



The Effect of Debt Financing on Firm Value in Manufacturing Companies Listed in Indonesia Stock Exchange

Anita Roosmalina Matusin^{1*}, Catur Rahayu Martiningtiyas¹, Ina Oktaviana Matusin¹, Ramadini Safitri¹, and Cyntia Monalisa Hutauruk¹

¹ Management Study Program, Universitas Trisakti, Jakarta, Indonesia
anita.roosmalina@trisakti.ac.id

Abstract. This study aims to examine the effect of debt financing on firm value. The dependent variable used in this study is firm value, with the independent variable debt financing (STDA, LTDA, TDTE), firm size, firm growth, inflation, and interest rate control variables. The research sample used in this study is manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2015-2020 period. By using a purposive sampling technique, the number of samples studied was 60 manufacturing companies. The study's results found that debt financing (STDA) and interest rates had a significant negative effect on firm value. Meanwhile, debt financing (LTDA and TDTE), firm value, firm growth, and inflation have no impact on firm value. Managerial implications: to increase firm value, companies must reduce the use of short-term debt to finance assets and anticipate borrowing rates.

Keywords: debt financing, firm growth, firm size, firm value, inflation, interest rate.

1 Introduction

The development of the manufacturing industry in Indonesia is currently very fast. Besides being able to absorb labor, the manufacturing industry also has a role in national economic growth because it can increase exports so that it can increase state income. The purpose of a company is to prosper its shareholders. Therefore, for the company to survive in a very tight competition, the company must be adequately managed so that the company can generate profits and be distributed to its shareholders. The more often the company distributes profits, the more prosperous its shareholders will be so that it can increase firm value.

Firm value shows the investor's view of the company based on its share price. The higher the firm value of a company, the better the investor's perspective of the company and will attract investors to invest, so that firm value plays a crucial role for a company. Therefore, every company must consider the factors that can affect firm value. Many factors affect the firm value. Based on research conducted by Adesuyi (2022), Firm value is influenced by debt financing, which consists of Short Term Debt to Total Assets (STDA), Long Term Debt to Total Assets (LTDA), Total Debt to Total Assets (TDTA), and Total Debt to total equity (TDTE) and control variables

consisting of Firm Size, and Firm Growth. Other variables that can affect firm value are inflation and interest rates [1].

2 Literature Review

1. Firm Value

Firm value is significant for the company because the value of the firm shows the view of investors towards the company, so the higher the value of the firm, the interest of investors to invest increases. Firm value is an economic measure that reflects the market value of a company and is measured by following stock price fluctuations in the secondary market so that if the stock price increases, the firm value of the company will also increase[1]. Firm value is a reflection of the market price of a company where, with a high stock market price, the stock increases in demand by investors [2]. The firm value of a company can be measured in various ways. Firm value can be measured by enterprise value divided by earnings before interest, tax, depreciation, and amortization [1]. Firm value can be calculated by multiplying the closing price by the number of outstanding shares plus total debt and inventory minus current assets divided by total assets [2].

2. Debt Financing

Debt financing is a source of company capital financed by debt [3]. The company uses debt capital in its capital structure to increase capital to finance its investment activities to increase shareholder income. The relationship between debt financing and firm value is often debated because the use of debt has both positive and negative impacts on firm value. The use of high debt, if invested in investments that have good prospects, can increase profits. Besides, the use of debt will provide benefits in tax savings, increase company profits, and increase firm value. However, using high debt will also increase the risk for the company, namely the possibility that the company will not be able to pay the principal and interest. Capital structure is a combination of loan capital and equity [4]. The company must achieve an optimal capital structure so that the cost of capital issued is minimal and the firm's value will be maximized. Debt financing consists of short-term debt to total assets, long-term debt to total assets, and total debt to total equity[5].

