



The Effect of Long-Term Debt and Operating Cash Flow on Investment Opportunities

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Abstract. This study aims to empirically prove the effect of long-term debt and operating cash flow in the Indonesia Stock Exchange from 2015 to 2017 on company investment opportunities. The analysis applied a quantitative method using IBM SPSS 20. The results of the F-test show that long-term debt and operating cash flow are significant to investment opportunities. While operating cash flow has partially positive effect on investment opportunities, long-term debt has a significant negative effect on investment opportunities. These findings of this study contribute to the development of scientific studies on the factors that influence investment opportunities.

Keywords: Investment Opportunities · Long-Term Debt · Operating Cash Flow · IDX

1 Introduction

For a company, an investment opportunity is essential for the continuity of its business. The ability of a company to seize investment opportunities in order to expand its business and invest in property, plant, and equipment can bring a good future for the company. A company's investment opportunities are underpinned by various influencing factors, the most important of which is finance. Investment opportunities are heavily influenced by the company's financial condition, including the support of positive operating cash flow and the level of long-term debt. Positive operating cash flow can increase investment opportunities, and the funds can be used for investment. A prior study conducted in Indonesia has found that cash flow is able to affect the company's investment [1]. Likewise, long-term debt can also have an impact on the company's investment opportunities on the Indonesia Stock Exchange [2].

Investment opportunities are extremely important for companies, and it is highly necessary for companies to find out the condition of their financial ratios that make them able to take investment opportunities. Therefore, this study examines the effect of long-term debt and operating cash flow on investment opportunities.

2 Literature Review

2.1 Investment Opportunities

Investment opportunities view two parts of the company's market value, namely the present value of assets owned and the present value of future investments and growth opportunities [3]. The measurements of Investment Opportunity Set (IOS) have several methods, including (1) market-to-book assets ratio, (2) market-to-book value of equity ratio, and (3) earnings-to-price ratio [4]. Among these methods, the MBA ratio has the most complete information for measuring investment opportunities in a company [5]. Therefore, this study uses this ratio to measure the IOS of the companies examined.

2.2 Long-Term Debt

Long-term debt is part of the funding sources from third parties with a maturity of more than one year. Long-term debt can reduce the amount of funds available for business investment since it can be used to cover shortfalls in business funds. Companies with long-term debt are less likely to be investment targets as they are responsible for paying off their long-term debt which has more interest, thereby reducing the amount of their investment [6].

2.3 Operating Cash Flow

Operating Cash Flow is part of cash inflows from operating activities. Positive operating cash flow has a positive impact on the company as it can attract shareholders and investors to invest in the company in the future, thus making the company have greater investment opportunities. Operating cash flow comes from the acquisition of profits from operations [6].

3 Hypothesis Development

3.1 The Effect of Long-Term Debt on Investment Opportunities

Long-term debt is a useful source of funding for business development. However, it can reduce investment opportunities as the company has the burden to pay off the debt. Several previous studies have proven that debt has a significant negative effect on investment opportunities [2, 7–9]. Thus, the hypothesis is as follows:

H1 = Long-term debt has a significant negative effect on investment opportunities.

3.2 The Effect of Operating Cash Flow on Investment Opportunities

Positive operating cash flow is part of the income received by the company in operating activities. A prior study has found that operating cash flow has a significant positive effect on investment [1]. This means that positive operating cash flow can increase the opportunity to invest in the company. Thus, the hypothesis is as follows:

H2 = Operating cash flow has a positive effect on investment opportunities.

4 Research Methods

This study applied a quantitative method. The data was collected from the companies' financial statements and annual report, and then processed using IBM SPSS 20. The samples were AALI, Adro, AISA, Akra, ANTM, BWPT, BSDE, ASII, ASRI, EXCL, CTRA, and DILD on the Indonesia Stock Exchange in 2015–2017.

4.1 Descriptive Statistics

Descriptive statistics was used to provide an overview of the sample data before being tested further in the statistical analysis to test the hypotheses. The data obtained were the mean, median, standard deviation, maximum value, and minimum value per variable.

