Determinant Of Capital Structure: A Comparison Survey Of Manufacturing And Non-Manufacturing Indonesian Listed Companies

Sandra Heliola¹, Disman², Ikaputera Waspada³, Subiakto Soekarno⁴

^{1,2,3}Universitas Pendidikan Indonesia ⁴Institut Teknologi Bandung

Abstract - The purpose of this study is to review the comparison of the influence of determinants of capital structure in the manufacturing and non-manufacturing companies listed on the Indonesia Stock Exchange Period 2009-2018. There is a similarity of firm-specific factors that affect the two industry groups namely Market to book ratio that has a significant positive effect and profitability has a significant negative effect. Different from a significant positive effect on tax, only on non-manufacturing companies while the significant negative effect on the non-debt tax shield only on manufacturing companies. The analysis technique uses Panel Data Regression for 274 registered companies in the manufacturing group and 171 companies in the non-manufacturing group.

Keywords: Capital Structure, Firm-specific, Manufacturing, Non-manufacturing

1. INTRODUCTION

After the decline in the growth of the lowest market capitalization in 2008 on the Indonesia Stock Exchange to reach -46%, in 2009 the market capitalization came to the highest growth spike to 88%. Conversely, in 2008 credit growth reached 31% but in 2009 it dropped to 7% based on productive credit data from Otoritas Jasa Keuangan (OJK) banking statistics. The growth movement seems to be in the opposite direction between credit growth and the company's market capitalization recorded until 2018. Capitalization or market value of equity reflects the value of a company, so the greater the market capitalization, the more expensive the company is valued by the market and can encourage companies to increase debt companies because the market value to the book value of equity is considered a proxy or investment opportunity (Rajan& Zingales 1995). And, the mixture of capital and debt is called capital structure (Ehrhardt & Brigham 2011: 600).

The importance of capital structure for companies because debt and equity have costs attached to it, called the cost of capital, the required rate of return on various types of financing (Horne &Wachowicz, 2005: 383). Research on the capital structure that was started by Modigliani&Miller (1958) but has not shown that capital structure influenced the value of the company and debt is not as a tax deduction. Modigliani & Miller (1963) were motivated to modified concepts on capital structure, that a corporation will reach its optimal capital structure when the benefit of company tax is extended to offset the cost of financial distress, this theory known as Trade-off Theory. Thus, the trade-off theory established a theoretical framework for explaining the term "optimal capital structure" of the firms. In contrast to

(Myers & Majluf, 1984) with the Pecking Order Theory which does not encourage debt first, but the company will prioritize internal financing before external financing.

Based on the capital structure theory, the researchers expand by looking at the factors that influence it. Firm-specific factors influence capital structure decisions (Titman & Wessels, 1988; Rajan& Zingales, 1995; Antoniou et al., 2002; Frank and Goyal, 2009; Hossain & Ali, 2012; Thippayana, 2014). Capital structure decisions are influenced by many factors (Dincergok&Yalciner, 2011). The combination of capital structure not only affected by firm-specific factors but also the institutional environment (Fan et al., 2012; Gwatidzo&Ojah, 2014).

In many studies, capital structure has stated the industrial pattern and this is the same throughout the world. In all developed countries, certain industries are characterized by high debt-to-capital ratios (utilities, transportation companies, and mature and capital-intensive manufacturing companies), while other industries use little or no long-term debt financing (Megginson, 1997: 305). MacKay & Philips (2005) report that industrial factors help explain the financial structure of a company. Koksal& Orman (2014) in a Turkish listed company study showed that manufacturing and non-manufacturing companies, in general, are very similar in terms of their capital structure. Smith et al. (2015) show that the nature of each industry's characteristics can be explained for variations in the capital structure of firms from different industrial backgrounds. While Fei Goh et al. (2018) in Malaysian manufacturing companies, not all variables influence the capital structure. Firm-specific factors vary in the industry and industry-specific factors are important in terms of the formation of the capital structure (Li & Islam, 2019).

The diversity of company-specific factors that influence capital structure has also been raised by previous researchers. Rajan& Zingales (1995) used the Tangibility Asset, Size, Profitability, and Market to Book Ratio variables to influence the capital structure of companies in G7 countries. Fan et al. (2012) selected the same company-specific factors in 39 developed and developing countries, and Li & Islam (2019). Delcoure (2007) adds tax and risk factors while De Jong et al. (2008) supplement specific factors with Non-Debt Tax Shield and Liquidity and Deesomsak et al. (2004) raise eight firm-specific factors.

The literature has shown that a company's capital structure can be influenced by firm-specific factors. The financial structure of a company is not identical across industries (Scott & Martin, 1975) because intuition encourages us to research to better understand the influence of company-specific factors on capital structure in the manufacturing and non-manufacturing industries. Thus, the purpose of this study to see if there are differences in the influence of specific factors on the two industries so that they can contribute to the company in the choice of capital structure. We compile this paper in the second section reviewing the literature and theories about capital structure and the specific determinants of capital structure, the third part talks about sample data and research models, the fourth section provides the results of empirical analysis, and the last section provides a discussion of the research results along with the research conclusions.

