

The Effect of Debt on Net Profit in Chemical Sub-Sector Companies Listed on the Indonesian Stock Exchange for the 2018 - 2021 Period

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Abstract

The objective of this study is to examine the impact of long-term and short-term debt on the net profit of chemical sub-sector firms that are publicly traded on the Indonesia Stock Exchange (BEI) during the period of 2019-2023. This study employs quantitative approaches and utilizes secondary data sources, specifically company financial reports acquired from the official IDX website. Classical assumption testing, multiple regression testing, and hypothesis testing facilitated by SPSS software are the methods employed for data analysis. The research findings indicate that neither long-term nor short-term debt significantly impacts the net profit of the organization. This may occur due to variations in the manner and conditions of debt repayment, both of which impact the firm's cost of capital and the degree of risk involved. Concurrently, both long-term and short-term debt exert a substantial and favorable impact on the net profit of the organization. This demonstrates that corporations have the ability to increase their profits by utilizing debt as a funding source.

Keywords: Long Term and Short Term Debt, Long Term and Short Term Credit, Net Profit

JEL Classification : G32, L65,O16

Received: September 6,2023 Accepted: October 1,2023
DOI : 10.54204/TAJI/Vol812023011

Introduction

Economic development is carried out with the aim of creating development that can be felt by the community and in the process of economic development the lives of the people are expected to change the economic structure for the better. With quite tight competition, chemical sub-sector manufacturing companies have to carry out economic activities and manage the functions in the company effectively (Wijijayanti, Agustina, Winarno, Istanti, & Dharma, 2020). This requires financial management to create and maintain economic value or wealth. To maximize the value of company assets, companies carry out economic activities with the aim of maximizing profits. In maintaining its survival, companies compete by producing the best products to satisfy consumers by implementing appropriate strategies to increase sales in order to obtain high revenues or net profits and manage finances well (Cakranegara, Kurniadi, Sampe, Pangemanan, & Yusuf, 2022).

The source of funding or capital carried out by the company can be by using funds sourced from internal and external company funds. The chemical subsector plays a major role in the growth of the Indonesian economy since it can absorb enormous amounts of capital, create jobs, and provide value. To achieve success in economic development, cooperation between production sectors is needed so that each sector has the attraction and thrust (Mangesti Rahayu & Saifi, 2020). Internal funding sources are obtained from the results of the company's operating activities which consist of retained earnings and depreciation. In the meantime, other funding sources—such as debt or loans—are acquired by the business (Leman, Suriawinata, &

Noormansyah, 2020). Some businesses decide to use the Indonesian Stock Exchange to sell their newly issued shares in order to raise money. The Indonesian Stock Exchange was selected due to its potential as a financial market for businesses. As per Indrawati (2019:1), the capital market serves as a platform for investors seeking to allocate their cash towards long-term or financial goods such as bonds, shares, mutual funds, derivatives, or sukuk. How well the business manages its current finances to turn a profit demonstrates its progress. Because it is a part of financial reports that attempt to evaluate management performance and assist in estimating profit capabilities, the magnitude of profits is significant. The prepared financial reports of the corporation show the profitability of the business. Any business can choose to take on debt, which can be either long-term or short-term, from outside sources (Sari & Sedana, 2020).

Debt with a payback duration of less than a year is referred to as long-term debt, whilst debt that must be paid off in around twelve months is referred to as short-term debt. To satisfy the need for more manufacturing, a business that wishes to enhance the range of items it offers must the company will use short-term debt, whereas if the company wants to expand in building companies and factories, the company will choose long-term debt (Chen, Xu, & Yang, 2021). When the debt to the company is higher, the possibility of getting greater profits, because debt is used as working capital to fund the company's operational activities, so the income for the company will be greater, and vice versa, if the debt to the company is small, the income obtained by the company will also be smaller. However, high levels of debt can also result in risks for the company if company management cannot optimize funds borrowed from outside properly, this will affect the company's sustainability, causing more debt and interest, being unable to pay debts and even going bankrupt (Hunter & Shannon, 2020).

