

## The Effect of Company's Fundamental, Market Return and Macroeconomic to Stock Return: A Case Study of Consumer Goods Companies Listed in BEI Period 2009-2018

Juliana Thamrin<sup>1\*</sup>, Roy Sembel<sup>2</sup>

<sup>12</sup>Sekolah Tinggi Manajemen IPMI, DKI Jakarta, Indonesia 12750

### ABSTRACT

The aim of this study was to understand whether the company's fundamental factors through liquidity ratio, asset management ratio, profitability ratio, debt management ratio and market value ratio, specifically represented by current ratio, Total Assets Turnover (TATO), Return on Assets (ROA), Debt to Equity ratio (DER) and Earnings per Share (EPS) yield; market return and macroeconomic factors (Gross Domestic Product, interest rate, exchange rate) affect the stock return of Consumer Goods companies' listed in BEI period 2009-2018. There were various former studies did to correlate stock return with financial ratios or macroeconomic partially. This study was done to understand the effect of the stock return with both company's factors and macroeconomic factors, partially and simultaneously. This study used quantitative approach, in the area of Consumer Goods companies listed in BEI during period of the research, covering 23 companies that represented 84% of Consumer Goods market capitalization. The methodology being used was data panel regression using Common Effect Model, through 886 observations. The results were (1) partially, TATO, EPS yield, market return and exchange rate affected the stock return (2) simultaneously company's fundamental, market return and macroeconomic affected the stock return. This means in consumer sector, investors put attention on asset management, earnings yield, market condition and macroeconomic. Therefore, the author recommended that many extended researches can be done on the financial ratios, market return and macroeconomic, using different variable, especially due to TATO affect the stock return while conversely ROA and DER were not.

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\*Corresponding Author E-mail:

juliana.thamrin@ipmi.ac.id



## INTRODUCTION

In the last 10 years, Indonesia population increased significantly by 13% or equal to 30 million people. While Middle class population in Indonesia also increases significantly. It was around 52 million of middle-class people whose consumption accounts for 43 percent of total household consumption (Boediono, 2017). During period of Year 2009 to Year 2018, the Consumer Goods Sector Index performance was the highest amongst all sectors in BEI, with 686% growth or average 68.61% annual growth. Based on the data, investing in consumer goods sector is seemingly attractive to give good returns.

Many researches were conducted to research the correlation between stock return with company's fundamental factors, market return and macroeconomic, in variative mapping, through various sectors; the researches are based on partial variables, for example between stock return and company's performance. Other study focused on the correlation between stock return and macroeconomic only. Utami et al. (2015) studied that company's internal factors (DER, ROE, EPS and PER) influenced the stock return, so did the external factors (inflation, interest rate and exchange rate). While other researcher broke down the variables of company's internal and external into individual variables. Kusumadewi (2015) studied DER, EPS, GDP, BI Rate and exchange rate as individual affect to stock return. Therefore, this study was designed specifically to close the gap, to correlate stock return with the company's fundamental (from financial ratio perspective), market return and macroeconomic factors simultaneously, in consumer goods sector. In specific, this study was conducted to understand whether company's fundamental affect the stock return; to understand whether earnings yield affects the stock return; to understand whether market return affects the stock return; finally, to understand whether macroeconomic factors affect the stock return

in Consumer Goods sector in BEI period 2009-2018.

The scope of this research focused on the Consumer Goods Sector companies traded and listed in BEI period 2009-2018, excluded companies with unusual market transaction and stocks was actively traded during period of study. This study focusses on 1 ratio to represent liquidity ratio, asset management ratio, profitability ratio, debt management ratio and market value ratio. While from market the variable was covered by BEI stock return. And macroeconomic variables were covered by GDP, interest rate and exchange rate) variables impact to the stock return.

Based on literature and previous studies, it showed that company's fundamental, market return, and macroeconomics affected the stock return, where the hypotheses were established from the literatures.

## Research Problems and Research Questions

1. Do company's fundamental factors affect the stock return in Consumer Goods sector in BEI period 2009-2018, specifically:
  - a. does liquidity ratio affect the stock return?
  - b. does asset management ratio affect the stock return?
  - c. does profitability ratio affect the stock return?
  - d. does debt management ratio affect the stock return?
2. Does the earnings yield affect the stock return in Consumer Goods sector in BEI period 2009-2018?
3. Does market return affect the stock return in Consumer Goods sector in BEI period 2009-2018?
4. Do macroeconomic factors affect the stock return in Consumer Goods sector in BEI period 2009-2018, specifically:
  - a. does Gross Domestic Product (GDP)

- growth affect the stock return?
- b. does interest rate affect the stock return?
- c. does exchange rate affect the stock return?
- 5. Does company's fundamental, market return and macro economy collectively affect the stock return in Consumer Goods sector in BEI period 2009-2018?

### **Research Objectives**

In alignment with the research questions, the purpose of this research is to:

1. understand whether company's fundamental affect the stock return in Consumer Goods sector in BEI period 2009-2018, specifically:
  - a. whether liquidity ratio affects the stock return
  - b. whether asset management ratio affects the stock
  - c. whether Return on Assets (ROA) ratio affects the stock return
  - d. whether debt management ratio affects the stock return
2. understand whether earnings yield affects the stock return in Consumer Goods sector in BEI period 2009-2018;
3. understand whether market return affects the stock return in Consumer Goods sector in BEI period 2009-2018;
4. understand whether macroeconomic factors affect the stock return in Consumer Goods sector in BEI period 2009-2018, specifically:
  - a. whether Gross Domestic Product (GDP) growth affects the stock
  - b. whether interest rate affects the stock return
  - c. whether exchange rate affects the stock return
5. understand whether company's fundamental, market return and macro economy collectively affect the stock return in Consumer Goods sector in BEI period 2009-2018.

