Jurnal Keuangan dan Perbankan, 24(4): 485–493, 2020
http://jurnal.unmer.ac.id/index.php/jkdp

Jurnal Keuangan dan Perbankan
UNIVERSITY OF MERDEKA MALANG

Article history:
Received: 2020-06-20
Revised: 2020-07-05
Accepted: 2020-09-02

Kewords:
Capital structure; Debt to asset ratio; Debt to equity ratio; Manufacturing companies

JEL Classification: G32, L60

Kata Kunci:
Struktur modal; Debt to asset ratio; Debt to equity ratio; Perusahaan industri

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Capital structure manufacturing companies in Indonesia: In review

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Abstract

This study aims to provide an in-depth overview of the selection of capital structure of manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2015 to 2017. The data of this study were 127 annual reports of manufacturing companies listed on the IDX, divided into three types of industry, namely basic and chemical industries, miscellaneous industries, and consumer good industries. The capital structure ratios used in this study were Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER). It also looked at the ratio of Current Liabilities to Total Debt (CL/TD) and the ratio of Long Term Debt to Total Debt (LTD/TD). The results showed the average DAR of manufacturing companies in Indonesia for 3 years was 45 percent. Meanwhile, the DER rate was 111 percent. The debt of manufacturing companies in Indonesia was dominated by current liabilities compared to long-term debt. The consumer good industries had the lowest DAR and DER levels compared to basic and chemical industries and miscellaneous industries. This study can be used as a basis and overview of the capital structure of manufacturing companies listed on the Stock Exchange for further studies.

Abstrak

Penelitian ini bertujuan untuk memberikan gambaran secara mendalam mengenai pemilihan struktur modal perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia (BEI) dari tahun 2015 hingga 2017. Data penelitian ini adalah 127 laporan tahunan perusahaan manufaktur yang terdaftar di BEI, terbagi menjadi tiga jenis industri yaitu industri dasar dan kimia, industri aneka, dan industri barang konsumsi. Rasio struktur modal yang digunakan dalam penelitian ini adalah Debt to Asset Ratio (DAR) *dan* Debt to Equity Ratio (DER). *Itu juga melihat rasio Kewajiban Lancar terhadap Total Utang* (CL/TD) *dan rasio Utang Jangka Panjang terhadap Total Utang* (LTD/TD). *Hasil penelitian menunjukkan rata-rata* DAR *perusahaan manufaktur di Indonesia selama 3 tahun adalah 45 persen. Sedangkan tingkat* DER *sebesar 111 persen. Utang perusahaan manufaktur di Indonesia didominasi oleh liabilitas lancar dibandingkan utang jangka panjang. Industri barang konsumsi memiliki tingkat* DAR *dan* DER *yang paling rendah dibandingkan dengan industri dasar dan kimia serta industri lain-lain. Penelitian ini dapat digunakan sebagai dasar dan gambaran umum struktur modal perusahaan manufaktur yang terdaftar di BEI untuk studi lebih lanjut.*

How to Cite: Wulandari, T. R., & Setiawan, D. (2019). Capital structure manufacturing companies in Indonesia: In review. *Jurnal Keuangan dan Perbankan,* 24(4), 485-493. https://doi.org/10.26905/jkdp.v24i4.4312

ISSN: **2443-2687** (Online)
ISSN: **1410-8089** (Print)

1. Introduction

Capital structure is one of the most important decisions for a company. Capital structure is often defined as the comparison in providing the financial needs of a company by using debt or equity. The proper determination of capital structure by a company is very useful to maximize returns to the stakeholders and help in dealing with the competitive environment in which the company operates. The decision of a company's capital structure is still a controversial topic. The theory related to capital structures was first developed by Modigliani & Miller (1958). They argue that capital structure is irrelevant in determining the value of a company and its future performance under certain conditions i.e no taxes, no bankruptcy costs, no transaction costs, and no information asymmetry. However, this theory is considered irrelevant. The new theories emerged such as *Trade-off Theory* (Modigliani & Miller, 1963), *Pecking Order Theory* (Myers, 1984) and *Market Timing Theory (*Taggart, 1977). These three theories try to improve the M&M model (1958) by including taxes, bankruptcy costs, transaction costs, and information asymmetry in determining the capital structure that will affect the value of the company.