4.2 Classical Assumption Tests

Classical assumption tests were then performed on the research model to meet the assumption of linear regression by using IBM SPSS 20 software. The tests consisted of several tests as follows: (1) a residual normality test to determine whether the data is normally distributed or not; a good data is normally distributed data because it can reduce the possibility of bias; (2) a heteroscedasticity test to find out if there are the same variances in the regression model on the residual factor; a good regression model is heteroscedastic; (3) an autocorrelation test to determine whether there is a correlation between observations sorted by time and space; a good regression model is independent of autocorrelation; and (4) a multicollinearity test which uses the VIF value and the Tolerance value; a good regression passes this test.

The data was analyzed by linear regression, with the following research model:

$$\text{Investment Opportunity} = \alpha + \beta_1 \text{Long-term Debt} + \beta_2 \text{Operating Cash Flow} + \varepsilon$$

where investment opportunity is the dependent variable, while long-term debt and operating cash flow are the independent variables.

4.3 Hypothesis Testing

Hypothesis testing was done from the results of the robust test for linear regression. This test examines the probability value (p-value) and uses the F-test to reject the hypothesis if the p-value is less than 0.05 ($p < 0.05$).

5 Results and Discussion

As seen in Table 1, the sample size is 36 for all variables, namely: Investment Opportunity Set (IOS), Operating Cash Flows (CFO), and Long-term Debt (Debt). Meanwhile, Table 2 shows the results of the independent and dependent variable correlation tests.

Figure 1 presents a scattered scatterplot, meaning that the variables do not show homoscedasticity and the data passes the heteroscedasticity test. The regression test

Table 1. Descriptive Statistics

	Mean	Std. Deviation	N
IOS	1.212388	.3782022	36
CFO	.048029	.0583998	36
Debt	.272222	.1103810	36

Table 2. Correlations

		IOS	CFO	Debt
Pearson Correlation	IOS	1.000	.172	−.474
	CFO	.172	1.000	−.026
	Debt	−.474	−.026	1.000
Sig. (1-tailed)	IOS	.	.158	.002
	CFO	.158	.	.440
	Debt	.002	.440	.
N	IOS	36	36	36
	CFO	36	36	36
	Debt	36	36	36

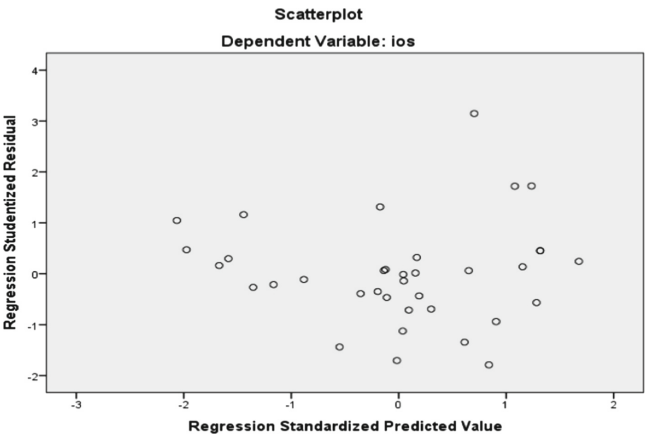
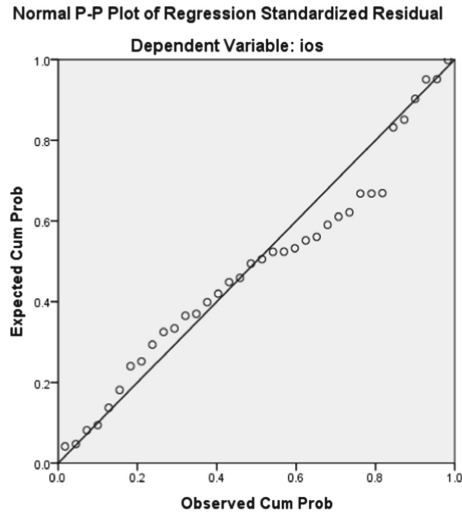


Fig. 1. Heteroscedasticity Scatterplot

must pass the classical heteroscedasticity assumption test to have a scatterplot with a scattering pattern [10]. Meanwhile, Fig. 2 displays the P-P Plot pattern that spreads along the diagonal line, which means the data is normally distributed and the normality test is accepted.