### **LITERATURE REVIEW**

According to Brigham & Houston (2012), financial ratios can be divided into 5: (1) Liquidity ratio (2) Asset Management Ratio (3) Profitability Ratio (4) Debt Management Ratio and (5) Market Value Ratio. In managing the company's performance,

there's a potential conflict between managers and shareholders which was mentioned by Jensen and Meckling (1976) as the agency relationship. Therefore, managers should proof the company's performance through positive financial results and maximizing the stock return.

In assessing the investment in stock return, investors mainly review on 2 factors which are the dividend paid and the capital gain/loss (Bodie et al., 2014). Total expected return is total of dividend yield and capital gain or loss yield (Brigham & Houston, 2012). Dividend yield is the expected dividend divided by the current price of a share or stock. Capital gain yield is the capital gain during a given year divided by the beginning price.

In investment strategy, investors can consider the company analysis, industry analysis and macroeconomic in deciding its portfolio quantitatively. Therefore, another leg in analyzing the stock return is studying the earnings yield which is closely correlated with the market value ratio. Last factor to correlate is the macroeconomic which consists of GDP, inflation, exchange rate, interest rate etc.

### **Agency Theory**

Jensen and Meckling (1976) defined an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. This definition gives a signal that if the financial reports which prepares by the managers (agent) must be trustable by the owners (principal). Thus, managers should proof the company's performance through positive financial results and maximizing the stock return.

### **Stock Return**

Stock (or equities) represents an ownership share in the corporation (Bodie et al., 2014). In assessing the investment in stock return, investors mainly review on 2 factors which are the dividend paid and the capital gain/loss (Bodie et al., 2014).

A dividend is the portion of corporate profits paid out to stockholders (O'Sullivan & Sheffrin, 2007). Capital gain is the profit (loss) from the sale of capital asset for more (less) than its purchase price (Brigham and Houston, 2012). To analyze the stock returns, investor can use technical analysis and fundamental analysis. Technical Analysis is a research to identify mispriced securities that focuses on recurrent and predictable stock price patterns and on proxies for buy or sell pressures in the market (Bodie et al., 2014). While fundamental analysis uses earnings and dividend prospects of the firm, expectations of future interest rates, and risk evaluation of the firm to determine proper stock prices.

### **Financial Ratios**

According to Brigham & Houston (2012), financial ratios can be divided into 5: Liquidity ratios, Asset Management ratio, Debt Management ratio, Profitability Ratio and Market Value Ratio.

- a. Current Ratio (part of liquidity ratio): Current ratio is current liabilities divided by current assets. Current ratio gives investors an indicator that the company can cover its short-term liabilities with its current assets.
- b. Total Assets Turnover Ratio – TATO (part of assets management ratio): measures turnover of all the firm's assets. Total assets turnover gives the indication whether the company is generating enough sales (turnover) from the asset's investment.
- c. Return on Assets – ROA (part of Profitability ratio): is the ratio of the net income to total assets. ROA can give investors an information on how effective company utilize its assets to generate net income.
- d. Debt to Equity Ratio – DER (part of Debt Management ratio): is the ratio of total debt to total equity. DER definition implied on how the company finance its operation, whether using third party fund or the owner's fund.
- e. Earnings Per Share – EPS (part of Market Value ratio): is the measure a company's net income per share of outstanding stock. EPS give indication to investors about the profitability level.

According to Öztürk (2017) who investigated the relationship between current ratio with stock return in Istanbul Stock Exchange, that there was no correlation between current ratio and stock return. Endri (2018) also investigated that the liquidity ratio proxied with Current Ratio does not affect the stock return of livestock feed sub sector. However, theoretically current ratio is an important ratio to the company and also supported by study did by Khotimah & Murtaqi (2015) that concluded current ratio gave significant effect to stock return.

According to Fitri & Matrodji (2018), Total Asset Turn Over (TATO) partially has negative and significant effect on the stock return of property company. While Raharjo (2018), TATO was significantly impacting the stock return. The research did by Khotimah & Murtaqi (2015) strengthen the research did by Raharjo which concluded that Total Asset Turnover has significant positive impact to Stock Return.

In an article written by Savalle (2016) about multinationals Consumer goods companies such as P&G, Nestle, Danone etc. showed that heavy assets ownership could brought to average profitability level compared to the same companies among the sector. On the other hand, high ROA performer which is more attractive to shareholder such as Mondelez, Clorox, Estee Lauder, Reckitt, GSK, Johnson & Johnson that was in remarkable performance. Lower ROA will impact to lower stock return because less attractive to investors. However, research did by Muhamad (2013) and Endri (2018) concluded that Return on Assets has a positive and significant effect on Stock Return.

In the study did by Kusumadewi (2015), Raharjo (2018) and Endri (2018), DER did not affect the stock return. It is in line with the theory and also supported study by Muhamad (2013), DER affect the stock return.