Studies on capital structure have been widely carried out both in Indonesia and overseas. Studies on the selection of funding by using internal or external funds are still interesting to do until now because the results of the studies that have been conducted are still varied. The studies that have been carried out are related to factors that influence the selection of optimal capital structure. The factors are profitability, company size, assets structure, risk level, and liquidity (Sibindi, 2016; Ghosh, 2018; Oktavina et al., 2018; Septiani & Suaryana, 2018; Sha, 2019; Ariyani et al., 2019; Santoso et al., 2020). In addition to placing capital structure as the dependent variable, several studies have also made capital structure as an independent variable that is related to company values and performance (Mariono et al., 2014; Manurung, 2014; Ludijanto, 2014; Dewi et al., 2015; Bestariningrum, 2015; Agustiningtias et al., 2016; Lasmanah & Yuniar, 2017). Capital structure is also used as a moderating variable in several studies (Budiman, 2015; Hamidah, 2016; Kirana & Badjra, 2018).

The results of the studies showed various results. The differences in the results of the studies were due to the various types of industries used as the samples and different timing. Besides, the theory underlying the research was also one of the factors that caused differences in the results.

This study is different from previous studies in several ways. This study aims to provide an overview of capital structures of manufacturing companies in Indonesia. Therefore, the overview can be used to explain the results obtained if further studies are conducted related to capital structure, as the dependent variable, independent variable, or as moderating variable.

Another difference is that this study uses samples of manufacturing companies in Indonesia as a whole, as well as based on industrial types (basic and chemical industries, miscellaneous industries, and consumer good industries). Whereas, previous studies often only looked at the capital structures for manufacturing companies as a whole or used one type of industry in the manufacturing company. This is important because each industry has different characteristics even though it belongs to manufacturing companies. This difference can cause differences in the capital structure chosen by each industry. Finally, it can be used by the researchers to provide a clearer overview.

This study used Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER) to see the capital structures of manufacturing companies listed on the Indonesia Stock Exchange (BEI) from 2015 to 2017. In addition to looking at DAR and DER for 3 years, it also looked at DAR and DER for each type of industry of manufacturing companies. The percentage of current liabilities with long-term debt was

also a concern in this study. The ratio of the amount of current liabilities with long-term debt is also important to assess the capital structure chosen by the company.

2. Hypotheses Development

Capital structure theories

The selection of capital structure in determining the funding of a company is still an interesting topic. Capital structure is the proportion of debt to equity of a company in carrying out funding. The selection of capital structure is often associated with the company values. Some theories that underlie the selection of capital structure used by companies are Trade-off Theory and Pecking Order Theory.

Capital structure theory was first introduced by Modigliani & Milleer (1958) which argued that the capital structure chosen by a company would not affect the value of the company in perfect market conditions where there are no taxes, no transaction costs, and no information asymmetry. This condition, however, is not possible in the real world at this time, so that Trade-off Theory appeared which includes tax and bankruptcy risk in the model (Modigliani & Miller, 1963; Myers, 1984; Frank & Goyal, 2011). Trade-off Theory explains how companies can choose the most optimal capital structure to increase the value of the company by utilizing tax costs (tax shield). Tax costs will increase when the companies are financed using debt. On the other hand, the companies must consider bankruptcy costs when they use too much debt. In this theory, the company must be able to determine the most optimal proportion between debt and equity in carrying out the funding.

Another capital structure theory is Pecking Order Theory. This theory was first proposed by Donaldson (1961), then developed by Myers (1984). From the perspective of Pecking Order Theory, capital structures can be chosen based on the order of risks borne by the company. The company is more likely to choose the source of funding that has the smallest risk. Funding is the smallest risk if it comes from internal rather than external. If internal funds (retained earnings) are insufficient, the company can find external funding in the form of debt. Debt is the second choice after internal funding and if the company still needs funds, it can issue ordinary shares (external equity). In this theory, funding through debt is considered smaller at risk compared to issuing new shares. With funding from debt, companies can take advantage of the tax shield. But if the companies have too much debt, they will also face the risk of bankruptcy. For this reason, when a company is at its maximum limit in debt, the company conducts funding by issuing ordinary shares. Pecking Order Theory refers to companies that aim to maximize the prosperity of the company owners.

Calculation of capital structure using several financial ratios. The financial ratios commonly used to measure capital structure are Debt to Equity Ratio (DER) developed by Horne & Wachowicz, 2008, and Debt to Asset Ratio (DAR) by Brigham & Houston, 2006. According to (Horne & Wachowicz, 2008) "DER is a ratio that measures the extent to which the amount of debt can be covered by own capital. This ratio shows the composition of capital structure of total debt to total capital owned by a company ".

