

## ANALYZING THE IMPACT OF FUNDAMENTAL FACTORS ON STOCK RETURNS: EVIDENCE FROM CONSUMER GOODS COMPANIES LISTED ON INDONESIA STOCK EXCHANGE FROM 2014-2018

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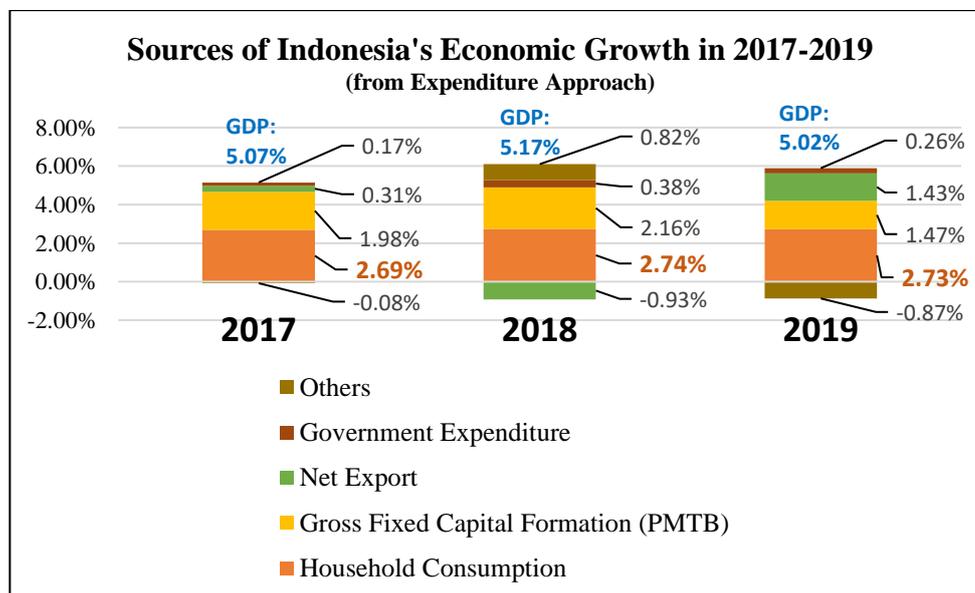
### ABSTRACT

Some previous research showed different results about the impact of macroeconomics variables, market return, and financial performance towards the stock returns of companies in different industry sectors. Related to industry sub-sectors, each of the industry sub-sectors has different business risk that might give an effect on the stock return of the companies classified under each of the industry sub-sectors. Because of these two reasons, the aims of this study are to examine whether there is any difference of stock returns among the consumer goods sub-sectors and to examine the impact of macroeconomics variables, market return, industry sub-sectors, and financial performance of the companies towards the stock returns of consumer goods companies during the period of 2014-2018. This study uses difference of means test and panel data regression for the objective of testing the hypotheses. The first result of this study showed that there is no difference of stock returns among the consumer goods sub-sectors. The second result of this study showed that only market return and total asset turnover that positively give effects towards the stock returns of consumer goods companies during the period of 2014-2018. Meanwhile, the other independent variables do not have effects towards the stock returns of the consumer goods companies. In conclusion, fluctuations in the stock returns of consumer goods companies during the period of 2014-2018 can be explained by the market return and total asset turnover.

Keywords: Macroeconomics Variables, Market Return, Consumer Goods Sector, Financial Ratios, Asset Turnover, Stock Return.

### INTRODUCTION

Economic growth of Indonesia in 2019 is 5.02% (Badan Pusat Statistik, 2020a). The economic growth of Indonesia, from the perspective of expenditure approach, is mainly contributed by the household consumption, which can be seen through the Figure 1 below.



**Figure 1: Sources of Indonesia's Economic Growth in 2017-2019**  
Source: Badan Pusat Statistik (2020b)

From the Figure 1, it could be seen that starting from 2017 until 2019, the main source of the economic growth of Indonesia is the household consumption, which contributed 2.69% to the GDP in 2017, 2.74% to the GDP in 2018, and 2.73% to the GDP in 2019 (Badan Pusat Statistik, 2020b). The household consumption itself is the amount of final consumption expenditure made by resident households in order to fulfill their daily needs, which mostly fulfilled by the consumer goods sector, such as food and beverages, cosmetics or makeup, toiletries, over-the-counter drugs, tobacco, automobiles, electronics, furniture, and appliances. This can become one of the reasons why the consumer goods sector is one of the interesting sectors for people who want to invest their money.