2. LITERATURE REVIEW

The first time Modigliani &Miller (1958) launched his writing was known as the MM Theory without Tax. With some assumptions to build their theories, an opinion is generated that capital structure is irrelevant or does not affect the value of the company. MM Theory was then corrected in 1963 by including the influence of taxes, so that debt can be used to save taxes because interest expense can be used as a tax deduction.

2.1 Trade-Off Theory

Jensen &Meckling (1976) with the trade-off theory (TOT) stated that the existence of an optimal capital structure and capital structure of a company can be determined by creating a balance between tax effects, agency costs, and bankruptcy costs. This theory proposes that companies balance the benefits and costs of their financing choices. Companies will owe to a certain level of debt, where the tax savings (tax shields) from additional debt equals the cost of financial distress (financial distress), (Myers, 2001). Companies choose their capital structure by balancing the benefits of borrowing, especially tax savings, with costs associated with loans including bankruptcy costs, this reflects the exchange of tax savings through debt with the costs of bankruptcy in it (Baxter, 1967) and Kraus &Litzenberger (1973). In the trade-off theory, companies have a capital structure target where the costs and benefits of issuing balanced debt (Beattie et al., 2004).

2.2.1 Pecking Order Theory

A different matter was found by Myers & Majluf (1984) and Myers (1984) in the Pecking Order Theory (POT). This theory cannot determine the optimal point of the leverage ratio, each company chooses a leverage ratio based on financing needs and the company will prioritize internal financing because it has lower costs than external financing. Brealey et al., (2008: 25) said that the company prefers internal funding, this is because the funds collected without sending signals can reduce share prices and if external funds are needed, the company will issue debt first and only issue equity as a last resort.

2.3 CAPITAL STRUCTURE AND SPECIFIC FACTORS AFFECTING

Previous research shows several ways into describing capital structure through leverage ratios. Many researchers use the ratio of debt to total assets owned (Rajan& Zingales, 1995; Sheikh & Wang, 2011; Pandey, 2004; Frank & Goyal, 2009; Koksal& Orman, 2014; Singh, 2016; Hailegebrealet al., 2018). Other diversity in seeing leverage such as Kester (1986), Gaud et al. (2005), Frank & Goyal (2009), Nejadet al. (2013), Li & Islam (2019) reviewing leverage in book-and market-value terms. Hall et al. (2004), Bayrakdaroğlu (2013), Al Bahshet al., (2018), his research looked at leverage through several measures, namely total debt, long term debt, and short-term debt. In this study leverage is shown through the ratio of debt to capital as research conducted by Krishnan & Moyer (1997), Dakua (2006) Sayılgan (2006), Nuswandari (2013). The equity value used is book value, Almazan& Molina (2005) note that the book value of equity can be important if companies base their decisions on accounting, not market information.

The diversity of specific factors that affect capital structure is also an interesting thing to review. In this study, we chose eight specific company factors that followed previous research that influenced capital structure, namely Tangibility Asset, Market to Book Ratio, Size, Profitability, Liquidity, Tax, Non-Debt Tax Shield and Business Risk.

Tangible Asset is one of the company-specific factors most widely used to see its effect on capital structure. Tangible Asset is one of the conditions in guaranteeing a company's debt so that Padron et al. (2005) states that these assets among total assets affect the level of debt. The relationship of positive tangible assets to leverage is suggested by Rajan& Zingales, 1995; Gaud et al., 2005; Fan et al., 2012; Al Bahsh, et al, 2018. While research that supports POT shows a negative relationship (Psillaki& Daskalakis, 2009; Hossain & Ali, 2012; Singh, 2016). The ratio size that we use for TANG is Fixed-Asset/Total Asset.

Market to Book Ratio is a company-specific factor that shows a comparison of the market value of equity against the book value of equity. Market to book ratio is one of the proxies used in viewing the company's growth opportunities. The relationship of Market to Book

Ratio with leverage shows market expectations of the value of investment opportunities and company growth (Antoniou et al., 2002). The greater the opportunity for company growth to require funding through debt, this positive relationship is proven by Sayilganet al. (2006), Singh (2016). There is a research gap on this factor, a negative relationship is shown by Rajan&Zingales (1995), in his research explained two reasons for the negative relationship between MBR and leverage; First, when the MBR increases, the cost of financial difficulties will also increase. Second, companies prefer issuing equity when shares are valued overvalued. The negative relationship for growth opportunities is also shown by Deesomsak (2004), De Jonget al. (2008).

Firm Size indicates the scale of the company, wherein previous studies commonly used total assets or total sales as an indicator. In this study, measuring the firm size by the logarithm of the company's total assets. Firm size can affect leverage, a positive relationship happens because the larger the firm size will get the convenience and the opportunity to owe more (Rajan& Zingales, 1995; Antoniou et al., 2002; De Jong et al., 2008; Fan et al., 2012; Singh, 2016; Li & Islam, 2019) Larger companies have an advantage over smaller companies in accessing credit markets and better-negotiating power when borrowing (Wiwattanakantang, 1999). While in POT the greater the size of the company will prioritize funding internally, firm size has a negative relationship Nasruddin (2004), Margaretha & Sari (2005).