It was mentioned that the level of the S&P 500 stock price index to forecasts of earnings per share of the S&P 500 companies' stock prices tend to rise

along with earnings (Bodie et al, 2014). This is also agreed by Shabani et al. (2013) and Khai & Ismail (2018) study result where they concluded EPS was positively and significantly correlated with stock return.

### **Market Return**

According to Jones (2013), return is what investors wish to earn on their money. Therefore, market return represents the investors' return on their investment in capital market.

In many researches, the country stock exchange index reflects the economic condition of a country and how investor should consider putting the fund into the country, sectoral or individual stock pick. Lee et al. (2013) and Defrizal et al. (2015) studied that the stock market return affected the stock return.

### **Macroeconomic Factors**

Primary macroeconomy factors that correlates with the investment in a country: Gross Domestic Product (GDP), employment rate, inflation rate, interest rate, budget deficit and sentiment (Bodie et al., 2014).

GDP is the measure of the economy's total production of goods and services (Bodie et al., 2014). The increase of consumption, government outlays, investments and export will increase the GDP, while in contra the increase of import will impact to decrease of GDP. Increase of GDP means opportunity for higher sales or doing business in a country. Research did by Wu (2012) and said that there's no significant relationship between stock market returns and GDP growth rates in the US stock market. This conclusion was strengthened by an article published through Forbes which was written by Hoffmans (2012), said Rates of GDP growth and stock returns are not directly linked and shouldn't be. In domestic, research was also performed by Suramaya (2012) where concluded there was no significant impact of GDP to stock. However, theoretically GDP affect the stock. The theory was strengthened by study did by Al-Abedallat & Al Shabib (2012) which concluded that GDP affected the stock return.

High interest rate reduces the present value of future cash flows, thereby reducing the attractiveness of investment opportunities. Interest rate can be an important whether the company should put more investment to expand. Therefore, interest rate is an important factor to determine the stock return. Former research did by Arysoma (2018) and Raharjo (2018) concluded that interest rate was significantly affected the stock return.

Exchange rate is a price of one country's currency in terms of another country's currency (Brigham and Houston, 2012). In most countries, the exchange rate free-floating in accordance the market demand and supply, so the price or value is not regulated by government. Based on the research did by Ali & Sun (2017), there's a mixed result between exchange rate correlation with stock price in every country. From Indonesia research, Arysoma (2018) concluded that there was negative and significant correlation between both variables, exchange rate has causal correlation with stock return.

### **Hypothesis Development**

Based on the mixed result of the studies, the research framework was designed in Figure 1 and the hypotheses were developed:

- H1: Current ratio affects the Consumer Goods stock return in BEI period 2009-2018
- H2: Total Assets Turnover positively affects the Consumer Goods stock return in BEI period 2009-2018
- H3: ROA positively affects the Consumer Goods stock return in BEI period 2009-2018
- H4: DER affects the Consumer Goods stock return in BEI period 2009-2018
- H5: EPS yield positively affects the Consumer Goods stock return in BEI period 2009-2019
- H6: Market return positively affects the Consumer Goods stock return in BEI period 2009-2019
- H7: GDP affects the Consumer Goods stock return in BEI period 2009-2018
- H8: Interest rate negatively affects the Consumer Goods stock return in BEI period 2009-2018
- H9: Exchange rate negatively affects the

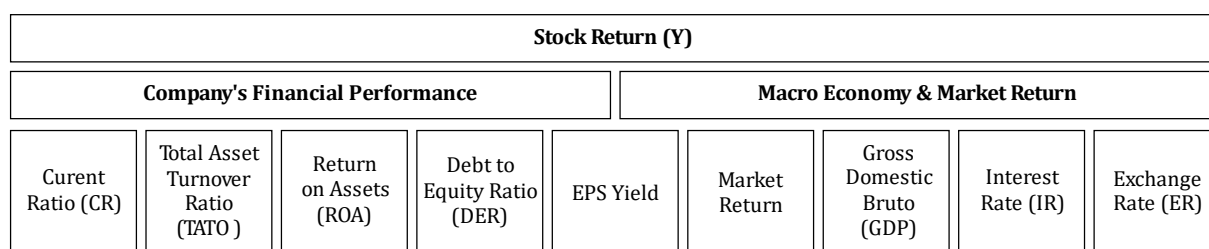


Figure 1. Research Framework

consumer Goods stock return in BEI period 2009-2018

H10: CR, TATO, ROA, DER, EPS Yield, GDP, Market return, Interest Rate and Exchange rate as collective affect the Consumer Goods stock return in BEI period 2009-2018.

## RESEARCH METHOD

### Data Collection

The data collection technique in this research is using quantitative method, thus all data can be measured numerically. The population was the companies listed in BEI for the period 2009 to 2018. While the method of picking sample is purposive sampling. Purposive sampling means a non-probability sample that is selected based on characteristic of a population and the objective of a research. Criteria of the selected sample is: Consumer Goods companies listed in BEI period 2009 – 2018, which shares is actively traded up to end of 2018 and providing the financial reports publicly.

### Sample Size

The sample consists of 23 companies which fulfilled the criteria, observation based on quarterly data, excluding 23 missing data observation. Final observation was 886.