The consumer goods sector is one of the least volatile sectors due to relatively stable underlying demand for goods and services that will be needed to fulfill the everyday needs. For example, in the last five years, the food and beverages sub-sector grows an average of above 8-9% (Kementerian Perindustrian RI, 2019). Another reason that makes the consumer goods sector becomes an attractive sector for the investors is the performance of companies under the consumer goods sector, especially under the consumer staples sector, that are generally less sensitive to changes in the economy and tends to be resistant to economic downturns.

Investors are encouraged to conduct fundamental analysis as one of ways to value stocks of companies where they want to invest in. The fundamental analysis is an effort to assess the stock of a company and estimate the direction of the stock price movements of the company based on related fundamental factors. The fundamental factors consist of macroeconomics variables, market return, industry sub-sectors, and companies' financial performance. Each of the fundamental factors has an effect towards stock returns of the companies.

Related to the effect of macroeconomics variables towards stock returns, there are some research that have analyzed it. In the research of Lukisto and Anastasia (2014), both of the researchers showed that inflation had no significant effect towards the property index for the period 2000-2012. Meanwhile, in the research of Mugambi and Okech (2016), both of the researchers showed that inflation had a significant effect towards the stock returns of banks that were listed on Nairobi Securities Exchange (NSE) during the period 2000-2015.

Related to the effect of market return towards stock returns, there are some research that have analyzed it. In the research of Lee et al. (2013), all the researchers showed that the market returns had a significant effect on the stock returns of finance and consumer service companies in ten major eastern and southern Asia countries. Meanwhile, in the early research of Morin (1980), the researcher found that market returns do not have an important explanatory power on stock returns in Canada.

Related to the effect of companies' financial performance towards stock returns, there are some research that have analyzed it. In the research of Asmirantho and Somantri (2017), both of the researcher showed that only market perception on value that had a significant effect on the stock price of pharmaceutical companies listed on Indonesia Stock Exchange during the period 2012-2016. The other indicators of financial performance such as liquidity, solvency, activity, and profitability did not have a significant effect towards the stock returns of pharmaceutical companies. Meanwhile, in the research of Suciati (2018), the researcher showed that only leverage that had a significant effect on stock returns of property and real estate companies listed on the Indonesia Stock Exchange during the period of 2012-2016, meanwhile, the liquidity, profitability, activity, and firm size had no significant effect on the stock returns of property and real estate companies.

From the aforementioned previous research, it could be known that some research that have been conducted by other researchers showed different results about the effect of macroeconomics variables, market return, and financial performance towards the stock returns of companies who are in different industry sectors. Because of this reason, the objective of this study is to provide further research results about the impact of macroeconomics variables, market return, and financial performance on the stock returns of companies under a particular industry sector that has not been profoundly explored, namely consumer goods sector.

Related to industry sub-sectors, each of the industry sub-sectors has different business risk that might affect the stock return of the companies who are classified under each of the industry sub-sectors. For examples, the business risks that must be faced by the companies under food and beverages sub-sector are food safety risk, commodity and raw material price increase risk, and product quality risk. Meanwhile, the business risks that must be faced by companies under pharmaceuticals sub-sector are foreign currency fluctuation risk, time procurement risk, legal and regulatory risk, as well as reputation risk. Because of this reason, the objective of this study is to examine whether there is any difference of stock returns among the consumer goods sub-sectors. Another objective of this study is to analyze the effect of industry sub-sectors on stock returns of companies, especially the companies who are under the consumer goods sub-sectors such as food and beverages, tobacco, pharmaceuticals, cosmetics and household, and houseware.

## LITERATURE REVIEW

### Macroeconomics

Macroeconomics can be viewed as external conditions that have the potential to give an effect towards the way the firm operates in its daily operation (Davis & Powell, 2012). Macroeconomics has several primary variables that related to the investment in a country, namely employment rate, inflation rate, Gross Domestic Product (GDP), budget deficit, interest rate, and sentiment (Bodie et al., 2014). These macroeconomics variables are beyond the control of management of a company, therefore these variables can have a positive or negative effect towards the performance of a company (Dioha et al., 2018). This study used growth rate of Gross Domestic Product (GDP) and percentage change in currency exchange rate, as the representatives of the macroeconomics variables.