Profitability in firm-specific factors was measured in general using Return to Asset Ratio or Return to Equity Ratio. Gaud et al. (2005) note that if past profitability is a good proxy for future profitability, profitable companies can borrow more because the likelihood of repayment of loans is greater. Another positive relationship is shown by research Frank & Goyal (2003). While on the contrary, quite a lot of research shows a negative relationship between profitability towards leverage Rajan and Zingales (1995); Booth et al. (2001); Hall et al. (2004). The size of the profitability ratio used is Earning After Taxe / Total Equity.

Liquidity which is shown by the comparison of Current Asset to Current Liabilities (current ratio) tends to have a negative effect because with high liquidity companies tend to have less debt because they are expected to be able to generate high cash inflows and can be used to finance operations and investment activities. In previous studies, a negative relationship was supported by Deesomsak, et al., (2004), Singh, (2016), Al Bahsh, et al. (2018). Ghasemiet al. (2016) by using a quick ratio, a positive relationship occurs between liquidity and leverage.

Looking at the effect of Tax, TOT explained that companies in setting debt levels are based on trade-offs between debt costs and benefits, so companies will raise their debt levels as long as the marginal tax benefit from additional debt offsets the increase in the cost of financial bankruptcy. Refer to Booth et al. (2001), Delcoure (2007), De Jong et al. (2008), the average tax rate is used as a proxy for the benefits of tax protection from debt. But in the research of Krempet al., (1999) with higher corporate tax rates, it would have resulted in lower internal funds and higher capital costs. As a result, the formation of fixed capital and the demand for external funds will decrease so that the inverse relationship between the level of debt and the effective tax rate. It can be said that the costs associated with debt financing (eg agency costs and bankruptcy) do not differ from the tax benefits of debt financing Antoniou et al. (2002). The size of the tax rate is the tax burden on a company's operating profit.

Non-Debt Tax Shield (NDTS) is a tax reduction due to depreciation, amortization, and longterm deferred costs. NDTS is the choice of a tax shield on debt financing (DeAngelo &Masulis, 1980). The calculation of this non-debt tax shield defines depreciation and amortization expenses which are charged to administrative expenses and sales expenses. NDTS shows how many companies have secure assets that lead to higher leverage ratios (Delcoure, 2007). Companies with higher NDTS can predictably use less debt in their companies. There was no effect of NDTS on leverage Singh (2016).

Income volatility is used to measure business risk (Delcoure, 2007). Business Risk can be seen from the revenue volatility of a company. The higher the volatility of a company can risk the possibility of income far above or below their average standard. If income is far above average, this can result in companies needing to manage high-cost funds to pay off debt or risk bankruptcy. This situation illustrates the close relationship between business risk and leverage. In the TOT, higher volatility indicates a higher risk in a company, while creditors will set a higher interest rate if the project is riskier, and companies with limited liability tend to take projects with higher risk. The positive relationship to leverage is supported by Delcoure (2007) while the negative relationship is by De Jong, et al. (2008). The Business Risk measure is the standard deviation of the operating profit growth in year t to t-1.

Smith et al. (2015) shown that the nature of each industry's characteristics can explained variations in the company's capital structure from different industrial backgrounds, so the hypotheses that we built in this study are:

| Hypotheses | Firm-Specific | Manufacturing | Non-Manufacturing |
|------------|----------------------|---------------|-------------------|
| H0 1 | Asset Tangibility | positive | negative |
| H0 2 | Market to Book Ratio | negative | positive |
| Н0 3 | Size | positive | negative |
| H0 4 | Profitability | negative | negative |
| H0 5 | Liquidity | negative | negative |
| H0 6 | Tax | positive | positive |
| H0 7 | Non-Debt Tax Shield | negative | negative |
| H08 | Business Risk | negative | negative |

Table 1 The Hypotheses

Note: positive and negative shows the direction of the relationship of firm-specific factors to the capital structure

3. METHOD

The research method is carried out quantitatively, with a form of causal study that aims to see the influence between variables in research. The method aims to obtain empirical evidence of the influence of independent variables, represented by Tangibility Asset, Market to Book Ratio, Firm Size, Profitability, Liquidity, Tax, Non-Debt Tax Shield, and Business Risk as the dependent variable.

3.1 Data Collecting Method

This study uses secondary data, which is annual financial statements of non-financial companies listed on the Indonesia Stock Exchange during the period 2009-2018. The annual financial reports are obtained from the official website of the Indonesia Stock Exchange (IDX) at www.idx.co.id and through the IDN Financials website www.idnfinancials.com.

3.2 Population and Sample Determination Method

The population of this study is all issuers that are non-financial companies listed on the Indonesia Stock Exchange during the period 2009-2018. The exclusion of financial companies is because financial companies have different and tighter policies by regulators.

The sampling technique used was purposive sampling. Because the research data span of 10 years began in 2009, we selected all companies that did an IPO before 2009 except financial companies and the companies that did not have complete data, so that our total sample was 274 which is 103 manufacturing industry groups and 171 non-manufacturing groups.