Theoretical review

Debt

Debt is known as a loan or liability that must be repaid by the company concerned. Debt is capital that comes from external sources and is temporary in nature and obligations as a transfer of assets or which can provide services in the future (de Toledo, Martini, & Sjøberg, 2021). Munawir (2017:18) defines debt as all of the company's outstanding financial obligations to third parties, whereby the company obtains funds or capital from its creditors. There are two types of company debt or liabilities: current debt, sometimes known as long-term debt, and short-term debt. Debt, in the words of Fahmi (2017:30), is a duty. Liabilities are simply debts that belong to the company and are derived from outside sources of funding, such as bonds, sales, leasing, banking loans, and the like. gives the definition of debt as follows: "A group of debts that still need to be paid back to third parties is called a liability. Short-term liabilities are defined as debts with maturities shorter than a year. Long-term liabilities are defined as obligations with maturities longer than a year. Short Term Credit (Debt)

Short-term credit or debt is defined as credit with a maturity date of less than a year or twelve months, according to Hery (2014:165). Debt that can be settled with existing assets or by taking on new short-term debt is referred to as short-term debt. Munawir (2015: 18) defines current debt, also known as short-term debt, as a company's financial commitments whose repayment or payments will be paid using the company's current assets during the short term (one year from the balance sheet date). Husnan and Pudjiastuti (2015:45) define short-term debt as loan that has a one-year maximum payback duration.

This short-term debt must be paid in full within one year. For certain credit limits, this type of debt usually does not require assets as collateral. Usually short-term loans have relatively high

interest compared to medium or long-term loans. Types of short-term debt include notes payable, trade payables, bank debt. long-term debt that is nearly due.

Long-term credit (Debt)

According to Hani (2014: 127) long-term debt is a liability that is not expected to be paid within 12 months (or within an operating cycle that exceeds 12 months) and is classified as a non-current liability or long-term liability. Long-term debt is defined by Sartono (2015) as an arrangement in which a creditor agrees to lend money up to a specified amount, and the borrower agrees to make periodic payments that include principle and interest. Meanwhile, according to Munawir (2015:19) long-term debt is a financial commitment whose payment duration (maturity) is still long term (more than one year from the balance sheet date). Bonds due, long-term notes payable, and mortgage debt are examples of long-term debt types.

Net profit

Net profit, according to Kasmir (2014), is the result of transactions, costs, gains, and losses. Before income tax is deducted from income tax earned in a given time, net profit is obtained. Net profit, as defined by Harahap (2015), is the amount of money a business makes from the difference between its revenue and expenses after taxes are deducted. Net profit comes from sales of manufactured goods, which are calculated as sales minus production, which is calculated as sales minus principal sales, sales costs, operational costs, gross profit, general and administrative costs, depreciation, interest, taxes and other costs.

Previous Research

The research conducted by Vera Handayani (2018), titled *The Effect of Debt on Net Profit at PT Kereta Api Indonesia (PERSERO)*, indicates that debt at PT. Indonesian Railways (Persero) does not significantly affect net profit. According to the test results, the research findings showed that the tcount was 0.832 and the t table was 3.182. It appears that when the t count was less than the t table, H_0 was approved and H_a was denied, indicating that debt had no impact on net profit. The impact of debt relative to net profit (case study of PT. Unilever Indonesia Tbk), by Suhartono, Damayanti, and Kuspriyono, (2022), and the findings of The correlation coefficient test results of 0.311 show that there is a weak, partial, and negligible association between debt and net profit, with no effect on profit and loss (H_0 accepted, H_a rejected). In the meantime, $Y=0.834+0.809X$ is the linear regression equation. The debt variable (X) was tested, and the results showed a tcount value of 1.793, a ttable of 2.042, and a Sig value of 0.083. This indicates that tcount is $1.793 < ttable 2.042$, with a significance level of $0.083 > 0.05$. Explains that the independent variable (debt) has no meaningful influence on the dependent variable (net profit) at PT Unilever Indonesia Tbk. In this sense, accepting H_0 (H_0 is accepted; H_a is rejected) is the hypothesis put forth in the formulation of this study in decision making.