### Data Processing Framework

This research will be using causal research method. Causal research means that research into cause and effect relationship. This research purpose is to identify the causal relationship between current ratio, TATO, ROA, DER, EPS yield, market return, GDP, interest rate and exchange rate with stock return, partially and simultaneously, on Consumer Goods Stock in BEI period 2009 – 2018.

This research tested the effect of 9 independent variables with one dependent variable, then the research using multiple regression with the framework in Figure 2. The steps in estimating the regression model with panel data is done by comparing Common Effect regression, Fixed Effect regression, and Random Effect regression.

After the best model selected based on the test, classic assumption test is performed to test whether the regression model is a good model to perform analysis. Classic assumption test consists of normality test, multicollinearity test, heteroscedasticity test and autocorrelation test.

If the model passes the classic assumption test, then data interpretation will be performed by looking at Coefficient of Determination ( $R^2$ ), Simultaneous Significance Test (F-Statistic Test) and Partial Individual Significance Test (T-Statistic Test).

### Variables of Study

Current Ratio	$ROA_t = \frac{\text{Net Income}}{\text{Total Assets}_t}$
Total Assets Turnover	$TATO_t = \frac{\text{Sales}}{\text{Total Assets}_t}$
Return on Assets	$ROA_t = \frac{\text{Net Income}}{\text{Total Assets}_t}$
Debt Equity Ratio	$DER_t = \frac{\text{Total Debt}_t}{\text{Total Equity}_t}$
Earnings per Share	$EPS_t = \frac{\text{Net Income}}{\text{Share Outstanding}}$ $EPS\ Yield_t = \frac{EPS_t}{\text{Stock Price}_t}$
Market Return	$MR_t = \frac{(JKSE_t - JKSE_{t-1})}{JKSE_{t-1}}$
Gross Domestic Product	$GDP\ Growth_t = \frac{(GDP_t - GDP_{t-1})}{GDP_{t-1}}$

Exchange Rate	$ER\Delta = \frac{(ER_t - ER_{t-1})}{ER_{t-1}}$
Stock Return	$SR_t = \frac{(SP_t - SP_{t-1})}{SP_{t-1}}$

where:

t = period of t time

t -1= period of t-1 time (previous period)

ERΔ= change in exchange rate

JKSE = Jakarta Composite Index

$\beta$  = k x 1 matrix of parameters or regression coefficient  
 $y_i$  = the dependent variable observed for individual i at time t.  
 $X_i$  = the time-variant 1 x k (the number of independent variables) regressor vector:  
 $\varepsilon_i$  = the error terms.

## RESULT AND DISCUSSION

Based on the data collection and population criteria, there are 23 companies fulfilled the sample criteria, as shown in Table 3.

### Regression Model Testing

#### a. Common Effect Model

$$y_{it} = \alpha + X_{it}\beta + \varepsilon_{it} \quad \text{(Equation 1)}$$

#### b. Fixed Effect Model

$$y_{it} = \beta_0 + \beta_1 X_{1,it} + \dots + \beta_k X_{k,it} + \gamma_2 D2_i + \gamma_3 D3_i + \dots + \gamma_n D_{ni} + \varepsilon_{it} \quad \text{(Equation 2)}$$

#### c. Random Effect Model

$$y_{it} = \alpha + X_{it}\beta + (\varepsilon_{it} + \gamma_i) \quad \text{(Equation 3)}$$

With detail variables as below:

i= individual

t= time series

n= number of individuals

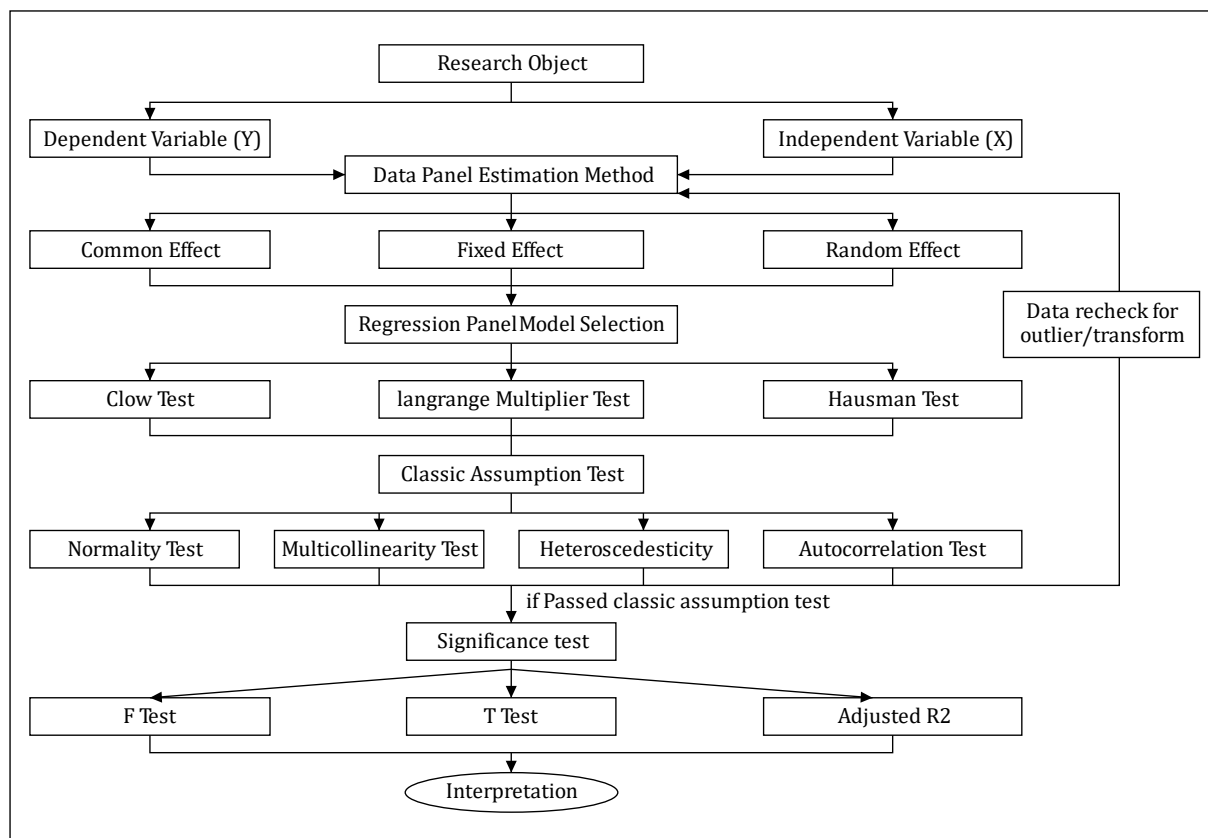
D= dummy variable

### Descriptive Statistics

Descriptive statistic provides an overview about the sample characteristics. The characteristic outlines in Table 1.

### Selected Regression Model

First, the Chow test, Lagrange Multiplier test and Hausman test are performed, resulted in common effect model is the best fit regression model as shown in Table 4.



**Table 3.** Companies Fulfilled the Sample Criteria

Stock Code	Companies	Stock Code	Companies
ADES	Akasha Wira International Tbk.	LMPI	Langgeng Makmur Industri Tbk
BTEK	Bumi Teknokultura Unggul Tbk.	MRAT	Mustika Ratu Tbk
Stock Code	Companies	Stock Code	Companies
BUDI	Budi Starch & Sweetener Tbk.	MYOR	Mayora Indah Tbk.
CEKA	Wilmar Cahaya Indonesia Tbk.	PSDN	Prasidha Aneka Niaga Tbk.
DVLA	Darya-Varia Laboratoria Tbk	PYFA	Pyridam Farma Tbk
GGRM	Gudang Garam Tbk	SKLT	Sekar Laut Tbk.
HMSP	Hanjaya Mandala Sampoerna Tbk	STTP	Siantar Top Tbk.
INAF	Indofarma (Persero) Tbk	TCID	Mandom Indonesia Tbk
INDF	Indofood Sukses Makmur Tbk.	TSPC	Tempo Scan Pacific Tbk
KAEF	Kimia Farma (Persero) Tbk	ULTJ	Ultrajaya Milk Industry & Trading Co. Tbk.
KICI	Kedaung Indah Can Tbk	UNVR	Unilever Indonesia Tbk
KLBF	Kalbe Farma Tbk		

**Table 2.** Descriptive Statistics

	CR	DER	EPS	ER	GDP	IR	MR	ROA	SR	TATO
Mean	3.379656	2.703004	0.113313	0.007925	0.031179	0.063325	0.042700	0.043201	0.028299	0.339859
median	2.018000	1.454500	0.014546	0.008000	0.038681	0.065000	0.048000	0.018000	0.008000	0.314000
maximum	320.1750	125.0000	11.99032	0.097000	0.273567	0.083000	0.413000	17.18000	0.987000	1.412000
Minimum	0.092000	0.055000	-1.508382	-0.095000	-0.024713	0.043000	-0.140000	-0.147000	-0.371000	0.000000
Std. Dev	11.82239	7.842428	0.741887	0.035434	0.048091	0.010421	0.094173	0.572972	0.112890	0.173718
Skewness	22.24423	11.66579	11.81457	-0.031318	3.009643	-0.352943	1.322629	29.77625	2.242830	1.436921
kutosis	578.2832	155.2569	166.1784	4.220817	16.43698	2.214085	7.381141	891.0622	16.01109	7.226710
Jarque-bera	12484873	889744.6	1020590	57.28214	8310.064	42.77745	1004.018	29707537	7252.811	978.5633
probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	3041.690	2432.704	102.0947	7.291000	28.68459	58.25900	39.28400	38.88100	26.00700	305.5330
Sum Sq. Dev	125652.1	55291.80	495.3443	1.153836	2.125399	0.099792	8.150197	295.1390	11.69917	27.09971

**Table 4.** Regression Model Test Comparison

Test	Compared Model	Prob. Value	Result
Chow Test	CEM FEM	0.3382	p > 0.05 means CEM is better than FEM
Hausman Test	FEM REM	0.3064	p > 0.05 means REM is better than FEM
Lagrange Multiplier Test	CEM REM	0.9180	p > 0.05 means CEM is better than REM

Based on the selected model which is common effect model, the equation for the regression model is established below:

$$y_{it} = \beta_0 + \beta_1 Cr_{it} + \beta_2 TATO_{it} + \beta_3 ROA_{it} + \beta_4 DER_{it} + \beta_5 EPS Yield_{it} + \beta_6 MR_{it} + \beta_7 GDP Growth_{it} + \beta_8 Ir_{it} + \beta_9 Er_{it} + \varepsilon_{it} \quad \text{(Equation 4)}$$

where:

$i$  = individual company

$t$  = time period

$n$  = number of individuals

$\beta$  =  $k \times 1$  matrix of parameters or regression coefficient

$y_{it}$  = the dependent variable observed for individual  $i$  at time  $t$ .

