



Capital Structure and Determinants of Firm Value in Indonesia

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ABSTRACT: We analyze the effect of capital structure, capital assets, business risk, opportunity growth, and firm size on firm value in Indonesia over the period 2014-2019. The number of samples that meet the criteria is 65 companies for 6 years, so the total sample is 390 company data (panel data). Our results show that the factors that have a significant effect on firm value are asset structure, business risk, and firm size. Meanwhile, capital structure and growth opportunity are not determinants of firm value in Indonesia. This empirical evidence shows that the capital structure of manufacturing companies that are dominated by external debt is not able to increase firm value. This shows that the firm value does not necessarily increase when the company has high growth opportunities and asset structure. The company may use the wrong amount of debt which can cause the firm value to be low. This study suggests that manufacturing companies in Indonesia improve their asset structure and increase sales because they are proven to be able to attract investors and give a positive reaction to the capital market so that it has an impact on stock value and firm value. The limitation of this research is only examining the company's internal factors, and not including external factors that can increase the firm value.

KEYWORDS: Firm Value, Capital Structure, Asset Structure, Business risk, Growth, and Firm Size

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I. INTRODUCTION

Public listed companies have goals of how companies can generate profits to increase the prosperity of the owners or shareholders by increasing the firm value. A company that has a growing firm value will affect the value of investors. This can happen if the increase in the firm value is characterized by a high rate of return on investment to its shareholders [1]. Optimization of firm value can also be achieved through the implementation of the financial management function, deciding one financial decision will affect other financial decisions and will have an impact on firm value.

Many factors affect the firm value, one of which is the capital structure policy. According to [2], capital structure is a balance between capital and total debt owned by the company. A company will have an optimal capital structure if the consolidation between debt originating from external parties and its equity can maximize the company's share price. The capital structure policy is still a debate until now, [3] assumed that the capital structure or the size of the debt had no impact on firm value in a perfect market (price-takers are investors). However, in reality, due to market imperfections, the company's capital structure strongly affects the firm value. According to [4] modification theory, the existence of tax reduction through corporate debt has a positive impact on firm value. Trade-off theory predicts a positive relationship between debt and firm value based on compensation theory. According to agency theory, the existence of external party debt can function as an external control mechanism in minimizing agency conflicts that occur between agents (management) and investors (principles). The study of [5] shows that the capital structure of companies in Malaysia has a positive influence on company performance. Malaysian companies use external financing rather than internal financing to improve the performance of their companies. However, another study revealed that a high capital structure can lead to lower firm value, thus showing a negative relationship [6]–[8]. The study by [8] in the UK shows that increasing corporate debt will increase the risk of default.

There were many studies related to company value which is influenced by the capital structure and other factors such as asset structure, business risk, growth opportunities, and company size, but those researches resulted in different results. Research by [9] shows that asset structure and firm size have a negative impact on firm value while the capital structure has a negative impact on firm value and financial performance. Similar

research results were also obtained from [10] where the results of his research stated that capital structure, profitability, and growth opportunity had a significant positive impact on firm value.

[11] state that if the company provides high tangible assets, the agency costs of debt can be reduced because tangible assets are easy to pledge. Thus, an indication of a decrease in the agency cost of debt will result in more productivity in firm value. [12] states that there is a direct influence of asset structure on firm value. The same results are supported by the research of [7], [13] who revealed that the asset structure affects firm value. Different research results are documented by [14] who reveal that there is no direct influence of asset structure on firm value.

Another factor that affects the firm value is business risk. According to [2], business risk is a vulnerability about the valuation that is identified with the assets of a company in the future. The firm value has a high business risk because the options they choose fall according to financial backers when there is danger. Because of this risk, most assets will be auctioned off to deal with sizable liabilities rather than returning the bid value contributed by corporate financiers. Research that identifies the effect of business risk on firm value is [15], [16] state that business risk is a determining factor of firm value. Different research results are shown by [14], [17], [18] which show that business risk has a negative impact on firm value.

An organization's growth will make the owners of funds interested in the organization, considering the development of the organization is an indication that the organization has productive opportunities in the future, so that the owners of funds expect to benefit from their efforts. [19] argues that high growth rates indicate greater flexibility in future investments and offer greater opportunities to expropriate wealth from debt holders. So that in the end it can increase the firm value. [9], [20], [21] show that Growth Opportunity has a positive impact on firm value. However, different results were documented by [22], [23] which showed that Growth opportunities had a negative impact on business value.

