

# Analysis of the Effect of Profitability, Liquidity and Capital Structure on Investment Risk in Primary Consumer Goods Industry (Non-Cyclicals) Companies Listed on The IDX in 2018-2020

Stella Tio Caroline<sup>1\*</sup>, Aries Wicaksono<sup>1</sup>, and Mangasi Sibuea<sup>1</sup>

<sup>1</sup>Accounting Department, BINUS Online Learning, Bina Nusantara University, Jakarta, Indonesia 11480

**Abstract.** In 2022, Indonesia was rife with cases of investment fraud. SWI (Investment Alert Task Force) revealed that three main factors made many people entangled in illegal investments: the nature of wanting to get rich suddenly, recklessness, and lack of public financial literacy. Hence, awareness of the potential for fraud was still minimal. The purpose of this study was to analyze the effect of profitability, liquidity, and capital structure on investment risk. This research was conducted by analyzing report data from non-cyclical consumer goods industry companies listed on the IDX for 2018-2020 and observational data obtained from 105 companies. The sampling method used in this research is a non-probability sampling method with a purposive sampling technique. This research is quantitative research with multiple linear regression analysis methods. The results of this study indicate that profitability and capital structure have an effect on investment risk, while liquidity has no effect on investment risk.

## 1 Introduction

The definition of the capital market is described which refers to Law No. 8 of 1995 concerning the Capital Market, the capital market as an activity related to public offerings and trading of securities, public companies related to securities issued, as well as organizations and professions related to securities [1]. The Indonesian capital market plays an important role in the country's economy. With the capital market (Capital Market) Investors as parties with excess funds can invest their funds in various securities with the hope of getting a return. Meanwhile, companies as parties that need funds can use these funds to develop their projects. With alternative capital market financing, business actors can run and develop their businesses and the government can finance various activities that increase the country's economic activities and the progress of the nation, and the prosperity of society as a whole.

*Consumer non-cyclical* sector companies are in great demand by Muslim investors, due to the unique nature of the sector. This characteristic is anti-cyclical, *non-cyclical consumer* sector companies are companies that produce and distribute anti-cyclical goods or basic goods whose demand is not determined by economic conditions, so these shares are categorized as defensive stocks [2]. *Defensive stocks* are stocks that tend to be more stable during a recession or an uncertain economy with regard to dividends, income, and market performance [3].

Most Indonesian people do not know the benefits of investing [4]. Most are more concerned with their present life without thinking about their future life. Inflation is a factor that makes a person need to invest, inflation causes the value of money to decrease along with purchasing power due to rising prices of goods and services.

Every investment contains an element of uncertainty or risk. In this case, it is known as the hypothesis "the greater the risk, the greater the return that will be obtained, conversely that the smaller the risk, the smaller the return obtained". Sources of risk can be divided into two groups namely; 1) *Systematic risks* are risks that affect all companies such as announcements about GNP and interest rates. 2) *Unsystematic risk* is the risk that affects the business (small group), such as an announcement that the company's sales increase more than expected, or damage to a competitor's product [5].

Financial statements are a source of information about business performance which should reflect the actual state of the business in a certain period. The ROA ratio shows the efficiency of asset management, the higher the ROA, the more effective asset management. Good company financial performance will be followed by good stock market performance which is reflected in the company's stock price. The increase in share value is an indicator of increasing levels of public trust in the company [6]. There is research entitled "the effect of fundamental analysis on the systematic risk of stocks" the result was that profitability as represented by ROA did not have a significant positive effect on systematic risk [7].

\*Corresponding author: [stella.tio@binus.ac.id](mailto:stella.tio@binus.ac.id)

The capital structure was first put forward by [8], capital structure is a permanent source of financing that includes long-term debt, preferred stock, and equity [9]. The capital structure ratio measure indicates that there are more or fewer long-term loans than equity invested in fixed assets used to earn operating profit. The higher the capital structure ratio, the more long-term loans are available, so more operating profit is used to pay fixed interest, and the greater cash flow is used to repay loans, so net profit after tax will be generated by accepting business.

