter, J. R. (2009). Testing Theories of Capital Structure and Estimating the Speed of Adjustment. *Journal of Financial and Quantitative Analysis*, 44(02), p. 237.

[16].   Jensen, M.C., Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure. *Journal of Financial Economics*, 4, pp. 305-360.

[17].   Korajczyk, R., & Levy, A. (2003). Capital Structure Choice: Macroeconomic Conditions and Financial Constraints. *Journal of Financial Economics*, 68, (1), 75-109.

[18].   Leary, M.T., and Roberts, M. (2010). The Pecking Order, Debt Capacity, And Information Asymmetry. *Journal of Financial Economics*, 95, (3), 332-355.

[19].   Marsh. P. (1982). The Choice between Equity and Debt: An Empirical Study. *Journal of Finance*, 37, (1), 121-44.

[20].   Modigliani, F. & Miller, M.H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53, pp. 433-443.

[21].   Myers, S. C. (1984). The Capital Structure Puzzle. *The Journal of Finance*. 39(3), pp. 574-592.

[22].   Myers, S., & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, pp. 187–221.

[23].   Rajan, R., & Zingales, L. (1995). What Do We Know about Capital Structure? Some Evidence from International Data. *The Journal of Finance, 50*(5), pp. 1421-1460. doi:10.2307/2329322

[24].   Ross, S., Westerfield, R., & Jaffe, J. (2008). Corporate Finance 8th Edition. https://doi.org/10.1007/978-1-137-08239-8_6

[25].   Soekarno, S., & Prayogo, E. (2018). Capital structure active adjustment of Indonesian state-owned enterprises (SOEs). *International Journal of Monetary Economics and Finance*, *11*(3), pp. 251–259. https://doi.org/10.1504/IJMEF.2018.093798

[26].   Titman, S., & Wessels, R. (1988). The Determinants of Capital Structure Choice. *Journal of Finance*, 43(1), pp. 1-19.

[27].   Van Horne, J. C., & Wachowicz, J. M. (2008). Fundamentals of Financial Management. Harlow: Financial Times Prentice Hall.

*Corresponding Author: Anisa Ramadina[1]
[1](School of Business and Management, Institute Technology Bandung, Indonesia)