Companies with a large size scale will affect the increase in inventory costs and organizational value will increase. Firm size can be measured by total assets, income, and market value. The greater the total assets, income, and market value owned by the company, the larger the company. The larger the size of the company, the higher the investor's confidence in the company's ability to provide a rate of return on investment. Large companies are more likely to become more mature and provide more confidence to investors, so Firm size has a positive impact on firm value [7], [24]–[26]. However, different results show that firm size has no impact on firm value [5], [13].

The phenomenon of a decline in stock prices from 2017–2019 respectively in manufacturing companies in Indonesia, attracts researchers to research the factors that affect the firm value in the manufacturing sector because the manufacturing sector is the sector that has the largest contribution to the Indonesian economy. This study aims to analyze the factors that affect firm value consisting of asset structure, business risk, capital structure, firm size, and firm growth.

II. LITERATURE REVIEW

The theory that underlies this research is agency theory. The owner of the company is the principal who always wants to know all the information related to the company's activities. Through the accountability report made by the management as the agent, the principal gets the information needed as well as a tool for assessing the performance of the agent in a certain period [27]. In agency theory regarding capital structure, firms will use less debt in corporate financing when there are higher growth opportunities to reduce conflicts of interest between debt holders and shareholders, which can transfer debt holder wealth to shareholders. According to this theory, the power of company managers will increase, which can lead to company profits in improve the company's financial performance through the use of their authority. Greater growth opportunities are an indication of sound business performance and easier access to financing in a competitive market.

2.1 The Effect of Capital Structure on Firm Value

In 1958, Modigliani and Miller rejected the traditional view of capital structure, arguing that capital structure did not affect firm value. Modigliani and Miller's theory (without taxes) is a modern capital structure theory that argues that capital structure does not affect the firm value. Then, in early 1963, Modigliani and Miller included the tax component in their analysis because the MM Theory without using tax elements was considered unrealistic so the proportion of firms without debt was greater than the firm value without debt. This increase in business value occurred due to tax savings. According to MM theory, interest can be used as a tax deduction, so the interest liability can be used to save taxes. According to the trade-off theory proposed by [28], "Companies have a certain level of debt, and tax protection against excessive debt is equal to the cost of financial distress". The trade-off theory means that management considers the trade-off between the costs of financial distress and tax savings when determining the position of the capital structure. The trade-off theory

explains that if the location of the capital structure is not optimal, the addition of debt will increase the firm value. Trade-off theory predicts a positive relationship with firm value based on compensation theory. The pecking order theory states that "profitable companies have abundant internal capital, so profitable companies have low debt levels" [28]. According to Information Asymmetry and Signaling theory, parts of a business do not have the same information about business prospects and risks, and some parts have more information than others.

In agency theory (AT) capital structure, firms will use less debt in corporate financing when there are higher growth opportunities to reduce conflicts of interest between debt holders and shareholders, which can transfer debt holders' wealth to shareholders. [5] found that on average Malaysian firms use debt as a control mechanism to maximize performance as stated by agency theory and trade-off theory. This is supported by [22], [29]–[31] who revealed that capital structure has a positive influence on firm value. A different study was produced by the research of which showed that capital structure had a negative effect on firm value, while [7], [34] showed that capital structure did not affect firm value. According to the explanation above, the proposed hypothesis is:

H1: Capital Structure affects Firm Value.

2.2 The Effect of Asset Structure on Firm Value

[35] explain "the structure of assets, namely the correlation between the source of fixed assets that are appropriate from an organization and all sources of its assets". From the above definition, it can be explained that the asset structure is the correlation between the source of fixed assets and the complete source of assets in an organization which can determine the size of the asset portion for each source of its assets. Asset structure is a comparison between fixed assets and total assets owned by a business, which allows financial managers to determine the number of funds for each component of the asset. The larger the asset structure of a business, the higher its chances of securing long-term debt guarantees.

[11] argue that if firms provide high tangible assets, the agency costs of debt can be reduced because tangible assets are easy to pledge. Thus, an indication of a decrease in the agency cost of debt will result in more productivity in firm value. The results of research on asset structure conducted by [12] state that there is a significant influence of asset structure on firm value. Similarly, the results of research [7], [13] reveal that asset structure has a positive effect on firm value. The results of this study contradict the research conducted by [5] which reveals that there is no direct effect of asset structure on firm value. According to the explanation above, the proposed hypothesis is:

H2: Asset structure has a positive effect on firm value

2.3 The Effect of Business Risk on Company Value

Business risk is a failure of internal control that results in unexpected losses and the failure of management to ensure returns to the company. [2] explain business risk as something uncertain that is inherent in the estimated earnings from capital invested in the company. Therefore, company management must consider business risks before deciding to use debt.