The higher the DER shows the composition of total current liabilities and long-term debt is greater than the total equity so that it increases the company's burden on external creditors. Besides, a high level of debt can also be used by companies to get tax reductions due to high-interest costs. This is in accordance with the Trade-off Theory in which the company must be able to find the most appropriate combination of debt and equity to get the most optimal results by looking at the benefits and costs incurred because of using debt.

The next ratio is Debt to Asset Ratio (DAR). This ratio shows the proportion between debt and all assets owned by a company. DAR of more than

50 percent means that the assets owned by the company are financed more by debt than equity. The higher the percentage, the greater the financial risk for creditors and shareholders.

The composition of existing debt in the company consists of current liabilities and long-term debt. The composition of the amount of current liabilities and long-term debt must also be a concern for stakeholders in determining the value and performance of a company. If the composition of current liabilities is higher than long-term debt, the company's profitability is higher than the company which has a larger component of long-term debt. However, high current liabilities also results in a low level of company liquidity if it is not combined with large current assets. Therefore, the company must be able to determine the proper capital structure in the company funding to provide the most optimal company performance.

3. Method, Data, and Analysis

Data samples were selected using the purposive sampling method, i.e. the data should fulfill several criteria. The criteria are (1) Manufacturing companies listed on the Indonesia Stock Exchange in 2015-2017; (2) Companies that publish annual reports in 2015-2017; (3) Companies that have positive valuable equity resources during the study period. From the purposive sampling results, 127 companies were obtained from 157 population of companies listed on the Indonesia Stock Exchange from 2015 to 2017. The samples were divided into three types of industries namely basic and chemical industries (59 companies), miscellaneous industries (33 companies) and consumer goods industries (35 companies).

This is a descriptive study that aims to provide an overview of the capital structure of manufacturing companies listed on the Stock Exchange from 2015 to 2017. The overview of the capital structure in this study was conducted by looking at the level of DAR, DER, the percentage of current liabilities to total debt (CL/TD) and the percentage of long-term debt to total debt (LTD/TD) of manufacturing companies listed on the Indonesia Stock Exchange from 2015 to 2017. In addition, it also saw the capital structure based on the type of industry in manufacturing companies (basic and chemical industries, miscellaneous industries and consumer goods industries).

4. Results

This study first wants to point out the development of the capital structure of manufacturing companies in Indonesia from 2015 to 2017 using the DAR and DER ratios. From the results of the study shown in Table 1, the greatest DAR occurred in 2015 and the lowest DAR was in 2016. The company that has the highest DAR from 2015 to 2017 is TIRT of 86 percent. The lowest DAR from 2015 to 2017 is the same company of SIDO by 8 percent. The average DAR rate for 3 years was 45 percent. This shows that on average, manufacturing companies in Indonesia use more equity to finance their assets than using debt, even though the difference is not large.

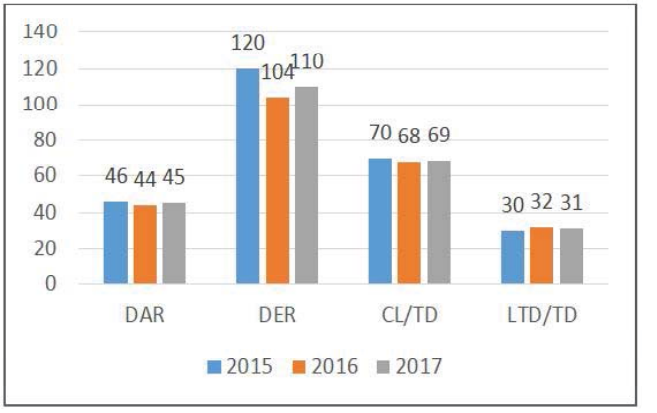

Figure 1. DAR, DER, CL/TD, LTD/TD ratios of manufacturing companies in Indonesia period 2015- 2017

The DER rate in Indonesia from 2015 to 2017 was 111 percent. It was slightly different from the results shown using the DAR ratio. When DER exceeded 100 percent, it means that the companies use more debt than equity in funding the company. The

difference in the results is because there are 10 companies have values exceeding 250 percent and some even reach 625 percent, namely TIRT, so that it results in different average from DAR. However, if it is looked closely per company, it shows the results that support each other between DAR and DER. It means that when the DAR of a company shows a value of less than 50 percent, the company's DER will show the result above 100 percent. For example, the DAR value of TIRT shows the highest value of 86 percent, which means that 86 percent of the assets owned are financed using debt. This is in line with the DER value of 625 percent, which means that the company funding uses 6.25x more debt than equity. The same results can be seen for the lowest DAR owned by SIDO of 8 percent with the DER of 8 percent as well. It means that SIDO company uses more equity than debt in the company funding.