The Impact of Short-Term and Long-Term Debt on Food and Beverage Industry Profitability, by Deni Sunaryo (2018), was listed on the Indonesian Stock Exchange from 2013 to 2017. According to the regression analysis's findings, the study discovered that debt had no discernible impact on profitability simultaneously, with an Fcount value of $2.240 > F table 3.35$ and a significant $0.126 < 0.05$. The outcome of the partial test using the t test indicates that the ROA obtained is significant at $0.046 < 0.05$ and is $t - 2.096 > t table 1.703$. Thus, it may be concluded that short-term debt significantly reduces profitability. Long-term debt has a significance level of $0.820 > 0.05$ and a t count of $0.230 < 1.703$. Thus, it may be concluded that profitability is not much impacted by long-term debt.

Adrianah (2019) The impact of Long Term Credit and Short Term Credit on PT's Net Profit. Given that the long-term debt variable has a relevance result of 0.015, it is less than $\alpha = 0.05$, and the short-term credit variable has a relevance result of 0.001, which is less than $\alpha = 0.05$, the research findings indicate that both variables significantly affect net profit, as stated on the Indonesian Stock Exchange by Vale Indonesia. Given that the significance values for both short-term and long-term debt are 0.002, which are less than $\alpha = 0.05$, they have a significant impact on net profit simultaneously. Zaelani, Sutyadi, & Nasril (2021) with the title The Effect of Debt relative of Net Profit of PT. Indocement Tunggul Prakarsa Tbk and the findings of the regression coefficient for the Debt variable are -884 and significant at the 0.05 level. In the meantime, 1.960 is the T Table value result. The calculated T value ($-884 > 1,960$) is higher than the T Table value, indicating a substantial relationship between PT. Indocement's debt and net profit. H_0 is rejected, or Tunggul Prakarsa Tbk, to put it another way.

According to the findings of the partial hypothesis test, Dewi Selviani (2019) with the title The Impact of Long and Short-Term Credit on Pt. Wijaya Karya (Persero) TBK's Profitability (Net Profit Margin), the computed t value for Short-Term Debt (X1) is - 0.341. With degrees of freedom (v) = $n-k-1 = 20-2-1 = 17$, and a significant level (α) of 5%, the t table value is 2.110 or -2.110. Upon determining the t table's size, it becomes evident that t count $-0.341 < t$ table - 2.110. Given that the t count value $< t$ table and the projected t value for Long Term Debt (X2) is 0.904, H_0 is accepted and H_a is rejected, suggesting that Short Term Debt (X1) has no effect and is not significant on Profitability/Net Profit Margin. The degrees of freedom (v) = $n-k-1 = 20-2-1=17$ yield a table value of 2.110 or -2.110. The significance threshold (α) is set at 5%. Knowing the t table's size allows for the observation that t count is $0.904 < t$ table 2.110. Because the t count value is smaller than the t table, H_a is rejected and H_0 is authorized, indicating that neither the net profit margin nor the profitability of Long Term Debt (X2) are impacted. Meanwhile, the F test results show that the F count is 0.456 and the significance level, or p -value (sig), is 0.642. Using $\alpha=0.05$, F table 3.59 is produced and degrees of freedom $v_1 = n-k-1 = 20-2-1 = 17$ and $v_2 = k = 2$. After determining the t table's size, it is evident that F count is $0.456 < F$ table 3.59. As a result of F count being less than F table, H_0 is accepted and H_a is refused, indicating that there is no discernible impact of either type of debt on profitability or PT Wijaya Karya (Persero) Tbk's net profit margin (Y) from 2011 to 2015.

Statistical Hypothesis 1

H_0 : both long-term and short-term have no discernible effects on net profit using a partial test.

H_a : there is a significant impact of long-term and short-term credit on net profit using a partial test.

Statistical Hypothesis 2

H_0 : using a simultaneous test, there is no discernible difference within short-term and long-term credit in terms of net profit.

H_a : using a simultaneously test, there is a considerable impact of both long-term and short-term credit on net profit.

Research Methods

This sort of research uses quantitative multiple regression to find the association between two or more variables through hypothesis testing. by using secondary data sources, such as net earnings from chemical subsector companies registered on the Indonesia Stock Exchange (BEI), which are available through the official website's publication of financial reports. The debt to net profit

ratio of chemical subsector enterprises from 2018 to 2021 is the focus of this study. The purpose of this study is to investigate how net profit fluctuates among businesses in the chemical subsector. (Y) as a result of the impact of long-term credit (X2) and short-term credit (X1). The data and information collection techniques used in conducting research are documentation and literature study.