$X_{jt}$  = independent variable  $j$  at company  $i$  on  $t$  time period

$\varepsilon_{it}$  = the error terms for company  $i$  on  $t$  time period

$j$  = independent variables 1,2,3,4,5,6,7,8,9

$_1$  = Current ratio (CR)  $_2$  = Total Assets Turnover (TATO)

$_3$  = Return on Assets (ROA)

$_4$  = Debt to Equity (DER)

$_5$  = Earnings per Share Yield (EPS)

$_6$  = Market Return (MR)

$_7$  = Gross Domestic Bruto (GDP)

$_8$  = Interest Rate (IR)

$_9$  = Exchange Rate (ER)

### Classic Assumption Test

#### a. Normality test

Normality test is performed using Jarque



Bera is a goodness-of-fit test of whether sample data have the skewness and kurtosis matching a normal distribution. Based on the resulted shown in Figure 3, the regression model does not pass normality test. However, in general big data result can hardly normal. Based on the histogram, the distribution did not have huge difference to normal curve. Therefore, it is concluded that the data can be used for regression analysis.

b. Multicollinearity test

To detect whether there's multicollinearity relationship, VIF (Variance Inflation Factors) can be used. The criteria of VIF is:

- If the VIF <= 10, there's no multicollinearity between independent variables
- If the VIF >= 10, there's multicollinearity between independent variables

Table 5. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.000411	41.03416	NA
CR	7.88E-08	1.167509	1.080126
TATO	0.000381	5.388076	1.105931
ROA	3.01E-05	1.008536	1.003089
DER	1.80E-07	1.240248	1.110696
EPS	1.98E-05	1.088339	1.064559
MR	0.001917	1.967662	1.645956
GDP	0.004796	1.511162	1.070324
IR	0.094276	38.65441	1.045335
ER	0.013949	1.833009	1.730255

The table above showed that all VIF < 10, means that there's no multicollinearity between independent variables. Thus, it passed multicollinearity test.

c. Heteroscedasticity test

To proof the result, the heteroscedasticity test is being tested using white model, where the decision-making criteria is:

- If p value Chi-square from Obs\*R-Sq < 0.05 then H0 is rejected; means, there's heteroscedasticity
- If p value Chi-square from Obs\*R-Sq > 0.05 then H0 is not rejected; means, there's no heteroscedasticity

Table 6. White Test

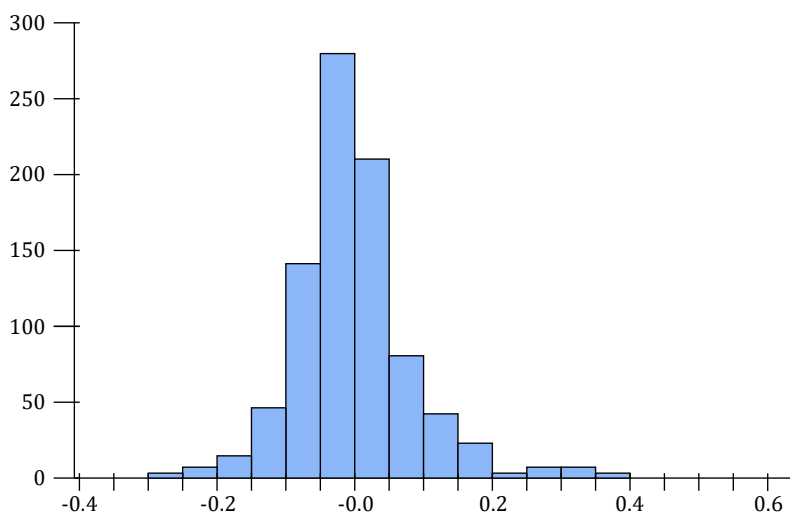
Heteroskedasticity Test: White			
F-statistic	0.992596	Prob. F(9,876)	0.4444
Obs*R-squared	8.944132	Prob. Chi-Square(9)	0.4424
Scaled explained SS	32.98135	Prob. Chi-Square(9)	0.0001

From the table above, there's all variables come with p-value is 0.04424 which was > 0,05, it means that there's no heteroscedasticity

d. Autocorrelation test

Autocorrelation is being tested using Durbin Watson Statistics (DW) with criteria

- If d < dL or d > 4-dL, H0 is rejected, means there's autocorrelation
- If dU < d < 4-dU, H0 is rejected, means there's no autocorrelation



Series: Standardized Residuals	
Sample 2009Q1 2018Q4	
Observation 886	
Mean	-3.16e-18
Median	-0.010108
Maximum	0,647579
Minimum	-0.384623
Std. Dev	0.093668
Skewness	1.207443
Kurtosis	8.544310
Jarque-Bera	1350.081
Probability	0.000000