The trade-off theory (TOT) explains that risky companies will find more attractive debt. This theory assumes that the company will not be able to meet its debt commitments due to higher bankruptcy and the risk of financial distress [36]. According to asymmetric information theory, less profitable companies with lower growth and with more risk will suffer more than more profitable information companies. Therefore, there will be a negative relationship between business risk and firm value.

[37] says that the business risk of a company affects the survival of the company, the ability to pay the company's debt, the interest of investors who want to invest in the company, and the ability to secure funds to run the company's business activities. The study of [38] shows the results where business risk has a significant positive impact on firm value. However, the results of [5] show that risk does not affect company performance. According to the explanation above, the proposed hypothesis is:

H3: Business risk has a positive effect on firm value

2.4 The Effect of Growth Opportunity on Firm Value

Growth opportunities vary from one company to another. To avoid underinvestment problems, companies with high growth opportunities tend to use their capital. In other words, not all business owners' investment firms are made bigger in the future. If this happens, it is expected to have a positive impact on the value of an entity. According to [21][21], growth opportunity has a positive impact on firm value. This is because when a company's growth opportunity rate increases, investors see it as a good growth indicator. The company's growth prospects are looking to the future.

[25] measure growth opportunities by calculating the difference in total sales revenue owned by the company in the current period and the previous period divided by sales revenue in the previous period. This study predicts that growth has a positive effect on firm value. Previous research conducted by [25], [33] can prove that company growth has a significant positive impact on firm value, but [5], [22], [32] found different results where growth opportunities are not a determinant of firm value in Indonesia. According to the explanation above, the proposed hypothesis is:

H4: Growth Opportunity has a positive effect on firm value

2.5 The Effect of Firm Size on Firm Value

Firm size is a variable that can determine the value of its business, and the business is classified into three types, namely small, medium and large businesses. [25] show that firm size is a metric that allows firms to categorize businesses in a variety of ways, including total assets, log size, revenue, and market value. Firm size is represented in total assets or total net sales and affects the firm value. The higher the assets and total income of the business, the larger the business, the higher the assets, and the greater the investment capital. Likewise, the more income a company has, the more cash the company will have.

Firm size in this study follows the research of [25], [39] which is measured by the natural logarithm value of total assets. Based on previous research references, Firm size is the size of the company as measured by the total assets of the balance sheet at the end of the year, which is measured by the normal logarithm (Ln) of total assets. This study predicts firm size has a positive effect on firm value. A larger size allows firms to generate higher returns on assets and sales, and this leads to better firm financial performance through the ability to obtain higher production values [5]

[22], [25], [26], [32] found that firm size has a positive impact on firm value. The same results were also obtained from the results of research conducted by [24] which reveals that the size of the company has a positive effect on the value of an entity. Different results were obtained from the results of [13], [31], [34] research which revealed that firm size did not affect firm value. The negative effect of firm size on firm value documented by [33]. According to the explanation above, the proposed hypothesis is:

H5: Firm size has a positive effect on firm value

III. METHOD

This research method uses quantitative methods that test the hypotheses of factors that affect firm value. The dependent variable is firm value using Tobin's Q proxy which is measured using the total market value plus total debt and divided by total assets. The independent variables consist of the capital structure measured by total debt divided by total capital, asset structure measured by total fixed assets divided by total assets, business risk measured by earnings before interest tax divided by total assets, growth opportunity measured by sales delta divided by previous year's sales, and Firm size is measured by the logarithm of the firm's total assets [5], [7], [25]. To test the robust model, the dependent variable with different proxies is used, namely Price Book Value which is measured by the price per share divided by the book value per share. If the estimation results between the research model and the robust model are the same, then the estimation of this research can be concluded as robust.