3. Short Term Debt to Total Assets (SDTA)

Short-term debt to total assets is how much the company's total asset assets is a ratio used to measure the total assets financed by short-term debt [6]. Therefore, SDTA is a ratio that shows how much total assets are funded with short-term debt. The interest that must be paid on short-term debt is relatively low. Therefore, the greater the SDTA allows the company to earn more income than the interest expense incurred, so the use of SDTA will provide benefits for the company and will increase the value of the company. This is as found in research conducted Altan (2011) and Dewi et al. (2012) found a positive influence between SDTA and Firm Value [7] [4]. In comparison, previous research show a negative effect between SDTA and firm value

[8][9][10]. The higher the use of short-term debt to finance total assets, the lower the value of the firm.

4. Long Term Debt to Total Assets (LDTA)

Long-term debt is debt with a repayment period of more than one year [11]. Generally, long-term debt is allocated to fixed assets such as the construction of factories, machinery, equipment, and land. Long-term debt to total assets can be interpreted as debt with a period of more than one year used to finance company assets [12]. Another opinion says long-term debt to total assets is a ratio that describes the level of use of long-term debt to finance the company's total assets [13]. The larger the LDTA, the longer the debt can be used to fund the company's operations without worrying about paying it off immediately so that production activities run smoothly and the company will earn greater profits that will increase firm value. This is similar to the previous results of research, which found a positive influence between LDTA and firm value [7],[5], and [14]. The greater the use of long-term debt will increase the firm's value.

5. Total Debt to Total Equity (TDTE)

Total debt to total equity is a ratio that measures the total debt to the company's equity [5]. Total debt to total equity is a ratio that describes how the company manages the composition between debt and equity. The greater the TDTE, the smaller the owner's capital can be used as collateral for debt[8]. This will reduce the interest of investors to invest, so it will reduce the value of the firm. However, if the use of debt is used as effectively as possible on investments that can increase production, it will increase profits and have an impact on increasing firm value[5], [15], and [16]. Their research found a positive influence between Total debt and total equity on firm value. Helmayunita & Sari (2016) and Sukmawardini & Ardiansari (2018) in their study found a negative relationship between TDTE and firm value (Helmayunita & Sari, 2016) (Sukmawardini & Ardiansari, 2018). The use of high debt will cause a decrease in investment returns because most of the profits are allocated as debt repayment reserves, so it does not attract investors to invest. It will have an impact on decreasing the value of the firm.

6. Firm Growth

Companies with a high growth rate indicate the company has good prospects in the future. Firm growth is defined as sales growth from year to year [5]. Almost the same understanding is put forward by Suwardika & Mustanda (2017) that Firm Growth is a change in the increase or decrease in sales from year to year of a company [17]. Companies that grow will increase profitability, so companies that experience sales growth show good company performance that attracts investors to invest and will increase the firm's value [5]. The results of research conducted by Tran Thi Phuong (2019), Hayati et al. (2022), and Febriyanto (2018) found a positive influence between firm growth and firm value [18],[19], [15].

7. Inflation

Inflation reflects a continuous increase in the overall price level [20]. Uncontrolled inflation will reduce investors' interest in stock investments[1]. In contrast, a low and stable inflation rate will impact firm value. A low inflation rate will give investors lots of funds to invest in stocks. The more investors who invest in stocks, will increase the stock price and the value of the company. Research conducted Nuryani et al. (2021) states that inflation has a negative effect on firm value [21]. The study by Putra et al. (2016) says there is no effect between inflation and firm value [1]. Research by Jubaedah et al. (2016) states that inflation has a significant positive impact on firm value [11].

8. Interest Rate

Interest rates are proxied by the BI Rate obtained from Bank Indonesia [1]. The BI Rate is issued by Bank Indonesia and announced publicly as a policy guideline to be implemented by all sectors of the economy. Low-interest rates will attract investors to invest in stocks. The more people invest in stocks, the more the stock price will increase. Research conducted by Pasaribu et al. (2019), Gabriela & Widyasari (2020), and Jubaedah et al. (2016) states that interest rates can have a negative effect on firm value [22],[23], and [11].