### Growth Rate of Gross Domestic Product (GDP)

Growth rate of GDP is the increase in percentage of GDP from quarter to quarter. The growth rate of GDP can be used to measure how fast a country's economy is growing in a particular period of time. The increase or decrease in GDP growth rate usually can affect the stock market because the decrease in GDP growth rate indicates underperforming economy, while the increase in GDP growth rate indicates over-performing economy. The underperforming economy means lower earnings for companies that can cause lower companies' stock prices, while the over-performing economy means higher earnings for companies that can cause higher companies' stock prices. Because of this reason, it is crucial for investors to pay their attention on both positive and negative GDP growth rate when assessing an investment idea or devising an investment strategy (Kramer, 2019).

### Exchange Rate

Exchange rate can be known as the prices at which currencies are being traded (Krugman & Wells, 2017). A strong exchange rate can become a sign that shows a strong and viable economy, meanwhile, a weak exchange rate can be an indicator of a weak and vulnerable economy (Gunarto, 2019). In understanding the relationship between stock return and exchange rate, one of approaches that could be used is monetary approach (Aydemir & Demirhan, 2009). In monetary approach, when a country experiences an increase in the supply of domestic currency, it will result in an increase of domestic prices and purchasing power parity will cause the depreciation of domestic currency. The purchasing power parity itself is a theory that stipulates the exchange rate to adjust over time to reflect differences in inflation between two countries (Anoruo et al., 2005). The depreciation of the domestic currency will eventually decrease the income and stock prices of the companies.

### Market Return

Market return can represent the investors' return for the investments that they have done in the capital market (Thamrin, 2019). In each stock market, the market return can be measured through the stock exchange index. When a stock market has a higher return, it will increase the investors' interest to buy stocks of companies in that stock market. On the contrary, when a stock market has a lower return, it will decrease the investors' interest to buy stock of companies in that stock market and encourage the investors to find other investment alternatives to invest their money, such as commodities, art and antiques, real estate, and life insurance.

### Consumer Goods Sub-Sectors

Consumer goods sector is a sector that consists of a category of stocks and companies that produce goods or items which will be purchased by individuals rather than by manufacturers and industries (Chappelow, 2018). Consumer goods sector includes a diverse array of industries because everything that consumers can buy is classified under the consumer goods sector. Because of this reason, it is crucial to understand sub-sectors of the consumer goods that have different characteristics from one and another. The consumer goods sub-sectors consist of food and beverage, tobacco, pharmaceutical, cosmetics and household, and houseware. The food and beverage sub-sector consists of all companies that primarily engaged in processing raw food materials, packaging, and distributing the final goods to consumers (globalEdge, n.d.). The tobacco sub-sector consists of all manufacturers, importers, and distributors of tobacco products, as well as processors of tobacco leaf (World Health Organization, 2012). The pharmaceutical sub-sector consists of all companies that involved in the development, production, and marketing of medications (Prowse, 2019). The cosmetics and household sub-sector consists of all companies who are engaged in manufacturing and distributing cosmetic products, hair and skin care products, toiletries, oral care, household cleaning and laundry products (SGS, n.d.). The houseware sub-sector consists of all companies who are involved in manufacturing and distributing houseware products (Ho, 2019).

### Financial Performance

Financial performance is a measurement of the results of the policies and operations of a company in monetary terms (Adam, 2014). A company's financial performance can be obtained by analyzing the financial reports of the company, especially its balance sheet and income statement. In analyzing the financial reports to obtain the company's financial performance, the measurement that can be used is financial ratios. Gitman and Zutter (2012) divided the financial ratios into five basic categories, namely profitability ratios, liquidity ratios, debt or leverage ratios, activity ratios, and market ratios. Each category of the financial ratios has commonly used ratios, which are selected for the objectives of this study and can be seen through Table 1. below.

**Table 1: Measurement of Financial Ratio Category**

Category of Financial Ratios	Measurement
Profitability Ratios	Return on Equity (ROE) and Return on Assets (ROA)
Liquidity Ratios	Current Ratio (CR) and Quick Ratio (QR)
Debt or Leverage Ratios	Debt to Assets Ratio (DAR) and Debt to Equity Ratio (DER)
Activity Ratios	Total Assets Turnover (TATO)
Market Ratios	Price to Earnings Ratio (PER)

### Stock Returns

Stock returns or the level of stock profit is the benefits that will be received by investors from their investment activities in a company either directly or through securities companies (Suciati, 2018). The stock returns are one of the most crucial aspects in conducting investment analysis because it serves as an important indicator for investors. Besides serving as an important indicator for the investors, the stock returns can determine the effectiveness and efficiency of the stock market in allocating the equities and shares based on availability of market information and preference (Hussein, 2017). The amount of the stock returns can be seen from the actual return, which is the actual gain or loss that will be experienced by investors on an investment or in a portfolio (Kenton, 2020). The actual return is important to measure the performance of an investment.