3.3 Variable Definition and Measurement

The dependent variable in this study is the capital structure which is calculated through the ratio of total debt leverage to total equity. For independent variables are firm-specific factors in this study that were selected based on previous research are Tangibility Asset, Market to Book Ratio, Size, Profitability, Liquidity, Tax, Non-Debt Tax Shield and Business Risk.

The measurement of dependent and independent variables can be explained in the table below:

| Variable | | Indicator | | | | |
|-----------|----------------------------|--|--|--|--|--|
| Y | Debt to Equity Ratio (DER) | Total Debt/Total Equity | | | | |
| Xl | Asset Tangibility (TANG) | Fixed Asset/Total Asset | | | | |
| X2 | Market to Book Ratio (MTB) | The market value of equity/ book value of equity | | | | |
| X3 | Ukuran perusahaan (SIZE) | Ln(Total Asset) | | | | |
| <i>X4</i> | Profitability (PRO) | EAT/Total Equity | | | | |
| X5 | Liquidity (LIQ) | Current Asset/Current Liabilities | | | | |
| X6 | Tax | Tax payment/EarningBefore Interest &Tax | | | | |
| | | (EBIT) | | | | |
| X7 | Non-Debt Tax Shield | Depreciation/Total Asset | | | | |
| | (NTDS) | | | | | |
| X8 | Business Risk (BR) | δ ($\Delta EBIT$) | | | | |

The strength of the relationship of variable Y with variable X in this study was measured using panel data regression because the sample contained cross-company data and from time to time. To see the effect of explanatory variables on debt ratio (DER), there are three approaches in making panel data regression, namely, Pooled Ordinary Least Square (OLS), The Random Effects (REM), and The Fixed Effects (FEM). To find out which model to use, the Chow and Hausman tests were performed.

Regression is carried out in two stages, namely for the manufacturing industry group and the non-manufacturing industry group with the following regression models:

DER = a+ b1TANG+ b2MBR+ b3SIZE+ b4PRO +b5LIQ +b6TAX +b7NDTS +b8BR + e

Information :

| DER | : Debt to Equity Ratio (DER) |
|------|------------------------------|
| TANG | : Asset Tangibility |
| MBR | : Market to Book Ratio |
| SIZE | : Firm Size |

| PRO | : Return on Equity |
|------------------------|---------------------------|
| LIQ | : Liquidity |
| Tax | : Tax |
| NDTS | : Non Debt Tax Shield |
| BR | : Business Risk |
| А | : constant |
| b1, b2, b3, b4, b5, b6 | : regression coefficients |

e

: error

4. RESULTS

In this section we present various estimation results and empirical findings. We present the descriptive analysis as follows:

| | MANUFACTURING | | | | | | | | |
|------|-------------------|-------|---------|------|---------|---------|-----------|-------|----------|
| | | TAN | | | | | | NTD | |
| | DER | G | MTB | Size | Profit | LiQ | Tax | S | BR |
| | | | | 1,03 | | | | | |
| Obsv | 1,030 | 1,030 | 1,030 | 0 | 1,030 | 1,030 | 1,030 | 1,030 | 1,030 |
| | | | | 28.2 | | | | | |
| Mean | 1.50 | 0.47 | 2.73 | 2 | 0.08 | 2.32 | 8.01 | 0.00 | 31.09 |
| | | | | 22.7 | | | | | |
| Min | (31.78) | 0.04 | (8.92) | 6 | (9.64) | 0.00 | (367.76) | 0.00 | 0.00 |
| | | | | 33.4 | | | | | 14,879.9 |
| Max | 162.19 | 1.00 | 83.45 | 7 | 3.25 | 85.41 | 8,470.14 | 0.18 | 6 |
| SD | 6.50 | 0.19 | 7.11 | 1.64 | 0.53 | 3.35 | 264.18 | 0.01 | 655.42 |
| | NON-MANUFACTURING | | | | | | | | |
| | | | | 1,71 | | | | | |
| Obsv | 1,710 | 1,710 | 1,710 | 0 | 1,710 | 1,710 | 1,710 | 1,710 | 1,710 |
| | | | | 28.3 | | | | | |
| Mean | 1.57 | 0.56 | 3.66 | 2 | (0.12) | 5.93 | (21.25) | 0.02 | 5.17 |
| | (270.85 | | (635.50 | 21.6 | (326.92 | | (36,793.6 | | |
| Min |) | 0.00 |) | 8 |) | 0.00 | 4) | 0.00 | 0.00 |
| | | | | 32.9 | | 2,726.4 | | | |
| Max | 370.57 | 1.00 | 923.27 | 6 | 43.75 | 5 | 409.45 | 1.39 | 525.53 |
| SD | 12.92 | 0.26 | 37.31 | 1.92 | 8.01 | 68.97 | 889.83 | 0.06 | 32.12 |

 Table 2. Descriptive Analysis

On average, manufacturing and non-manufacturing industries have relatively the same DER and show funding through debt is higher than capital during this study period.