Figure 3. Jarque Bera Normality Test

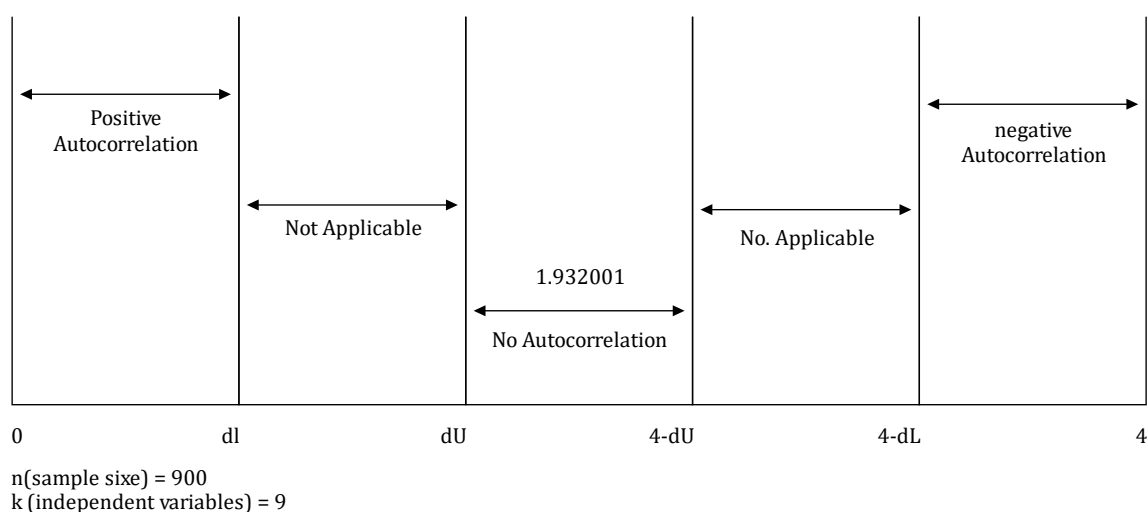


Figure 4. Durbin Watson Test Result

Table 7. Regression Result

Variables	Coefficient	Std. Error	0.3t-statistic	Prob
C	0.010790	0.020261	0.532552	0.5945
CR	0.000198	0.000281	0.705007	0.4810
TATO	0.040336	0.019519	2.066537	0.0391
ROA	-0.000884	0.005489	-0.160969	0.8722
DER	-3.56E-05	0.000424	-0.083959	0.9331
EPS	0.012746	0.004450	2.863950	0.0043
MR	0.303419	0.043785	6.929753	0.0000
GDP	-0.032880	0.069255	-0.474769	0.6351
IR	-0.172110	0.307044	-0.560539	0.5753
Variables	Coefficient	Std. Error	t-statistic	Prob
ER	-0.266586	0.118105	-2.25718909	0.0242
<b>Adjusted R-squared</b>	0.125474			
<b>F-statistic</b>	15.10857			
<b>Prob (F-statistic)</b>	0.000000			
<b>Durbin-Watson stat</b>	1.932001			

- If  $dL < d < dU$  or  $4-dU < d < 4-dL$ , means no conclusion

Based on the selected model in this study, the DW statistic from the selected model (common effect model) is 1.932001. This result is being measured using the DW criteria. The testing result is being illustrated in Figure 6 below, which the DW statistics fall between  $dU$  and  $4-DU$  and it reflects  $H_0$  is accepted, which means there's no autocorrelation in the regression model.

#### b. Significance Test

The regression model result are shown in Table 7, where this model will be used to interpret the

research hypothesis and conclude the research questions.

Result from the F-Test showed that the p-value of F-statistic is 0.000000 which is  $< 0,05$ . This result means that all variables (CR, TATO, ROA, DER, EPS Yield, MR, GDP, IR and ER) simultaneously impacted the stock return.

While result from the  $R^2$  (adjusted R square) test showed a value of 0.125474 which indicates the impact of CR, TATO, ROA, DER, EPS Yield, MR, GDP, IR and ER to stock return by 12.54%.

t-test of each individual variable concluded there

are 5 variables that are not affecting the stock return which is current ratio, ROA, DER, GDP and interest rate. The research result for current ratio, ROA, GDP and interest rate is in alignment with previous research, however DER is in contra position with previous research. Current ratio with does not affect the stock return, it means that the liquidity of company's assets and the ability to pay the short-term liabilities did not affect the investor's decision to put their fund in consumer goods stock. TATO is significantly impacting the stock return. This means the use of assets to generate sales is very important to the company. The higher TATO means company productively utilize its assets to generate sales; which is viewed attractive by investors. ROA with  $\alpha = 0.8722$  means it does not impact the stock return. It means that the effectiveness of company in generating earnings from assets is not impacting stock return. Company may hold assets to generate the sales, but it may not generate income. This may indicate that consumer goods companies operated with high operating cost. Both TATO and ROA are assets utilization measurement variables but was viewed differently by investors in consumer goods. This is a seemingly contradictive. It may create other possibilities that investor view there's other variables which is more important than ROA in generating income. GDP is also not significantly impacting the stock return. It means that the high-level view on GDP does not mean direct potential to grow. Higher GDP was viewed as potentially higher purchasing power but does not attract the investor to invest the fund in consumer goods sector. If review the descriptive statistic where there was huge range between minimum and maximum value, investor tend to be selective in stock selection within consumer goods sector. Interest rate did not affect the stock return. This reflect that the interest rate set by government does not impact to the stock return. In theory, the higher interest rate will impact to lower stock return because investor tend to put their fund in the deposits in the higher interest situation, but the theory was not proven in this research. Further research can be conducted to study whether the stock market return is too attractive in this period so that investors did not even view interest rate as

investment alternative.