### Efficient Market Hypothesis

In the efficient market hypothesis, the price of any asset, including the price of stock, should immediately describe fundamental information about the asset (Malkiel, 1962; Fama, 1965). Based on the extent to which new information is described in stock prices, Fama (1970) defined three market efficiency levels, namely weak-form, semi-strong-form, and strong-form efficiency level. From the three market efficiency levels, Fama (1991) provided additional details regarding the semi-strong-form efficiency level that can support the objectives of this study. According to Fama (1991), the semi-strong-form of the Efficient Market Hypothesis (EMH) requires the stock prices to fully reflect all publicly available information, which includes macroeconomic indicators.

### Capital Asset Pricing Model (CAPM)

One important pricing model based on efficient market hypothesis is the Capital Asset Pricing Model (CAPM), which was developed by William Sharpe, a financial economist and Nobel laureate in economics, in his book entitled *Portfolio Theory and Capital Markets* in 1970 (McClure, 2019). According to Abbasi et al. (2017), the Capital Asset Pricing Model (CAPM) is a single factor model. The single factor model is a model of security returns that recognizes only one factor, which is usually the sensitivity towards the market return, and considers how that one factor affects the returns of the portfolio or individual stocks. The next generation of asset pricing includes arbitrage pricing theory, multi-beta asset pricing, etc., which allows several factors to affect the stock prices.

### Previous Research

There are several groups of research that have examined the relationship between fundamental factors and stock returns. The first group of research examines the relationship between macroeconomics variables and stock returns. Gunarto and Sembel (2019) found that the GDP growth rate, interest rate, and currency exchange rate have negative effects towards the stock returns of the LQ45 companies at IDX during the period of 2008-2018. Reddy (2012) found that GDP positively affect the stock returns of the companies who are listed on BSE India during the period of 1997-2009, while, the inflation has a negative effect towards the stock returns of the companies who are listed on BSE India during the period of 1997-2009. Mirayanti and Wirama (2017) found that interest rate and rupiah exchange rate have a significant negative influence towards the stock returns of the companies who are part of LQ45 index in Indonesia Stock Exchange during the period of 2014-2016.

The second group of research examines the relationship between market return and stock returns. Yuswandy (2012) found that change in IDX Composite or IHSG positively affects the stock returns of Sinarmas Group during period of 2009-2011. Kasman et al. (2011) found that the market return has a significant impact on the stock returns of the banks that are listed on Istanbul Stock Exchange (ISE) during the period of 1999-2009. Defrizal et al. (2015) found that the stock market return has a positive effect towards the stock returns of companies who are part of trade and service sector as well as financial sector in Indonesian capital market during the period of 1996-2013.

The third group of research examines the relationship between industry sectors and stock returns. Kavussanos and Marcoulis (2005) found that differences in stock performance can be explained by the industry sectors, especially by the U.S. water transportation sector, which had the largest number of companies in it. Akbaba (2012) found that the small tourism businesses who operate in food and beverage sub-sector showed higher level of business performance compared to the small tourism businesses who operate in accommodation and tourist attractions sub-sectors. Cavaglia et al. (2000) found that the industry sector effect has become more significant towards the stock returns post-1997.

The fourth group of research examines the relationship between financial ratios and stock returns. Bintara and Tanjung (2019) found that the price to earnings ratio, current ratio, and return on assets positively impact the stock returns of banking companies included in the index of Kompas 100 which are listed on the Indonesia Stock Exchange during the period of 2012-2016, while, the price to book value and debt to equity ratio negatively impact the stock returns of the banking companies. Wijaya and Sedana (2020) found that the quick ratio and return on assets positively impact the stock returns of companies under the building construction sub-sector listed on the Indonesia Stock Exchange during the period of 2014-2018. Putra et al. (2018) found that return on equity impacts the stock returns of companies under the property and real estate sub-sector listed on the Indonesia Stock Exchange during the period 2012-2016. Andersson (2016) found that the debt to assets ratio negatively impacts the stock returns of Swedish companies listed on the Nasdaq OMX Stockholm Stock Exchange during the period of 2006-2015. Khotimah and Murtaqi (2015) found that book to market and total asset turnover positively impact the stock returns of companies under food and beverage sub-sector listed on Indonesia Stock Exchange during the period 2003-2012.