Based on the results of the Chow test and the Hausman Test, our regression approach uses the Fixed Effect Model for the manufacturing industry group and the Random Effect Model for the Non-Manufacturing group.

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|---------------------------|--------------------------|
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| Variable | Manufacture | | Non Manufacture | | |
|--------------------|--------------------|---------|---------------------|----------|--|
| | Fixed Effect Model | | Random Effect Model | | |
| | Coefficient | Prob. | Coefficient | Prob. | |
| С | 3.9772 | 0.6775 | -3.2703 | 0.3168 | |
| TANG | 2.3260 | 0.2273 | -1.0297 | 0.2384 | |
| MTB | 0.5644 | 0.0000 | 0.0294 | 0.0000 | |
| SIZE | -0.1457 | 0.6710 | 0.1808 | 0.1209 | |
| PRO | -7.8007 | 0.0000 | -1.1323 | 0.0000 | |
| LIQ | -0.0226 | 0.6925 | -0.0013 | 0.6877 | |
| TAX | 0.0000 | 0.9360 | 0.0006 | 0.0281 | |
| NDTS | -70.1218 | 0.0028 | 1.2270 | 0.7396 | |
| BR | 0.0000 | 0.9184 | 0.0096 | 0.1607 | |
| R-squared | | 0.5760 | R-squared | 0.5188 | |
| F- | | 11.3498 | F-statistic | 229.2312 | |
| statistic | | | | | |
| Durbin-Watson stat | | 1.9877 | Durbin- | 1.6886 | |
| | | | Watson stat | | |

Note: All variables are significant at α =0.05 level

TANG gives the same result not having a significant effect on both industry groups, and this is beyond our prediction on the hypothesis. The trade-off theory predicts a positive relationship between leverage and TANG, but the result of this study similar to the research by Deesomsak (2004), Nejadet al. (2013), Dakua (2018) who do not see a significant relationship between TANG and leverage. Whereas the study of Li & Islam (2019) did not find a consistent relationship between asset tangibility and leverage. Referring to the company DER average above 100% shows TANG has been used maximally so that it might not be a factor affecting companies in Indonesia in funding decisions through debt.

MTB is one proxy to see the growth opportunities of the company to be a variable that affects the capital structure. Significant positive relationship in both types of industry groups, according to our hypothesis for non-manufacturing industries but different from the manufacturing hypothesis. This positive effect supports Pecking Order Theory, companies with higher growth will prefer debt financing over equity finance when internal funding is insufficient. The positive effect was shown in the research of Sayilganet al. (2006); Singh (2016) and contrary to the research of Rajan& Zingales, 1995; Frank & Goyal, 2003; Li & Islam, 2019. Comparing the effect of MTB with leverage, positive manufacturing relations are associated with long-term leverage while non-manufacturing companies have a negative correlation with term leverage Koksal& Orman (2014). By this result, seeing high growth opportunities, the Indonesian companies will add their debt to invest to enlarge their business.

SIZE also has no influence on the capital structure for the two industry groups. The two industry groups on average are based on SIZE measurements with the logarithm of total assets in this study having relatively the same rate. SIZE does not support TOT nor POT. No significant results were found in the Dakua's study (2018). The size of the company affects the ability and reach of companies to obtain easy and cheap debt financing (Sayilganet al., 2006), but does not affect on the decision of the company's capital structure in Indonesia. SIZE is not a primary consideration for creditors in providing additional debt or reducing it, then it's not an effect on capital structure decisions. Based on statistics, manufacturing

companies tended to follow the POT while non-manufacturing companies follow the TOT pattern because of the positive direction.

Same as our hypothesis, both industry groups have a significant negative effect PRO on capital structure. Companies in Indonesia will prioritize utilizing their profits before external financing, the same as POT that companies with higher profits have lower needs for external financing so that they have lower leverage. Profitability is an important determinant in both industry groups, same as in dynamic capital structure, profitability becomes an important capital structure determinants (S. Soekarno et al., 2015). This finding supports the research of Rajan& Zingales (1995), Huang & Song (2004), and Frank & Goyal (2009). In the results of the study by Koksal& Orman (2014) the debt ratio of manufacturing companies responded more to changes in size and profitability than non-manufacturing companies.

Most of the previous studies had expected the negative effect of LIQ on capital structure, our prediction of the hypotheses for these two industry groups was a negative effect because liquidity results can also help explain results for profitability. However, our different results show that there is no significant relationship between LIQ and capital structure, statistically, the influence of LIQ of these two industry groups shows a negative direction. Similar to profitability, if a company's assets are in a higher liquid state, the company will prioritize internal funding as stated by POT. While studies such as Deesomsaket al. (2004), Viviani (2008), Singh (2016) are consistent with POT results.

TAX and NDTS are natural determinants that match the trade-off theory (Koksal& Orman 2014). The tax rate in our study is the variable that has the highest standard deviation, the diversity between the tax burden and benefits enjoyed by the company, and this related to the applicable taxation rules. The effect of taxation on leverage is the result of a complex set of tax rules, which makes leverage more or less valuable (De Jong et al., 2008) The results of this study show that taxes on manufacturing companies do not affect the capital structure, and some empirical studies find this relationship insignificant (Qureshi et al., 2012; Al Bahsh et al., 2018), on the contrary, it has a positive effect on non-manufacturing companies, which means non-manufacturing companies benefit from tax protection from debt, while NDTS manufacturing companies which influence the capital structure, supporting the research of Delcoure (2007); Al Bahsh et al. (2018), however NDTS in per non-manufacturing businesses do not have a significant influence.