In the other hand, there are 4 variables impact the stock return which is TATO, EPS yield, market return and exchange rate. The significance of TATO means that the company should maintain the high utilization of its assets over sales. EPS positively and significantly affects stock return, so the higher EPS yield the more attractive the company. EPS yield is a very important factor to investors. This has been supported by the hypothesis. Investors always put focus on the EPS yield when decide an investment and managers should always put more attention to keep a good yield. Market return also positively and significantly affects the stock return. Market return can give indication about the stock return potential in consumer goods. In the situation when overall market not in good condition, it is signalling investors to stay away from the stock market. While exchange rate with  $\alpha = 0.0000$  proof that exchange rate is very significant to stock return. However, the negative sign means that if the higher exchange rate, the lower stock return would be. While the lower exchange rate impact to higher stock return. Therefore, in the situation of high volatility, investors may quit from stock market. Investors in consumer sector view that the company fundamental in asset management and market valuation is very important; through TATO and EPS yield. Therefore, in consumer goods, managers must keep both ratio in an attractive situation.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

Based on the result tested using common effect, the analysis and discussions, it can be concluded that:

1. Company's fundamental factors affect the stock return as follows:
  - a. Liquidity ratio through Current ratio insignificantly affects the stock return.
  - b. Asset Management ratio through Total Assets Turnover positively and significantly affects the stock return.
  - c. Profitability ratio through ROA insignificantly affects the stock return.
  - d. Debt management ratio through DER

- insignificantly affects the stock return.
2. Market value ratio and earnings yield through EPS yield positively and significantly affects the stock return
  3. Market return positively and significantly affects the stock return.
  4. Macroeconomic factors affect stock return as follows:
    - a. GDP insignificantly affects the stock return.
    - b. Interest rate insignificantly affects the stock return.
    - c. Exchange rate affects the stock return with negative correlation
  5. Company's fundamental, market return and macro economy collectively affect the stock return.

### **Recommendations**

There are 4 variables which significantly impacted the stock return: 2 variables from company's fundamental factor, 1 variable from market return and 1 variable from macroeconomic factor. While the other 5 variables did not significantly impact to the stock return. Thus, the recommendation is as below:

1. Recommendation for next researcher: Out of 5 financial ratios being used in this research, only asset management ratio and market value ratio significantly affect the stock return. Therefore, the recommendation for next study is:
  - a. to extend the study about liquidity ratio in another sub-sector and extend the liquidity ratio variables such as quick ratio and working capital ratio. Theoretically liquidity ratio should not be ignored when decide on the stock investment in consumer goods.
  - b. to answer whether investor view the operating cost as long-term investment to grow the company top line (sales) and ignoring short-term the bottom line (profit). While asset management ratio (TATO) was viewed as important ratio, it needs a deeper review why profitability ratio through asset (ROA) was not viewed as important as asset management ratio.

Therefore, next researcher can extend the research variable to ROE, GPM, NPM etc.

- c. to extend the research on the assets acquisition source fund in consumer goods company. Considering at high attractiveness in assets management ratio in Consumer goods (reflected by TATO), it needs a deep dive on how company acquire the assets. If the assets were acquired through debt financing, it may result in other risk to the stock return. However, in contra, DER was not viewed as significant ratio. Therefore, the connectivity between asset management and debt management ratio can also be interesting research for next researcher.
  - d. to further study the impact of GDP growth over another sector. The earning creation as mentioned in point b) above can be an interesting answer. Intuitively, high GDP should attract investment into consumer goods market, but the studied was not proven. It may because higher GDP potentially create purchasing power and eventually create more sales. But high sales do not mean high earnings.
  - e. to correlate interest rate with stock return in other sectors. While interest rate was not viewed as important factor in consumer goods during the study period, further hypothesis can be developed as consumer goods stock fly way too high compare to the interest rate, it created new hypothesis as if the sector was in high grow period, interest rate could be ignored.
  - f. to consolidate the next study into internal and external factors rather to view financial ratios or macroeconomic as individual factors. This study can also be extended into other sectors.
2. Recommendation for managers:
    - a. Managers the assets' efficiency is very important, including assets in progress and new assets acquiring. Consumer goods sector's investor put huge reliance in the assets utilization ratio. This ratio can keep the stock attractive.

- b. Managers should always keep the profitability over outstanding stocks because EPS yield is viewed as significant indicator to investor. The ability to maintain or even to grow the income will increase the attractiveness to investors.
  - c. Managers should always calculate the risk of the exchange rate and its impact to the profitability. The correlation between exchange rate and stock return was obvious.
3. Recommendation for government and regulators:
- a. Government play important role in managing and drafting better regulation in supporting companies' growth, especially those listed in stock market. As Market return is very important to give confidence to investors in stock, the stability in the stock market index is very important. The roll out of new regulations also need to be managed, in order to not surprising the market.
  - b. Government must play important role in keeping country's exchange rate in a stable position, in order to attract more investors. The mixture between monetary and fiscal policy is very important. It is proven that high volatility of exchange rate reduces the attractiveness in stock because the lower stock return.

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