### Research Hypotheses

In accordance with the theory and previous research, the hypotheses for this study are:

- H1: There is difference of stock returns among industry sub-sectors.
- H2: GDP growth rate positively affects the stock returns.
- H3: Exchange rate negatively affects the stock returns.
- H4: Market return positively affects the stock returns.
- H5: Food and beverages sub-sector has effect on the stock returns.
- H6: Tobacco sub-sector has effect on the stock returns.
- H7: Cosmetics and household has effect on the stock returns.
- H8: Profitability (Return on Assets and Return on Equity) positively affects the stock returns.
- H9: Liquidity (Current Ratio and Quick Ratio) positively affects the stock returns.
- H10: Activity (Total Asset Turnover) positively affects the stock returns.
- H11: Leverage (Debt to Assets Ratio and Debt to Equity Ratio) negatively affects the stock returns.
- H12: Market perception on value (Price to Earnings Ratio) positively affects the stock returns.

## METHODOLOGY

### Research Design

This study used a quantitative research that is characterized by a theory that is showed within a particular hypothesis that will be tested and then the results can be drawn in accordance with the hypothesis, following a series of data analysis and observations (Rovai et al., 2014). In terms of the number of contacts with the study population, this study used a cross-sectional study which is suitable for the studies that have an objective to know the prevalence of a problem, issue, phenomenon, situation, or attitude, by taking a cross-section of the population (Kumar, 2011). This study also used a time-series study method that involves variables measured frequently at regular intervals from time to time (Salkind, 2010). The main purpose of this study is to examine the impact of fundamental factors towards the stock returns of consumer goods companies.

### Measurement of Variables

This study used independent, dependent, and control variables. Related to the independent variables, this study used GDP growth rate, percentage change in currency exchange rate, market return, Debt to Assets Ratio (DAR), Debt to Equity Ratio (DER), Return on Assets (ROA), Return on Equity (ROE), Current Ratio (CR), Quick Ratio (QR), Price to Earnings Ratio (PER), and Total Asset Turnover (TATO). This study also used consumer goods sub-sectors that consist of food and beverages, tobacco, as well as cosmetics and household, as the dummy independent variables. The pharmaceuticals sub-sector is chosen to be the reference group because it has lowest average stock returns. Related to the dependent variable, this study used quarterly stock returns of consumer goods companies that are listed on Indonesia Stock Exchange during the period 2014-2018. Related to the control variables, this study used macroeconomics variables such as GDP growth rate and percentage change in IDR/USD exchange rate, as well as IHSG or JKSE's return, as the control variables.

### Data Collection

This study used quantitative data. The quantitative data can be defined as data value in the form of numbers, in which each of data-set has a unique numerical value that related with each of the data-set. Since the data used in this study are classified as the quantitative data, the data in this study are measurable and able to be calculated. The data that are collected in the quantitative study can be obtained from primary or secondary data. In this study, the data collected are classified as secondary data.

The secondary data of this study are collected through the website of Badan Pusat Statistik (BPS), Bank Indonesia, Indonesia Stock Exchange, Yahoo! Finance, *kinerja emiten kontan*, and official website of consumer goods companies. The data in this study are also obtained from several articles, documents, journals, books, and news. Furthermore, in determining the sample for this study, there are two factors that are taken into consideration. First, the period of observation of this study that is from the year 2014 until 2018. Second, the consumer goods companies who are able to provide complete quarterly financial statements during the observation period. Based on the aforementioned information, this study used non-probability sampling, specifically the judgmental or purposive sampling.

The population of this study is all of the companies that are listed on Indonesia Stock Exchange within the observation period from 2014-2018. From this population, samples of this study can be selected. There are several criteria to select the samples for this study, namely consumer goods companies listed on Indonesia Stock Exchange during the period of 2014-2018, consumer goods companies that have actively traded shares until the end of 2018, and consumer goods companies that provide complete quarterly financial statements starting from the year of 2014 until 2018.