This operating profit volatility is used to measure business risk (Delcoure, 2007; Al-Najjar and Taylor, 2008). Based on pecking-order theory and trade-offs, earnings volatility can increase the possibility of default because debt holders consider the company's future income as debt protection (Mehran, 1992). The empirical finding is contrary to our expectation that there is no effect of BR on capital structure, in line with research by Deesomsak (2004); Al Bahsh et al., (2018). Delcoure (2007) cannot conclude the relationship between BR and leverage because there are differences in each of the countries that are sampled. BR does not play an important role in corporate capital structure decisions in any of the sample countries studied (Antoniu, 2002).

R2 is employed to test how closely the data are fitted with the regression line. The R2 value is found to be in the range of 57.60% for manufacturing companies and 51.88% for non-manufacturing companies, this shows that firm-specific factors provide quite high variables and can explain variations in risk ratios. Besides, the F statistic confirmed the simultaneous influence of firm-specific factors on capital structure.

5. DISCUSSION

We have chosen eight firm-specific factors, there is Tangible Asset (TANG), Market to Book Ratio (MTB), company size (SIZE), profitability (PROF), liquidity (LIQ), Tax (TAX), non-debt tax shield (NDTS) and Business Risk (RISK) to see its effect on the capital structure of companies registered in Indonesia in the 2009-2018 period. However, not all of them have a significant influence on the capital structure. The correlation between determinants such as growth opportunities through the MTB proxy and profitability are statistically significant in both manufacturing and non-manufacturing industry groups. Manufacturing companies with larger investments get the benefit of a non-debt tax shield (NDTS), not so with companies in the non-manufacturing industry group, so that NDTS has no significant effect on capital structure. On the other hand, TAX in the non-manufacturing industry group will increase its debt in line with the increase in tax burden to create a trade-off debt cost to the tax burden.

This specific variable provides an important contribution in capital structure decisions because overall R2 of more than 50% for both industry groups influences capital structure decisions. For the next study, we estimate country-specific such as inflation rate, GDP, and others to be other factors that give influence besides firm-specific and industry-specific factors.

6. CONCLUSION

Generally, there are similarities in the influence of company-specific variables on capital structure in both groups of industries. Not all variables are influential, each only has 3 (three) firm-specific factors that influence the capital structure, namely MTB, PRO, and NDTS for manufacturing companies and MTB, PRO, and Tax for non-manufacturing companies. But seen from the signs of variable coefficients both in the manufacturing and non-manufacturing industry groups have a tendency to Pecking Order Theory in capital structure decisions. In contrast to the study of Koksal& Orman (2014), overall, our findings of the relationship between leverage and various determinants seem to be more in line with the prediction of the trade-off theory than with the pecking order theory, especially in the case of non-manufacturing companies.

7. REFERENCES

- [1] Almazan A. and Molina C.A. "Intra-industry capital structure dispersion." Journal of Economics & Management Strategy, Vol. 14, No. 2,2005 pp. 263-297.
- [2] Al-Najjar, B., Taylor, P. "The relationship between capital structureand ownership structure." Managerial Finance, 34(12),2008. pp.919-933.
- [3] Antoniou, A., Guney, Y. Paudyal, K. Determinants of Corporate Capital Structure: Evidence from European Countries. Working Paper, University of Durham, 2002.
- [4] Baxter, N.D. "Leverage, Risk of Ruin and the Cost of Capital."The Journal of Finance, 22, 1967, pp. 395-403.
- [5] Bayrakdaroğlu, A., Ege, I., Yazıcı, N. "A panel data analysisof capital structure determinants: Empirical results from Turkishcapital market."International Journal of Economics and Finance,5(4), 2013, pp. 131-140.
- [6] Beattie V., Goodacre A., Thomson S.J. Diversity and determinantsof corporate financing decisions: survey evidence. Working Paper, University of Stirling, 2004.
- [7] Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. "Capital structure in developing countries."The Journal of Finance, 56, 2001, pp. 87–130.
- [8] Brealey, R., A., S., C., Myers & A. J. Marcus. Dasar-Dasar Manajemen Keuangan Perusahaan. Buku 2. Edisi 5. Jakarta: PenerbitErlangga, 2008.
- [9] Bursa Efek Indonesia. 2019. [Online]. http://www.idx.co.id