## 2 Literature review and hypothesis development

Previous research on the effect of profitability, liquidity, and capital structure on investment risk, is as follows; some research used *the current ratio, debt-to-equity ratio, return on assets, and asset growth* as independent variables and stock beta as the dependent variable [10]. From this study, it was found that *the current ratio* has no significant negative effect on stock beta in *real estate and property companies*, the debt-to-equity ratio has a positive effect on stock beta in real estate and property companies, return on assets has a positive effect on stock beta in *real companies, estates, and properties* [10]. The results of another study in 2014 obtained Capital structure has a positive and significant effect on investment risk, and liquidity has a negative but not significant effect on investment risk [11].

In another study that is inversely proportional to the results of previous studies for similar variables related to liquidity, the independent variables used are *leverage, earning variability, liquidity, and company performance*, while the dependent variable used is systematic risk [12]. The same research obtained is that liquidity has a significant positive effect on systematic risk in companies listed on the LQ-45 *Index* on the Indonesia Stock Exchange [12]. But there is some research that capital structure does not have a significant effect on stock investment risk. The following research reveals different results from the research in the previous paragraph regarding *return on assets*, each of the variables used *return on assets, return on equity, asset growth, and earnings per share* as the independent variable while the dependent variable is a systematic risk [7].

### 2.1 Profitability on investment risk

Profitability has several related functions as follows; a) As a measure of the company's performance in generating profits from the amount of capital provided or owned. Both loaned capital or capital originating from the wealth of the company owner. b) As a presenter of data related to company profits from time to time, so that it can be used as a means of evaluating stakeholders. In several investment instruments [13], there is the concept of *high-risk high return*, this concept is a concept where the higher the profit that can be provided by an investment instrument, the greater the risks that follow [14]. Based on the previous study showed that

the better the performance of companies, indicated by a high value of ROA, the higher the risk of investment [15–17].

Based on this description, the hypothesis can be formulated as follows:

**H1: Profitability has a positive effect on investment risk**

### 2.2 Liquidity on investment risk

Liquidity shows the company's ability to pay short-term financial obligations at maturity using available current assets. If the current assets are too small, it will result in an *illiquid financial condition of the company*. Conversely, if the number of current assets or idle funds. These conditions affect the company's operations. Furthermore, it has an impact on decreasing *the return* that should be obtained by the company. The high level of liquidity is reflected in the high CR calculation results. The existence of good liquidity is very important for the existence of the company. this condition logically indicates lower stock investment risk ( $\beta$ ) [18]. The previous study showed that Liquidity has a significant effect on investment risk [17].

Based on this description, the hypothesis can be formulated as follows:

**H2: Liquidity has a positive effect on investment risk**

### 2.3 Capital structure on investment risk

Capital structure is an important indicator for companies in determining the funding sources used to finance their operational activities. Company funding can use its own capital (*equity*), debt, or a combination of the two as needed. Generally, companies that have a high debt ratio have a high ratio to the company's financial condition. This high risk will affect the stock price. This is because investors will certainly prefer companies that have low financial risk so it will have an impact on stock prices. The previous study showed that Capital structure has a significant effect on investment decisions [19].

Based on this description, the hypothesis can be formulated as follows:

**H3: Capital structure has positive effect on investment risk**

## 3. Research methods

### 3.1 Data

This study uses 63 Indonesian manufacturing companies from the primary consumer goods (non-cyclicals) sector during 2018-2020. Using multiple linear regression analysis, 189 data are investigated for further analysis. The regression model presented below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \quad (1)$$

Where :

Y : Investment risk

- $\alpha$  : Constanta
- $\beta_{1-3}$  : Regression Coefficient
- $X_1$  : Profitability (ROA)
- $X_2$  : Liquidity (Current Ratio)
- $X_3$  : Capital Structure (DER)
- $e$  : Standard error

### 3.2 Robustness test

Before conducting regression analysis, normality test, multicollinearity test, heteroscedasticity and autocorrelation test was conducted to ensure that all variables have no issue related linearity, multicollinearity, heteroscedasticity and autocorrelation.