The data related to the percentage of current liabilities to total debt (CL/TD) and long-term debt to total debt (LTD/TD) in Table 1 shows that from 2015 to 2017 the debt of the manufacturing companies in Indonesia mostly come from current liabilities (69 percent) compared to long-term debt (31 percent). Current liabilities which is greater than long-term debt has an impact on increasing profitability because the costs of current liabilities is smaller than long-term debt. However, it will cause a low liquidity ratio if it is not followed by large current assets. Large current liabilitiess with small current assets available can increase the risk of bankruptcy for the company.

After looking at the data in Table 1, then Table 2 shows the development of the DAR per type of the industries in manufacturing companies in Indonesia from 2015 to 2017. The types of industries are basic and chemical industries, miscellaneous industries, and consumer goods industries. The annual DAR level from 2015 to 2017 is stable for all types of industries. The lowest DAR level is in consumer good companies, followed by basic and chemical industries and the highest is miscellaneous industries.

The lower DAR levels from 2015 to 2017 in the type of consumer goods industries show that these industries use more equity to finance its assets compared to the other two types of industries in manufacturing companies. As it is correlated to the Trade-off Theory, debt level which is lower than equity causes the profitability of consumer goods industry greater than the basic and chemical industries and miscellaneous industries. This is because the interest costs and bankruptcy costs borne by companies in the consumer goods industries are lower than those in the basic and chemical industries and miscellaneous industries. On the other hand, the companies cannot take advantage of a tax shield that can reduce profitability. Therefore, the company must be able to balance the composition of debt and equity to produce the most optimal company performance. Meanwhile, if it is associated with a Pecking Order Theory, a company with a low level of debt means that the company has enough internal funds from retained profits to finance the company's activities.

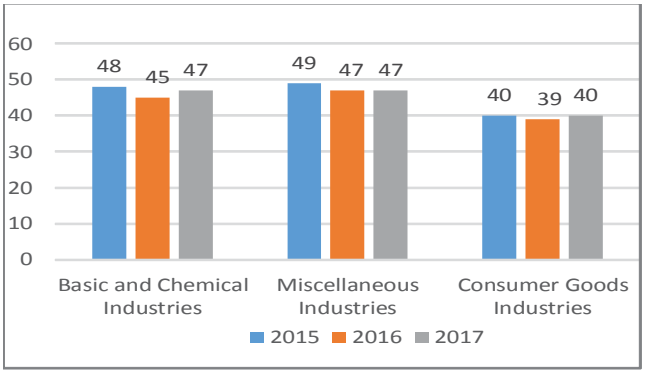

Figure 2. DAR ratio per type of industry of manufacturing companies in Indonesia period 2015 -2017

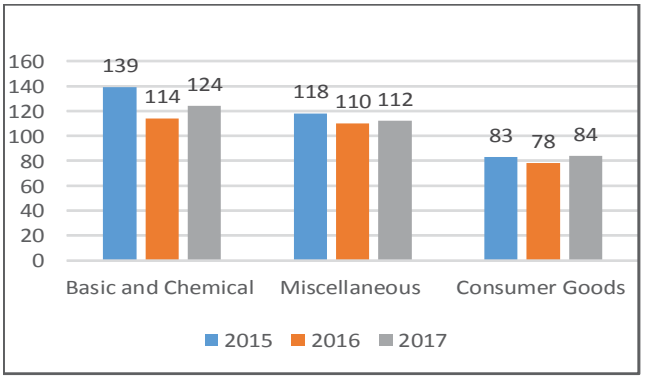

Figure 3. DER ratio per type of industry of manufacturing company in Indonesia period 2015- 2017

Likewise, with the DER level in Table 3, the consumer goods industries have the lowest DER compared to the other two types of industries. In line with the results of DAR calculation above, the consumer goods industries have DER percentage of less than 100 percent. It means that these industries finance its companies using more equity than debt. Meanwhile, both basic and chemical industries and miscellaneous industries have DER above 100 percent, which means that these two industries use more debt to fund the company. The highest average DER percentage for these three types of industries occurred in 2015 and the lowest in 2016.