The population in this study is manufacturing companies on the Indonesia Stock Exchange (IDX) in 2014-2019 by determining the number of research samples based on purposive sampling. The number of samples that meet the criteria is 65 companies for 6 years, so the total sample is 390 company data (panel data). The research model used to test the hypothesis is described in the following equation:

$$Firmvalue_{it} = \alpha_{it} + \beta_1 Capstruc_{it} + \beta_2 Asset_{it} + \beta_3 Risk_{it} + \beta_4 Growth_{it} + \beta_5 Size_{it} + \varepsilon_1$$

IV. RESULT AND DISCUSSION

The average firm value is 1.76, meaning that the stock value of manufacturing companies is higher than the company's book value. The company's capital structure has an average value of 0.89 which indicates that manufacturing companies use external debt more than their capital. The average value of the asset structure is 0.36, meaning that the proportion of fixed assets on average in manufacturing companies is 36%. This value indicates that the majority of asset structures in manufacturing companies are non-fixed assets worth 64% of total assets. Business risk has an average value of 0.12. The average value of growth opportunities is 0.09, and the firm size has an average of 12.55 (see table 1).

Table 1. Description of Variable

N = 390	Minimum	Maximum	Mean	Std.Deviation
Firm Value	0.22	12.96	1.76	1.88
Capital Structure	0.07	7.99	0.89	0.88
Asset Structure	0.001	0.797	0.36	0.16
Business Risk	-0.13	0.71	0.12	0.11
Growth	0.72	3.80	0.09	0.24
Firm Size	11.13	14.55	12.55	0.71

Source: IDX data processed, 2021

Based on the results of hypothesis testing in table 2 below, shows that capital structure and growth opportunities have no significant effect on firm value, while asset structure, business risk, and firm size are determinants of firm value.

Table 2. Firm Value Model

$$Firmvalue_{it} = \alpha_{it} + \beta_1 Capstruc_{it} + \beta_2 Asset_{it} + \beta_3 Risk_{it} + \beta_4 Growth_{it} + \beta_5 Size_{it} + \varepsilon_1$$

Variable	Prediksi	Tobin's	PBV	Result
Constant		-4.9066	-0.692525	
Capital Structure	$\beta_{+/-}$	-0.0069 (-0.0902)	-0.0068 (-0.0881)	Rejected
Asset	β_{+}	1.2218*** (2.8885)	1.2213*** (2.8872)	Accepted
Risk	β_{+}	11.6717*** (18.4811)	11.6703*** (18.4775)	Accepted
Growth	β_{+}	-0.3167 (-1.1472)	-0.3173 (-1.1489)	Rejected
Size	β_{+}	0.3846*** (3.9462)	0.3847*** (3.9465)	Accepted
R ²		0.5071	0.5070	
Adjusted R ²		0.5007	0.5006	
Fstat		79.0199***	78.9912***	

Remark: *** Supported statistically by significance at 1%, **sig 5% dan * sig 10%

4.1. The Effect of Capital Structure on Firm Value

The results of hypothesis testing indicate that the capital structure does not affect firm value. The results of this study are in line with the theory proposed by [3] which states that any proportion of debt to capital will not affect firm value. The debt to equity ratio describes how much debt or obligations a company has to its equity. If a company prefers to meet its capital needs through debt compared to equity funds, the value of the company that will be generated remains the same. The results of this study are in line with the research of [5] which shows that the capital structure does not affect the financial performance of Indonesian companies. The results of research by [5] are quite interesting because it shows the findings of different capital structures in Malaysia and Indonesia. [5] found that capital structure has a positive effect on company financial performance, meaning that on average Malaysian companies use debt as a control mechanism to maximize company performance as stated by agency theory and trade-off theory. However, different results are found in Indonesia where a capital structure is not a determinant factor of a company's financial performance. The results of this study are in line with the research of [7], [34]) in Amman which showed that capital structure did not affect firm value.

This empirical evidence shows that the capital structure of manufacturing companies which are dominated by external debt (DER = 0.89) is not able to increase firm value. This could be because the company's external debt on the one hand provides bad news for investors due to the large risk of default which

can cause financial distress to be borne by the company, but on the other hand, there are tax savings on company debt which can lead to increase in firm value.

4.2. The Effect of Asset Structure on Firm Value

The results of hypothesis testing indicate that the asset structure has a positive effect on firm value. The results of this study are in line with agency theory and trade-off theory. This shows that manufacturing companies in Indonesia tend to issue debt with high tangible assets that are used as debt collateral. Asset structure is the ratio of fixed assets to the total assets owned by the company, thereby determining the number of funds allocated to each part of the assets. The larger the asset structure of a company, the more capable it is to bear long-term debt. Large companies tend to incur more debt because of their ability and flexibility to access external financing. This happens because creditors are more interested in large companies than small businesses. After all, creditors need collateral that is commensurate with the amount lent to the business.