In this study, kolmogorov-smirnov was chosen to normality test. Variance influence factor (VIF) score to detection the multicollinearity issue. Glejser test used to test the heteroscedasticity and Durbin Watson used to check autocorrelation issue. After all robustness test, regression analysis conduct to test the hypothesis.

## 4. Result and discussion

### 4.1 Robustness test

Normality test checking with kolmogorov-smirnov test. Table 1 shows the result of kolmogorov Smirnov test.

Table 1. Normality test.

One-Sample Kolmogorov-Smirnov Test		
	Unstandardized Residuals	
N		188
Normal Parameters <sup>a,b</sup>	Means	,0000000
	std. Deviation	,96839005
Most Extreme Differences	absolute	,063
	Positive	,063
	Negative	-.063
Test Statistics		,063
asymp. Sig. (2-tailed)		,066 <sup>c</sup>
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

From Table 1, the Asymp value is obtained. Sig. (2-tailed) of 0.066 has a value greater than 0.05 ( $\alpha$ ), so it is concluded that the sample data to be used by the study has a normal distribution.

Table 2. Multicollinearity test.

Coefficients <sup>a</sup>			
Model	Collinearity Statistics		
		tolerance	VIF
1	(Constant)		
	ROA	,967	1.034
	CR	,953	1,050
	DER	,960	1,041
a. Dependent Variable: BETA			

From Table 2, ROA has a VIF value of 1.034, CR has a VIF value of 1.050, and DER has a VIF value of 1.041. Each of these values is smaller than the VIF value of 10. It can be explained that there is no multicollinearity issue for the research data that will be used.

Table 3. Heteroscedasticity test.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	std. Error	Betas		
1	(Constant)	,713	,079		9.004	,000
	ROA	,415	,331	,094	1,254	,212
	CR	-.001	,029	-.003	-.042	,966
	DER	-.001	,017	-.004	-.054	,957
a. Dependent Variable: Abs RES						

Based on Table 3, we can see the value of sig. the ROA variable is 0.212 greater than 0.05, so there is no heteroscedasticity problem in this variable. The CR variable has sig. 0.966 is greater than the value of 0.05, so there is no heteroscedasticity problem in this variable. DER has sig. 0.957 is greater than 0.05, so there is no heteroscedasticity problem in this variable.

Table 4. Autocorrelation test.

Summary Model <sup>b</sup>										
Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	std. Error	Change Statistics					Durbin-Watson
					R <sup>2</sup> Change	F	df1	df2	Sig. F	
1	,229 <sup>a</sup>	,052	,037	,97625	,052	3,395	3	184	,019	1,844
a. Predictors: (Constant), DER, ROA, CR										
b. Dependent Variable: BETA										

Durbin Watson test conducted to autocorrelation test with the following assumptions.

$$du \leq d \leq 4 - du \tag{2}$$

$$1.69321 \leq 1.844 \leq 4 - 1.69321 \tag{3}$$

$$1.69321 \leq 1.844 \leq 2.30679 \tag{4}$$

From Table 4, it can be conclude that there is no autocorrelation in the data to be used in this study.

### 4.2 Hypothesis testing result

Robustness test was conducted to ensure that there is normality, multicollinearity, heteroscedasticity, and autocorrelation issue regarding the variables. The hypothesis testing result are shows in Table 5.

Table 5 shows the result of the regression analysis. Based on Table 5, it can show that profitability has positive and significant effect to investment risk with sig. value <0.05. Thus H1. Profit is an important element in ensuring the continuity of the company [13]. Profitability has several related functions as follows:

a. As a measure of the company's performance in generating profits from the amount of capital provided

or owned. Both loaned capital and capital originating from the wealth of the company owner.

b. As a presenter of data related to company profits from time to time, it can be used as a means of evaluating stakeholders.

In addition, in several investment instruments, there is the concept of high-risk high return, this concept is a concept where the higher profit that can be provided by an investment instrument, the greater the risks that follow [14].