Based on the aforementioned criteria, it is found that only 9 consumer goods companies, who are classified under the food and beverages, tobacco, pharmaceuticals, cosmetics and household sub-sector, that can become the samples of this study. The classification of the consumer goods companies into food and beverages, tobacco, pharmaceuticals, cosmetics and household sub-sector, is determined by Indonesia Stock Exchange (IDX). Table 2 below shows the samples of this study.

**Table 2: Research Sample**

Industry Sub-Sector	Stock Code	Company Name
Food and Beverages	ADES	Akasha Wira International Tbk.
	ICBP	Indofood CBP Sukses Makmur Tbk
	INDF	Indofood Sukses Makmur Tbk
Tobacco	HMSP	H.M. Sampoerna Tbk
Pharmaceuticals	KLBF	Kalbe Farma Tbk
	MERK	Merck Tbk
	SIDO	Industri Jamu dan Farmasi Sido Muncul Tbk
Cosmetics and Household	TCID	Mandom Indonesia Tbk
	UNVR	Unilever Indonesia Tbk

### Techniques of Data Analysis

This study used Microsoft Excel, EViews, and SPSS Statistics in order to examine the collected data. In terms of statistical tests, this study conducted Descriptive Statistics, Difference of Means Test, Regression with Panel Data, Classical Assumption Test that consists of Multicollinearity Test, and Significance Test that consists of t-Test, Adjusted R<sup>2</sup>, and F-Test. Related to the difference of means test, there are two types of difference of means test that are utilized to test the first hypothesis of this study, namely Independent Sample T-Test and Paired Sample T-Test. Related to regression, this study used multiple linear regression analysis

because it can explain the relationship between two or more than two independent variables and one dependent variable. The multiple linear regression equations for this study are as follows:

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROA}_{it} + \beta_8 \text{CR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DAR}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (1)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROA}_{it} + \beta_8 \text{CR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DER}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (2)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROA}_{it} + \beta_8 \text{QR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DAR}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (3)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROA}_{it} + \beta_8 \text{QR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DER}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (4)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROE}_{it} + \beta_8 \text{CR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DAR}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (5)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROE}_{it} + \beta_8 \text{CR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DER}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (6)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROE}_{it} + \beta_8 \text{QR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DAR}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (7)$$

$$R_{it} = a + \beta_1 \text{GDP}_t + \beta_2 \text{EXC}_t + \beta_3 \text{JKSE}_t + \beta_4 \text{DFOOD}_i + \beta_5 \text{DTOB}_i + \beta_6 \text{DCOSHO}_i + \beta_7 \text{ROE}_{it} + \beta_8 \text{QR}_{it} + \beta_9 \text{TATO}_{it} + \beta_{10} \text{DER}_{it} + \beta_{11} \text{PER}_{it} + \varepsilon_{it} \quad (8)$$

where,

$R_{it}$  = stock return of company  $i$  at period  $t$

$\text{GDP}_t$  = GDP growth rate at period of  $t$

$\text{EXC}_t$  = changes in currency exchange rate of IDR versus USD at period of  $t$

$\text{JKSE}_t$  = the return of JKSE at period of  $t$

$\text{DFOOD}_i$  = company  $i$  under food and beverages sub-sector

$\text{DTOB}_i$  = company  $i$  under tobacco sub-sector

$\text{DCOSHO}_i$  = company  $i$  under cosmetics and household sub-sector

$\text{ROA}_{it}$  = return on assets of company  $i$  at period  $t$

$\text{ROE}_{it}$  = return on equity of company  $i$  at period  $t$

$\text{CR}_{it}$  = current ratio of company  $i$  at period  $t$

$\text{QR}_{it}$  = quick ratio of company  $i$  at period  $t$

$\text{TATO}_{it}$  = total asset turnover of company  $i$  at period  $t$

$\text{DAR}_{it}$  = debt to assets ratio of company  $i$  at period  $t$

$\text{DER}_{it}$  = debt to equity ratio of company  $i$  at period  $t$

$\text{PER}_{it}$  = price to earnings ratio of company  $i$  at period  $t$

$a$  = the intercept of the regression model

$\beta$  = the slope coefficient

$\varepsilon_{it}$  = the error component of the observed cross-sectional units and time period

Related to Panel Data, this study used balanced panel data because each of the cross-sectional unit owns the same number of time observations. In this study, the number of the cross-sectional units is 9 consumer goods companies listed on Indonesia Stock Exchange during the period of 2014-2018 and the number of the time observations is 4 quarters in each year times 5 years (from the year of 2014 until 2018), which equals to 20 time observations.