Discussion

Classic assumption test

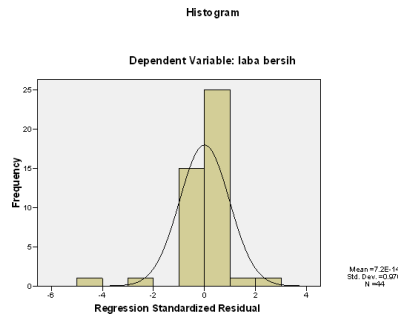


Figure 1. Normality Test with Histogram

The histogram graph above shows that the variables are normally distributed because the curved pattern model does not lean to the right or left so it is shaped like a bell and is symmetrical.

Normal P-P Plot of Regression Standardized Residual

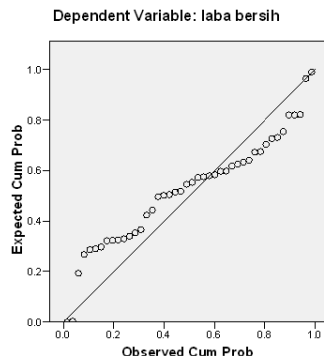


Figure 2. P – plot

P- plot if the distribution of points spreads along a straight line (diagonal) and follows the data along the diagonal and straight lines then the p plot above can be interpreted as meaning that the residuals in the regression model are normally distributed.

Table 1. Kolmogorov-smirnov

		Unstandar dized Residual
N		44
Normal Parameters(a,b)	Mean	,0000000
	Std. Deviation	,12602801
Most Extreme Differences	Absolute	,194

	Positive	,128
	Negative	-,194
Kolmogorov-Smirnov Z		1,289
Asymp. Sig. (2-tailed)		,072

The One-Sample Kolmogorov-Smirnov test yielded a significant value (Asmp. Sig. (2-tailed)) of 0.072, which is more than 0.05 (0.072 > 0.05). This indicates that the data utilized is normally distributed, according to Kolmogorov-Smirnov.

Table 2. Multicollinearity Test

Model	Colinerarity Statistics	
	Tolerance	VIF
Short term debt	,247	4,047
Long-term debt	,247	4,047

The tolerance value (t) of the multicollinearity test for the variables short-term credit (x1) and long-term credit (x2) is .247, and the variance-in-frequency (VIF) is 4.047. It can be concluded that the regression equation model in this study does not show any signs of multicollinearity because the tolerance value is 0.247 > 0.10 and the VIF value is 4.047 < 10. This is because the variance in the independent variable is greater than 10 and the tolerance value is less than 0.10. The significant values of the long-term credit variable (X2) and the short-term credit variable (X1) are 0.159 and 0.623, respectively. The values of the two variables mentioned above are higher than the value (sig > 0.05). in order to determine that heteroscedasticity does not occur based on a bigger value.

Table 3. Autocorrelation Test

Model	R
1	,484(a)
R Square	,235
Adjusted R Square	,197
Std. Error of the Estimate	,12907
Durbin-Watson	1,711

The Durbi Watson test result for the autocorrelation test utilizing the Durbi Watson test was 2.271. The value $dU < d < 4 - dU = 1.620 < 1.711 < 2.380$ is thus likewise obtained. It is possible to conclude that there is no autocorrelation based on the findings of the autocorrelation test. The multiple regression test yielded the following findings. The following is an illustration of the multiple regression equation:

$$Y = a + b1.x1 + b2.x2 + e$$

$$= 30.426 + (-.047) + 003 + e$$

According to the aforementioned numerous linear regression equation, it makes sense as follows. When the factors for long-term credit (x2) and short-term credit (x1) combination are 0 or have not changed, the coefficient (a) value is 30.426 with a positive value, which is a constant or condition. The value (b1) coefficient of Short term credit (x1) of -047 has a negative influence, which means that every decrease in Short term credit (x1) assuming other variable units, will affect a decrease in net profit of -047. The value (b2) of the Long-term credit coefficient (x2) of .003 has a positive influence, it means that every additional in the Long-term credit variable (x2) assuming other variables will affect an increase in net profit of .003.