**Table 5.** Regression analysis.

Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	std. Error	Betas			
1	(Constant)	,332	,122		2,727	,007
	ROA	1,277	,508	,183	2,513	,013
	CR	,015	.045	.025	,336	,738
	DER	.056	.026	,160	2,179	,031

a. Dependent Variable: BETA

H2 proposed that liquidity has a positive effect on investment risk. Based on Table 5, H2 is rejected (>0.05). Liquidity has no effect on investment risk. A high current ratio is not necessarily a good sign; this could mean that the organization is not using its assets as efficiently as possible. The optimal current ratio varies from industry to industry, with more volatile industries requiring higher ratios, because inventory is slow to sell or wear out because a company's production capabilities are greater than enough to meet short-term demand, so a quick ratio is often preferred. to assess the liquidity of a company [20].

The results of this study are also in accordance with the statement [21], a large CR value owned by a company indicates that the company has current assets that are greater than the value of its current liabilities, in other words, a CR value that is above 1 reflects that the company is able to bear all of its short-term liabilities. with the company's current assets.

H3 proposed that capital structure has positive effect on investment risk. Based on the result on Table 5, H3 is accepted (<0.05). Capital structure has a positive effect on investment risk. The last research explained that companies are considering business risk when they decide about the firm's capital structure [22]. Company funding can use its own capital (equity), debt, or a combination of the two as needed. Each of these funding source decisions has different financial consequences and characteristics for the company [19].

**Table 6.** ANOVA.

ANOVA <sup>a</sup>						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	9,708	3	3,236	3,395	,019
	residual	175,365	184	,953		
	Total	185,073	187			

a. Dependent Variable: BETA  
 b. Predictors: (Constant), DER, ROA, CR

A further analysis was conducted using ANOVA to analyse the simultaneously effect of all independent variable to dependent variable. Based on Table 6, sig.  $0.019 < \alpha = 0.05$ . Then it can be concluded that profitability, liquidity, and capital structure simultaneously has a significant effect in a positive direction on investment risk. The result support with last research such as:

- A. There is positive correlation between profitability and the rates of return of investment [23].
- B. Liquidity is a serious concern for the company because liquidity plays an important role in the company's success [24] and expands investment activity by helping firms secure funding for their projects [25].
- C. Capital structure decisions have statistically significant effects on financial failure risk such as investment risk [26].

## 5. Conclusions

### 5.1 Conclusion

*Non-Cyclicals* Consumer Goods Manufacturing Companies Listed on the Indonesia Stock Exchange in 2015-2019 as follows :

1. Profitability has an influence on Investment Risk. Profitability as a form of measuring company performance to obtain *returns* that will influence investment risk, where *high returns will indicate high stock prices, so that investment risk is also high and conversely a low return means low investment risk.*
2. Liquidity has no influence on Investment Risk. Liquidity, which is indicated by *the current ratio*, is not properly used to describe the liquidity of a company. A low *current ratio value* will increase the company's risk potential, while a high *current ratio value* is considered less able to carry out activities to convert these assets into income which will allow low profits to be generated.
3. Capital structure has an influence on investment risk. The capital structure is a very important and interesting part of finance both theoretically and practically. *The trade-off* theory reveals that the optimal level of debt is where the marginal benefit of debt financing equals the marginal cost, the company will be able to achieve an optimal capital structure by adjusting the level of debt and equity to balance tax protection and the cost of financial distress. The goal of capital structure management is also to minimize the cost of capital and be able to maximize share prices.

### 5.2 Managerial implication

The results of this study indicate that profitability with return on assets and capital structure is expected to be used as a material consideration when compiling an investment portfolio to achieve maximum returns. Investors assess that if the level of company's profitability is high, the company will have a better

future prospect. For the Company, the results of this research are expected to be an input for increasing capital in the future by maintaining the company's condition in good condition and according to the expectations of investors/creditors.

### 5.3 Limitations

From the research activities that have been carried out, the researcher found several limitations in this study, they are as follows:

1. This study only uses data from 2018-2020 as research material.
2. *Non-cyclical* primary consumer goods industry companies listed on the Indonesia Stock Exchange.
3. This research uses only 3 independent variables, namely profitability which is represented by *return on assets*, liquidity which is represented by *the current ratio*, and capital structure which is represented by *the debt-to-equity ratio*.
4. The results of the coefficient of determination ( $R^2$ ) show that the variable used in this study is only 5.2% of the variation in the investment risk variable.