**Fig. 2.** P-P Plot of Normality Test**Table 3.** Autocorrelation test

Durbin-Watson	Criteria	Note
2.799	-2 to + 2 (Santosa, 2008)	Accepted

Source: SPSS (2022)

Table 4. Multicollinearity test

Variable	Collinearity		Criteria	Note
	Tolerance	VIF		
CFO	.999	1.001	<1 & <10	Accepted
Debt	.999	1.001	<1 & <10	Accepted

Source: SPSS (2022)

As shown in Table 3, the Durbin-Watson (DW) value is used for the autocorrelation test where the DW residual regression variable passes the autocorrelation test. The DW value of this study is 2.779, which means it passes the criteria -2 to + 2.

Table 4 shows that the values of Operating Cash Flow (CFO) and Long-term Debt (DEBT) variables pass the multicollinearity test, with Tolerance value and VIF value being used to detect multicollinearity.

Table 5 presents the results of the coefficient of determination test seen from the adjusted R Square of 0.205, meaning that operating cash flows and long-term debt can

Table 5. Model summary of the dependent variable (IOS)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.500 ^a	.250	.205	.3373012	2.799

Note:

^a Predictors: (Constant), Debt, CFO

Table 6. ANOVA^a test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.252	2	.626	5.501	.009 ^b
	Residual	3.754	33	.114		
	Total	5.006	35			

Notes:

a. Dependent variable: IOS

b. Predictors: (Constant), Debt, CFO

Table 7. Coefficients of the dependent variable (IOS)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.601	.160		10.026	.000		
	CFO	1.034	.977	.160	1.059	.297	.999	1.001
	Debt	-1.609	.517	-.470	-3.115	.004	.999	1.001

affect the dependent variable (IOS) by 20.5% while the remaining 79.5% is the influence of other variables outside this research model.

Table 6 displays the results of the F test (Anova) which obtained an F value of 5.501 and a significance of 0.009, meaning that both operating cash flow and long-term debt have a significant effect on investment opportunities. The results of the study are in line with a prior study [6] which found that operating cash flow and long-term debt significantly affect operating profit so that investment opportunities will be affected. (1) and (2) (Table 7).

$$Y_{ios} = 1.601 + 0.160 \text{ CFO} - 0.470 \text{ Debt} + e$$

The results of the Partial Test are as follows:

1. Operating Cash Flow (CFO) had a significant value of 0.297 ($p > 0.05$), meaning that it is not significant to Investment Opportunities (IOS).
2. Long-term Debt (Debt) obtained a significant value of 0.004 ($p < 0.005$), meaning that it is significant to Investment Opportunities (IOS). Furthermore, the beta value of debt is -0.470, indicating that every increase in one unit of debt can reduce the value of investment opportunities by 0.470.

5.1 Effect of Operating Cash Flow on Investment Opportunities

Based on the results of the multiple regression tests, operating cash flow has insignificant positive effect on investment opportunities, meaning that positive operating cash flows do not significantly increase investment opportunities. In other words, the acquisition of inflows from operating cash flows is not able to significantly increase investment opportunities. The amount of incoming funds from operations fluctuates to increase investment opportunities. This is different from several previous studies which found that operating cash flow has a significant positive effect on investment opportunities [1], there is a sensitivity to cash flow and investment [11], and cash flow sensitivity has a significant positive effect on investment [12].

5.2 The Effect of Long-Term Debt on Investment Opportunities

Based on the results of the multiple regression tests, long-term debt has a significant negative effect on investment opportunities. Long-term debt carries a burden of using company funds to pay off the debt and interest, thus reducing the company's opportunities to attract investment. This is in line with numerous prior studies which proved that debt has a significant negative effect on investment [7], debt ratio has a significant negative effect on the Investment Opportunity Set (IOS) [2], funding issues and free cash flow are extremely important for investment decisions [13], long-term debt and cash flow are interrelated [14], and long-term debt has a significant negative effect on cash flow so that investment opportunities tend to decrease [15].

6 Conclusion

Both operating cash flow and long-term debt variables have a significant effect on investment opportunities. Operating cash flow has a partial positive effect on investment opportunities, meaning that positive operating cash flow can increase investment opportunities. Meanwhile, long-term debt may have a significant negative effect on investment opportunities, meaning that it reduces investment opportunities of the company. Therefore, companies are encouraged to ensure positive operating cash flow and minimum long-term debt so as to increase their investment opportunities.

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