Table 4. Partial T Test

Model		t	Sig.
1	(Constant)	90,924	,000
	hutang jangka pendek	-1,874	,068
	Long-term debt	,130	,897

According to the processed SPSS data, the partial test (t) findings indicate that the short-term credit t result is -1.874 with a significance value of 0.068. Since this value is greater than ($\text{sig} > 0.05$), the conclusion is that short-term debt has no significant impact on net profit. With a significance value of 0.897 and a computed long-term t value of 130, it can be concluded that long-term debt has no discernible impact on net profit cause of it is more than ($\text{sig} > 0.05$).

Table 5. Silmutant F Test

Model		F	Sig.
1	Regression	6,284	,004(a)
	Residual		
	Total		

It can be concluded that long-term and short-term credit together have a significant impact on net profit because they are less than ($\text{sig} < 0.05$) based on the results of the silmutant test (F) and the processed data. The calculated f value of short-term and long-term debt is 6.284 with a significance value of 0.004.

Table 6. Coefficient of Determination Test (r)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,484(a)	,235	,197	,12907

The coefficient of determination test (r) yielded a value of 0.235 for the R square. This indicates that the two variables long-term debt and short-term debt have an impact on the net profit variable in chemical sub-sector companies listed on the Indonesia Stock Exchange between 2018 and 2021. The variable's value is 0.235, or 23.5%. In the meantime, factors not covered by this study affected the remaining 76.5% (100%-23.5%).

The impact of short term credit to net profit is partial.

The hypothesis test findings reveal that short-term debt has no substantial influence on net profit in chemical subsector businesses listed on the Indonesia Stock Exchange between 2018 and 2021 given the computed t value is -1.874 with a greater sig value of 0.068 > 0.05. Stated otherwise, statistical hypothesis 1 is disproved, hence supporting Ho and rejecting Ha. This study is consistent with research by Dewi Selviani (2019), which demonstrates that short-term credit has no appreciable effect on profitability as it is utilized to bridge financing shortages rather than to improve products. As a result, short-term debt neither affects nor increases profitability.

The effect of long-term debt on net profit is partial

Given that the calculated t value is 130 and the bigger sig value is 0.897 > 0.05, the hypothesis test results indicate that long-term debt in chemical subsector businesses listed on the Indonesia

Stock Exchange for the 2018–2021 period has no appreciable effect on net profit. In other words, statistical hypothesis 1 is refuted, accepting H_0 while rejecting H_a . Since the business cannot turn a profit, long-term debt has no bearing on net profit. Long-term debt is frequently utilized for business development and expansion. For example, when a firm needs a lot of money to raise its operating level. During the company's development years, interest expenses will continue to increase, but debt payments and interest expenses are not balanced by income obtained through long-term debt, this causes losses to the company. This study supports that of Deni Sunaryo (2018), who found no discernible relationship between partial long-term debt (t) and profitability over the long run.

The impact of long-term debt and short-term debt on net profit is simultaneous

The results of the hypothesis test show that, among chemical sub-sector businesses listed on the Indonesia Stock Exchange between 2018 and 2021, there is a substantial correlation between net profit and both short- and long-term debt. This conclusion is reached based on the calculated t value of 16.284 and the sig value being less than 0.05; thus, statistical hypothesis 2 is accepted. In long-term debt and short-term debt it is able to influence net profit because debt is used as a source of capital turnover for companies such as operational activities, company expansion, planting of raw materials and other purposes. to make a profit. Every company must have debt to fund its activities, therefore if debt is used well it will generate profits. This study supports that of Adrianah (2019), who found that both short- and long-term debt concurrently (f) significantly affect net profit, with short-term debt having a greater impact than long-term debt.

Conclusion

The net earnings of the corporation is not significantly impacted by either long-term or short-term debt. Variations in the terms and means of loan repayment may be the source of this, as they impact the degree of risk and the cost of capital for the business. Nonetheless, when combined, short- and long-term debt significantly and favorably affect the net earnings of the business. This shows that companies can use debt as a source of funding that can increase company profits. This research hopes that companies can optimize the funds borrowed to obtain the expected profits and be able to account for the debt used.

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