### References

1. S. Handini, E. D. Astawinetu, Teori portofolio dan pasar modal (Scopindo Media Pustaka, Surabaya, 2020)
2. F. Ihsannuddin, K. Kristianingsih, H. Hazma, J. Appl. Islam. Econ. Financ. **2**, 611 (2022)
3. Handini, Financial management (Scopindo Media Pustaka, Surabaya, 2020)
4. S. E. Putra, V. Melvia, Y. Novriyani, Survei minat investasi pasar modal dikalangan mahasiswa (n.d.)
5. I. S. Putra, Reaksi pasar modal setahun setelah pandemi Covid-19 (Deepublish, Yogyakarta, 2022)
6. E. S. P. Setijani, Sumartono, Business management (Media Nusa Creative (MNC Publishing), Malang, 2021)
7. A. Yahya, Y. M. Jannah, Pengaruh analisis fundamental terhadap risiko sistematis saham (n.d.)
8. J. Fred Weston, T. E. Copeland, Manajemen keuangan Jilid. I, 9th ed. (Binarupa Aksara, Jakarta, 2001)
9. E. R. Yanti, Struktur modal dan harga saham (Tinjauan. Teoritis & praktis) (CV Media Sains Indonesia, Bandung, 2022)
10. D. A. S. Ranti, D. Damayanti, INOBIS J. Inov. Bisnis dan Manaj. Indones. **3**, 273 (2020)
11. N. Luh Anik Puspa Ningsih, M. Pratiwi Dewi, N. Made Yuliaty, Determinasi faktor-faktor ekonomi pada risiko investasi di industri pertanian (2019)
12. S. Ko'imah, D. Damayanti, INOBIS J. Inov. Bisnis Dan Manaj. Indones. **4**, 113 (2020)
13. H. Febriana, V. A. Rismanty, E. Bertuah, S. U. Permata, V. Anismadiyah, L. D. Sembiring, N. S. Dewi, Jamaludin, Dasar-dasar analisis laporan keuangan (Media Sains Indonesia, Bandung, 2021)
14. A. K., Buku 50 juta pertama dari saham dengan value investing (AK Pedia, 2020)
15. S. W., A. Yulianto, Account. Anal. J. **10**, 150 (2021)
16. M. Anggrainy, Indones. Account. Rev. **5**, 1 (n.d.)
17. M. A. Musliq, S. Biduri, Acad. Open **7**, (2022)
18. Z. Puspitaningtyas, Prediksi risiko investasi saham (Decision usefulness approach) (Griya Pandiva, Yogyakarta, 2016)
19. Y. Shahwan, The mediating effect of investment decisions and financing decisions on the influence of capital structure against corporate performance: Evidence from Jordanian listed commercial corporate governance view project accounting information systems view project (2018)
20. Z. Ritonga, Textbook of strategic management (Deepublish, Sleman, 2020)
21. E. Marisa, D. Indudewi, Jurnal Akuntansi **1**, (2012)
22. B. I. Mohd M Alnajjar, M. I. M Alnajjar, Type Double Blind Peer Rev. Int. Res. J. Publ. Glob. Journals Inc **15**, (2015)
23. A. Rutkowska-Ziarko, Folia Oeconomica Stetin. **15**, 151 (2015)
24. J. Z. Stanković, E. Petrović, Liquidity risk implications for market risk assessment in emerging markets (2018)
25. L. C. Field, A. Mkrtychyan, Y. Wang, J. Bank. Financ. **145**, 106651 (2022)
26. S. Yaman, T. Korkmaz, *The effects of capital structure decisions on financial risk and failure: A research on BIST Food Companies*, in Insur. Risk Manag. Disruptions Soc. Econ. Environ. Syst. Decis. Control Alloc. within New Domains Risk, Emerald Publishing Limited (2022)