Based on Trade-off Theory, the consumer goods industries will bear lower interest costs and bankruptcy costs compared to the other two types of industries. However, the consumer good industries will also benefit from a smaller tax shield compared to the other two industries, and vice versa for basic and chemical industries and miscellaneous industries. Therefore, the companies should carefully determine the composition of the capital structure to achieve the most optimal performance. Meanwhile, seen from Pecking Order Theory, the consumer goods industries have sufficient internal funds (retained earnings) compared to the other two industries, so these industries prefer to finance its companies using equity rather than debt.

In addition to looking at the level of DAR and DER per type of industry, this study also looks at the types of industry which have the highest current liabilities component. Table 4 shows that the highest use of current liabilities is consumer good company, followed by miscellaneous industries and the last is basic and chemical industries. A high level of current liabilities indicates a high level of profitability, but the level of liquidity will be low when the company's current assets are smaller than its fixed assets.

5. Conclusion

This is a descriptive study, which aims to provide an overview of funding selection by manufacturing companies in Indonesia from 2015 to 2017 by looking at the ratio of the company's capital structures. The ratios used in this study are Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER). It also looks at the composition of current liabilities to long-term debt. This research not only looks at the above ratio for all manufacturing companies but also for each type of industry in manufacturing companies (basic and chemical industries, miscellaneous industries, and consumer goods industries).

The results show that the DAR of manufacturing companies tends to be stable from 2015 to

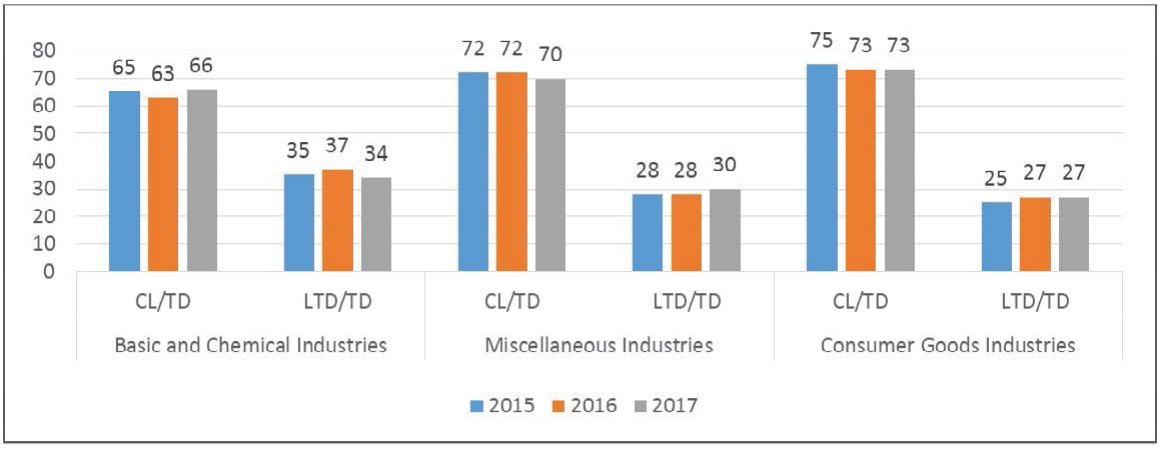

Figure 4. CL/TD, LTD/TD ratios of manufacturing companies in Indonesia period 2015-2017

2017. The average DAR of manufacturing companies in Indonesia is 45 percent, which means that manufacturing companies in Indonesia tend to choose to finance the companies using equity rather than using debt. But these results are different from the DER results which show an average of 111 percent. This difference is because several companies have very high DER above 600 percent. This is the weakness of this study. Even though in each company the results of DAR and DER show mutually supportive results, seen from the composition of current liabilities to long-term debt, the average manufacturing company for 3 years uses more current liabilities than long-term debt. The choice of current liabilities which is greater than long-term debt has the advantage that the company will bear lower costs and will increase the company profitability. On the other hand, the company must provide large current assets to avoid a low level of liquidity, which affects the trust of the investors.

Seen from the results of the DAR and DER for each type of industry, consumer goods industries have the lowest DAR and DER compared to the other two types of industries. This means that the consumer goods industries use the least amount of debt to fund its companies. The development of DAR in 2015 until 2017 tends to be stable. Meanwhile, the highest DER occurred in 2015 and the lowest in 2017 for all types of industries. The results of the debt composition, these three types of industries use a lot of current liabilities compared to long-term debt. The composition of current liabilities and long-term debt from 2015 to 2017 tends to be stable.

This study can bw beneficial for the next studies. The results of this study can be used as a consideration in analyzing capital structure using quantitative methods, as dependent variable, independent variable, and moderating variable. Besides, this study also can be used for studies using capital structure theories such as Trade-off theory and Pecking Order Theory.

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