- [10] Dakua, Sarada."Effect of determinants on financial leverage in Indian steel industry: A study on capital structure."International Journal of Finance & Economica. 2018, pp.1– 10.
- [11] DeAngelo, H., Masulis, R.W. (1980), "Optimal capital structure undercorporate and personal taxation." Journal of Financial Economics, 8, 1980, pp. 3-29.
- [12] De Jong, A., Kabir, R., & Nguyen, T. T. (2008). "The capital structure around the world: The roles of firm- and country-specific determinants." Journal of Banking & Finance, 32, 2008, pp.1954–1969.
- [13] Deesomsak, R., Paudyal, K., Pescetto, G. "The determinants ofcapital structure: Evidence from the Asia Pacific region."Journal ofMultinational Financial Management, 14, 2004, pp. 387-405.
- [14] Delcoure, N. The determinants of capital structure in transitional economies. International Review of Economics & Finance, 16(3), 2007, pp. 400–415.
- [15] Dincergok, B., &Yalciner, K. Capital structure decisions of manufacturing firms' in developing countries. Middle Eastern Finance and Economics, 12, 2011, pp. 86-100
- [16] Ehrhardt, M. C, and Brigham, E.F. Financial Management: Theory and Practice (13 ed.). USA. South-Western Cengage Learning, 2011.
- [17] Fan, J., Titman, S., & Twite, G. An international comparison of capital structure and debt maturity choices. Journal of Financial and Quantitative Analysis, 47(1), 2012, pp. 23–56.
- [18] Fei Goh, C., Ying Tai, W.,Rasli, A., Owee Kowang Tan, Zakuan, N.The Determinants of Capital Structure: Evidence from Malaysian Companies. International Journal of Supply Chain Management, Vol. 7, No. 3, June 2018.
- [19] Frank, M. Z., & Goyal, V. K. Capital structure decisions: Which factors are reliably important? Financial Management, 38(1), 2009, pp. 1–37.
- [20] Ghasemi, M., & Ab Razak, N. H. The Impact of Liquidity on the Capital Structure: Evidence from Malaysia. International Journal of Economics and Finance, 8(10), 2016, pp. 130.
- [21] Gaud, P., Jani, E., Hoesli, M., Bender, A. The capital structure of Swiss companies: An empirical analysis using dynamic panel data. European Financial Management, 11(1), 2005, pp. 51-69.
- [22] Ghozali, Imam.Aplikasi AnalisisMultivariate dengan Program SPSS.Semarang. BP Universitas Diponegoro, 2013.
- [23] Gwatidzo, T., &Ojah, K. "Firms' debt choice in Africa: Are institutional infrastructure and non-traditional determinants important?"International Review of Financial Analysis, 31, 2014, pp. 152–166.
- [24] Hailegebreal, Demis & Wang, Man. "Determinants of Capital Structure of African Firms: ACategorical Analysis."European Journal of Business and ManagementVol.10, No.1, 2018.
- [25] Hall, G., Hutchinson, P., & Michaelas, N. "Determinants of the capital structures of European SMEs."Journal of Business Finance & Accounting, 31, 2004, pp. 711–728.
- [26] Horne, James C. Van & Wachowicz, Jr John M. Fundamentals of Financial Management. Pearson Education Limited Edinburgh Gate Harlow, England, 2005.
- [27] Hossain, F & Ali & Ali.A. "Impact of Firm Specific Factors on Capital Structure Decision: An Empirical Study of Bangladeshi Companies."International Journal of Business Research and Management (IJBRM), Vol. 3 No. 4, 2012.
- [28] Huang, S.H., & Song, F. M. The determinants of capital structure: Evidence from China. School of Economics and Finance and Centre for China Financial Research, University of Hong Kong. China, W P, 2004.