CONCEPTUAL FRAMEWORK

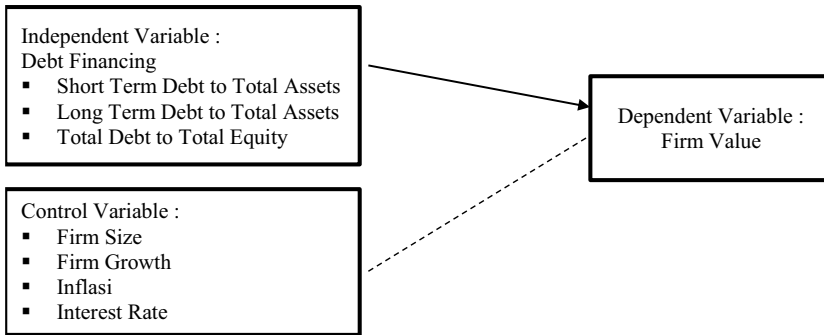


Fig. 1. Conceptual framework.

3 Hypotheses Formulation

- H1: Short Term Debt to Total Assets has a negative effect on Firm Value
- H2: Long Term Debt to Total Assets has a positive effect on Firm Value
- H3: Long Debt to Total Equity has a negative effect on Firm Value
- H4: Firm Size has a positive effect on Firm Value
- H5: Firm Growth has a positive effect on Firm Value
- H6: Inflation has a negative effect on Firm Value
- H7: Interest Rate has a negative effect on Firm Value

4 Research Methodology

Table 1. Variables and measurements.

Variable	Measurements	Ref
Dependent Variable: Firm value	$\frac{(\text{closing price} \times \text{outstanding share}) + \text{total debt} + \text{Inv} - \text{CA}}{\text{Total Assets}}$	[1]
Independent Variable: Debt Financing SDTA	$\frac{\text{Short} - \text{Term Debt}}{\text{Total Assets}}$	[4]
LDTA	$\frac{\text{Long} - \text{Term Debt}}{\text{Total Assets}}$	
TDTE	$\frac{\text{Total Debt}}{\text{Total Equity}}$	
Control Variable: Firm Size Firm Growth	Log natural of Sales.	[4]
Inflation	$\frac{\text{Sales } t - \text{Sales } t - 1}{\text{IHK } t - \text{IHK } t - 1}$	[16]
Interest rate	BI Rate	[24]
		[5]

Research design using hypothesis testing and multiple regression are as follows:

$$\text{FV} = \beta_0 + \beta_1 \text{SDTA} + \beta_2 \text{LDTA} + \beta_3 \text{TDTE} + \beta_4 \text{FIRMSIZE} + \beta_5 \text{FIRMGROWTH} + \beta_6 \text{INFLATION} + \beta_7 \text{BIRATE} + \varepsilon \quad (1)$$

Note:

FV	= Firm Value
β_0	= Constanta
SDTA	= Short-term debt to Total Asset
LDTA	= Long-term debt to Total Asset
TDTE	= Total Debt to Total Equity
BIRATE	= Interest rate
ε	= Residual (Error)

5 Results and Discussion

Table 2. Descriptive statistics.

Variable	Obs.	Mean	Median	Maximum	Minimum	Std. Dev
FV	360	16.34372	12.06500	478.8500	-204.2900	38.35866

SDTA	360	0.309814	0.256250	1.072900	0.056600	0.196195
LDTA	360	0.138865	0.078500	2.128600	0.000100	0.180874
TDTE	360	1.130008	0.669500	23.91730	-2.214500	1.850109
FS	360	28.76020	28.56485	33.10830	24.76720	1.737233
FG	360	0.039594	0.049900	0.858900	-0.738500	0.174041
INF	360	0.029183	0.030750	0.036100	0.016800	0.006190
INTEREST	360	0.055100	0.053650	0.075200	0.042500	0.010780

Table 3. T Test results.