This high asset structure has a positive impact on increasing firm value. The results of this study are in line with the research proposed by [7], [12], [13]. The results of this study explain the composition of fixed assets in determining the firm value. The majority of financially stable entities have a high investment value in fixed assets. When fixed assets are properly utilized by competent employees, it will increase the company's revenue and finally affect the growth of the firm value itself.

4.3. The Effect of Business Risk on Company Value

The results of hypothesis testing indicate that business risk has a positive effect on firm value, meaning that the increasing business risk of the company tends to increase firm value. The results of this study are in line with the concept of high-risk high-return, where the higher the risk, the greater the profit. This empirical evidence is in line with the trade-off theory which shows that an increase in debt will increase the firm value, but to a certain extent, high debt will lead to a higher risk of bankruptcy and financial difficulties so that the company will not be able to meet its debt commitments.

Business risk is a failure of internal control that results in unexpected losses and the failure of management to ensure returns to the company. [35] explain business risk as a function of the uncertainty inherent in the projected return on capital invested in a company. So, before deciding to use debt, the company's management should first consider the business risks. Business risk is one of the risks faced by the company in running its business and may not be able to finance its business activities. Companies with high business risk reduce the value of their business from an investor's point of view.

[37] says that a company's business risk affects the company's existence, its ability to pay its debts and the interests of investors who invest in the company, and the company's ability to obtain capital to carry out its activities. The results of this research support the results of research by [38] which show that business risk has a significant effect on firm value.

4.4. The Effect of Growth Opportunity on Firm Value

The results of hypothesis testing indicate that growth opportunity does not affect firm value, meaning that growth opportunity is not a determining factor for the value of manufacturing companies in Indonesia. This shows that the firm value does not necessarily increase when the company has high growth opportunities and asset structure. The company may use the wrong amount of debt which can cause the firm value to be low. Fast-growing businesses often need to upgrade their fixed assets. Thus, companies with high growth rates will require more money in the future and maintain more profits. The internal retention of high-growth firms increases, and these firms take on more debt to maintain their target debt ratio. According to [9], [10], the growth opportunity for each company is different, companies with large growth opportunities tend to invest in stocks to avoid underinvestment problems. In other words, company management does not carry out all active investment projects. This undoubtedly has a positive effect on the value of the business. In this way, growth opportunities have a positive effect on firm value. This positive relationship is because investors see it as a good indicator along with the increasing level of growth opportunities of a company.

The results of this study are following the research of [5], [22], [32] which shows that growth opportunity is not a determining factor of firm value, and contradicts the research of [25] which proves that company growth opportunities have a positive and significant effect on firm value.

4.5. The Effect of Firm Size on Firm Value

The results of hypothesis testing indicate that there is a positive effect of firm size on firm value. Firm size is a factor that must be considered by investors investing. The results of this study are in line with previous researchers [22], [25], [26], [32] who show that firm size has a positive effect on firm value. Large companies can secure high commercial value by paying off debt and making new investments in expansion. [39] measure total assets with the natural logarithm of total assets.

Firm size is a variable that is considered when the value of the business begins to be determined. An entity is classified into two types: SMEs and large enterprises. Firm size can represent the size of the company in terms of total assets or total net sales, and therefore can affect the firm value. Business size is the number of assets owned by the company [5], [25]. According to [25], [26] found that business size has a positive impact on firm value. The results of this study are following the results of research conducted by [24] which revealed that Firm size has a positive impact on business value.

V. CONCLUSION

The purpose of this research is to examine the factors that influence the firm value in the manufacturing sector, which is the largest sector that contributes to the Indonesian economy. Based on the results of hypothesis testing, the factors that have a significant effect on firm value are asset structure, business risk, and firm size. Meanwhile, capital structure and growth opportunity are not determinants of firm value in Indonesia. This empirical evidence supports the Modigliani-Miller theory, where regardless of the company's capital structure, the proportion of debt and equity has no impact on firm value.

Based on this empirical evidence, this study suggests that manufacturing companies in Indonesia improve their asset structure and increase sales because they are proven to be able to attract investors and give a positive reaction to the capital market so that it has an impact on stock value and firm value. The limitation of this research is only examining the company's internal factors, and not including external factors that can increase the firm value. Further research is expected to add other external factors that are expected to increase the firm value such as political connections that affect the firm value, especially in developing countries and other factors, and add units of analysis from other sectors that contribute greatly to the economy, such as the financial sector, mining sector, and agriculture. Further studies in this area could strengthen and replicate this model in different countries to increase the generalizability of our findings which may be useful for future research.

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