- [29] IDN Financials, www.idnfinancials.com
- [30] Jensen, M., & Meckling, W. "Theory of the firm: Managerial behaviour, agency costs and ownership structure." Journal of Financial Economics, 3, 1976, pp. 305–360.
- [31] Kester, W.C. "Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations."Financial Management, 25,Spring, 1986, pp. 5-16.
- [32] Krishnan, V., Sivarama dan Moyer, R., Charles. 1997. "Performance, Capital Structure and Home Country: An Analysis of Asian Corporations."Global Finance Journal, Vol. 8 (1),1997, pp. 129-143.
- [33] Koksal, B., Orman, C. "Determinants of capital structure: evidence from a major developing economy."Small Business Economics, 44(2), 255–282.
- [34] Kraus, A., dan Litzenberger, R.H. "A state -preference model of optimal financial leverage." Journal of Finance. September: 1973, pp. 911-922.
- [35] Kremp, E., Stöss, E. and Gerdesmeier, D. Estimation of a debt function: Evidence from"French and German firm panel data, in: Sauvé, A and Scheuer, M. eds., Corporate finance inGermany and France, A joint research of the Deutsche Bundesbank and the Banque de France, 1999, pp. 139-194.
- [36] Li, Larry & Islam, Silvia Z. "Firm and Industry Specific Determinants of Capital Structure: Evidence from The Australian Market."International Review of Economics and Finance 59, 2019, pp. 425–437.
- [37] MacKay, P., & Philips, G. M. "How does industry affect firm financial structure. Review of Financial Studies." 18(4), 2005, pp. 1433–1466.
- [38] Margaretha, F., dan L. Sari. "Faktor-faktor yang MempengaruhiStruktur Modal pada Perusahaan Multinasional di Indonesia."Media Riset Bisnis dan Manajemen, Vol. 5, No. 2 August, 2005, pp. 230-252.
- [39] Megginson, L William.Corporate Finance Theory. United States: Addison Wasley Educational Publishers Inc., 1997.
- [40] Mehran, H. (1992), Executive incentive plans, corporate control, and capital structure. Journal of Financial and Quantitative Analysis,27(4), 787-821.
- [41] Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and the theory of investment. The American Economic Review, 48, 261–297.
- [42] Modigliani, F., Miller, M. Corporate income taxes and cost of capital: A correction. American Economic Review, 53, 1963, PP. 443-453.
- [43] Myers, S. "The capital structure puzzle. The Journal of Finance." 39, 1984, pp. 575– 592.
- [44] Myers, S.C. "Majluf, N.S. Corporate financing and investment decisions when firms have information that investors do not have."Journal of Financial Economics, 13(2), 1984, pp. 187-221.
- [45] Myers, S. (2001). "Capital Structure."The Journal of Economic Perspectives, Vol.15, No.2. Spring 2001—Pages 81–102.
- [46] Nasruddin. (2004). "Faktor-Faktor yang MenentukanStruktur Modal: Studi Empirik pada Perusahaan Industri Farmasi di Bursa Efek Jakarta."Jurnal Akuntansi dan Investasi, 5 (1): 2004, pp. 47-62.
- [47] Nejad, Niloufar Rezaie and Wasiuzzaman, Shaista."The Empirical Analysis of Capital StructureDeterminants Evidence From Malaysia."World Academy of Science, Engineering and Technology, 74, 2013, pp. 466-474.
- [48] Nuswandari, Cahyani. "DeterminanStruktur Modal dalam Perspektif Pecking Order Theory dan Agency Theory."DinamikaAkuntansi, Keuangan dan Perbankan, Vol. 2, No. 1, 2013, pp. 92 - 102.
- [49] Otoritas Jasa Keuangan. Data Statistik Laporan Tahunan. 2013. https://ojk.go.id/

- [50] Pandey, I. M. "Capital structure, profitability and marketstructure: Evidence from Malaysia." Asia Pacific Journal of Economics & Business, 8(2), 2004 78–91.
- [51] Psillaki, M., & Daskalakis, D. "Are the determinants of capital structure country or firm specific?" Small Business Economics, 33(3), 2009, pp. 319–333.
- [52] Rajan, R., & Zingales, L. "What do we know about capital structure: Some evidence from international data."The Journal of Finance, 51, 1995, pp. 1421–1460.
- [53] Rana Al Bahsh, Ali Alattar, Aziz N. Yusuf. "Firm, Industry and Country Level Determinants of Capital Structure: Evidence from Jordan."International Journal of Economics and Financial Issues, Vol 8 Issue 2,2018, pp. 175.
- [54] Sayilgan, G., Karabacak, H., Kucukkocaoglu, G. "The firm-specific determinants of corporate capital structure: Evidence from Turkish panel data."Investment Management and Financial Innovations, 3, 2006, pp. 125-137.
- [55] Scott, D. F., JR., & Martin, J. D. "Industry influence on financial structure. Financial Management." 4(1), 1975, pp. 67–73.
- [56] Sheikh, N.A., Wang, Z. "Determinants of capital structure: Anempirical study of firms in manufacturing industry of Pakistan."Managerial Finance, 37, 2011, pp. 117-133.
- [57] Singh, D."A Panel Data Analysis of Capital Structure Determinants: An Empirical Study of Non-Financial Firms in Oman. International Journal of Economics and Financial Issues" 6(4), 2016, pp. 1650-1656.
- [58] Smith, D. J., Chen, J. G., & Anderson, H. D. "The influence of firm financial position and industry characteristics on capital structure adjustment." Accounting andFinance. 55(4), 2015, pp. 1135–1169.
- [59] Soekarno, Subiakto., Kitri, Mandra Lazuardi., Utomo, Suryo. "Capital structure determinants and the speedof adjustment towards capital structure target:evidence from Indonesian state-owned enterprises."International Journal of Monetary Economics and Finance, Inderscience Enterprises Ltd, vol. 9(4), 2015 pp. 388-400.
- [60] Thippayana, P. "Determinants of Capital Structure in Thailand."Procedia -Social and Behavioral Sciences 143, 2014, pp. 1074 1077.
- [61] Titman, S., & Wessels, R. "The determinants of capital structure choice." Journal of Finance, 43, 1988, pp. 1–19.
- [62] Qureshi, Muhammad Azeem., Akhtar, Waqas., Imdadullah, Muhammad. "Does Diversification Affect Capital Structure and Profitability in Pakistan?"Asian Social Science Vol. 8, No. 4, April 2012.
- [63] Viviani, J. (2008), "Capital structure determinants: an empirical study of French companies in the wine industry." International Journal of Wine Business Research, Vol. 20 No. 2, 2008, pp. 171-194.
- [64] Wiwattanakantang, Y. An empirical study on the determinants of the capital structure of Thai firms. Pacific-Basin Finance Journal, 7, 1999, pp. 371–403.