Variable	Sign	Coeff (B)	Prob,
SDTA	—	-6.573465	0.0014*
LDTA	+	2.732835	0.2348
TDTE	—	-0.423024	0.4027
FIRM SIZE	+	-0.475994	0.0177
FIRM GROWTH	+	-7.241397	0.0013
INFLATION	—	98.43245	0.0025
INTEREST	—	-62.47515	0.0000*

Note: * significant 0,05

Based on the results of data analysis, it was found that short-term debt to total assets (SDTA) had a negative effect on firm value. The results of this study are in line with which Altan (2011), Hasan et al. (2014), Hayati et al. (2022), and Wibowo (2012) state that SDTA has a negative effect on firm value [7],[8],[19],[20]. This is because short-term debt must be repaid in a short time (maximum one year), so the risk of default will be more significant, and production activities will be substandard, which will have an impact on decreasing the value of the firm.

Long-term debt to total assets is known to not affect firm value. These results indicate that the size of long-term debt used to finance company assets does not affect firm value. These results align with the research conducted by Altan (2011) and Tran Thi Phuong (2019) which state that Long-te, which state that Long-term debt to total assets has no significant effect on firm value (Altan, 2011) (Tran Thi Phuong, 2019). This is because investors, when investing their funds, do not consider the amount of debt as a source of company capital but the performance achieved by the company.

Total debt to total equity is also known to have no effect on firm value. This is because investors invest their funds in a company expecting a return, so when they invest more, consider the performance achieved by the company without paying attention to the source of funds used to achieve that performance. These results align with the research conducted by Hasan et al. (2014) and Thio & Susilandari (2016) which state that Total debt to total equity has no sign, which state that Total debt to total equity has no significant effect on firm value [8] and [24].

Based on the analysis results, firm size does not affect firm value. This is because investors, when investing, need to consider the amount of assets owned by the company. Even though the company's assets are significant but need to be managed optimally, it will cause a more substantial burden that will harm the company. On the other hand, companies with small but well-managed assets are more profitable and will attract investors to invest. The results of this study are in line with The results of this study are in line with Thio & Susilandari (2016), Djueria & Winarta (2022) and

Pasaribu et al. (2019), which found there was no significant effect between firm size and firm value [24], [25],[22].

Based on the results of the analysis, firm growth also has no effect on firm value. The results of this study are in line with Suwardika & Mustanda (2017), Djuariah & Winarta (2022), and Pasaribu et al. (2019) [17],[25], [22]. Their research also found no significant effect between firm growth and firm value. This is because even though the sales growth rate is high, the costs incurred to finance sales growth are huge, so the income and profits obtained stay relatively high [22], [20] and [26]

The effect of inflation on firm value shows no effect when viewed from the study results. This is because, in the face of inflation, the company implements cost efficiency by reducing production costs, promotion costs, administrative costs, electricity costs, etc., so that production activities can still run smoothly. The results of this study are supported by research conducted by Pasaribu et al. (2019) and Jubaedah et al. (2016), which state that interest rates can have a negative effect on firm value [22] and [11].

Based on the research, interest rate has a significant negative effect on firm value. This means the higher the interest rate, the lower the firm value. This is because investments in shares contain a high risk, so when interest rates increase, investors are more interested in investing their funds in banks. Hence, the demand for a company decreases and will impact reducing the company's value. The results of this study are in line with the results of research conducted by Thio & Susilandari (2016) and Saputri & Giovanni (2021), which state that interest rates can have a negative effect on firm value [24] , [27].

6 Conclusion and Suggestion

From the test results of this study entitled The Effect of Debt Funding on Firm Value in Manufacturing Companies during the Period 2015-2020, it was concluded that short-term debt to total assets (SDTA) and interest rate had a negative effect on firms value. Meanwhile, long-term debt to total assets (LDTA), total debt to total equity (TDTE), firm size, firm growth, and inflation have no effect on firm value.

To increase firm value, manufacturing companies should pay attention to investor behavior in investing. Generally, investors in Indonesia who invest their funds in shares tend to consider the company's performance without considering the funds used to achieve company performance. Therefore, the company must be able to generate significant profits and distribute profits to shareholders in the form of dividends so that investors are interested in buying company shares, and this will have an impact on increasing firm value.

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