The panel data regression can be implemented when the cross-sectional information on differences between subjects and time-series information reflects changes in the subject of time, are both available. Before conducting the panel data regression, initial step that must be done is identifying model of panel data. Since different model of panel data has different impact, it is important to select the model of panel data based on the suitability of the nature of the variables of this study. There are three approaches to estimate the model of panel data, namely Common-Effect Model, Fixed-Effect Model, and Random-Effect Model.

### 3.5 Panel Data Model Selection

In estimating the most suitable panel data model for a particular study, there are several tests that can be conducted, namely Chow Test, Hausman Test, and Lagrange Multiplier Test. The Chow Test is utilized to decide which model that will be selected for data estimation between the common-effect model and fixed-effect model. The Chow Test uses following hypotheses:

$H_0$ : Common-Effect Model is better than Fixed-Effect Model

$H_a$ : Fixed-Effect Model is better than Common-Effect Model

The Hausman Test is utilized to decide whether the fixed-effect model is better than the random-effect model. The hausman test uses following hypotheses:

H<sub>0</sub>: Random-Effect Model is better than Fixed-Effect Model

H<sub>a</sub>: Fixed-Effect Model is better than Random-Effect Model

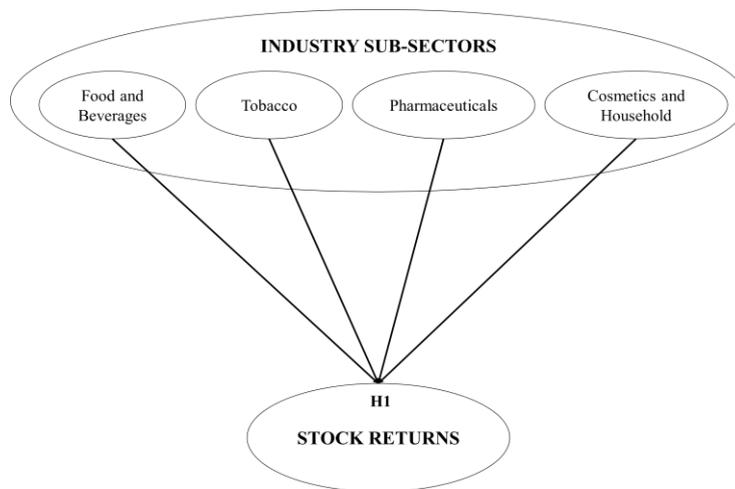
Lagrange multiplier test is utilized to decide whether random-effect model is better than common-effect model (Thamrin, 2019). The lagrange multiplier test can be performed if result of the chow test showed that the common-effect model is better than the fixed-effect model and if result of the hausman test showed that the random-effect model is better than the fixed-effect model. The lagrange multiplier test uses following hypotheses:

H<sub>0</sub>: Common-Effect Model is better than Random-Effect Model

H<sub>a</sub>: Random-Effect Model is better than Common-Effect Model

**Research Framework**

In accordance with the literature review, the research framework of this study are:



**Figure 2: Research Framework (I)**

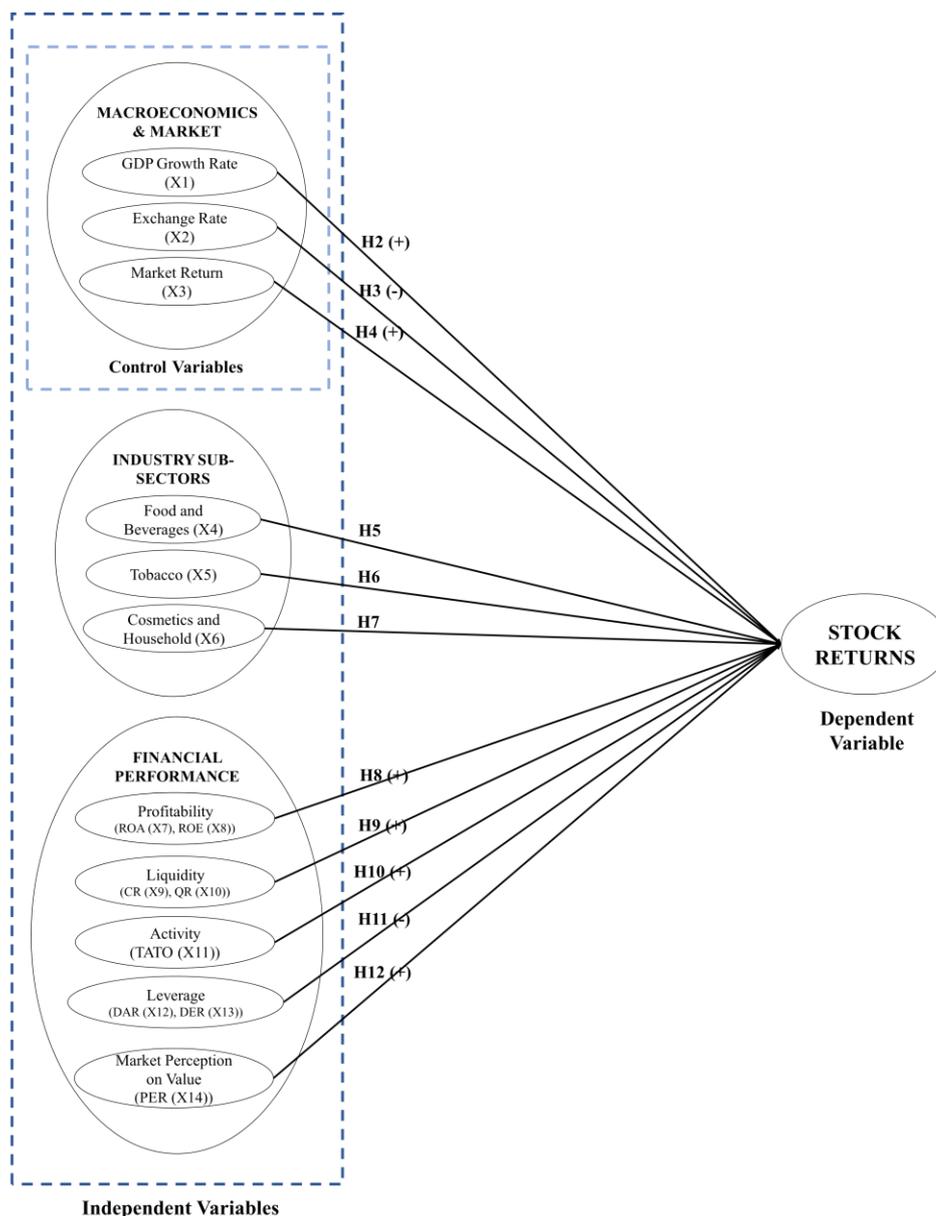


Figure 3: Research Framework (II)

## FINDINGS, ANALYSIS, AND DISCUSSIONS

### *Descriptive Statistical Analysis*

The mean of stock return data is 1.22%, which indicates the average return that investors received from their investments in 9 companies from 2014 until 2018 is 1.22%. The maximum value of the stock return data is 41.55%, which comes from PT Merck Tbk during second quarter of 2016. The minimum value of the stock return data is -25.88%, which comes from PT Merck Tbk during first quarter of 2018. The standard deviation of the stock return data is 11.52%. Since the standard deviation is higher than the mean, it means the stock return data is varied.

### *Difference of Means Test*

There are two types of difference of means test that utilized for this study, namely Independent Sample T-Test and Paired Sample T-Test. These two types of difference of means test are utilized for the purpose of testing the first hypothesis of this study, namely there is difference of stock returns among industry sub-sectors. Related to the results of the independent sample t-test and paired sample t-test, the p-value from both of the tests are greater than 0.05, which means the null hypothesis is not rejected, therefore, there is no difference of stock returns among consumer goods sub-sectors. The results of the independent sample t-test and paired sample t-test do not support the first hypothesis of this study.

### *Panel Data Regression Analysis*

Since this study used panel data, it is important to approximate the most suitable panel data model to run the panel data regression. There are three tests that have been conducted to estimate the most suitable panel data model for this study, namely Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test. Related to the Chow Test, the result of the test shows the p-value in all eight

multiple linear regression equations are greater than 0.05, it means the null hypothesis is not rejected, therefore, it could be concluded that the common-effect model is better than the fixed-effect model. Related to the Hausman Test, the result of the test shows the p-value in all eight multiple linear regression equations are greater than 0.05, it means the null hypothesis is not rejected, therefore, it could be known that the random-effect model is better than the fixed-effect model. Related to the Lagrange Multiplier Test, the result of the test shows the p-value in all eight multiple linear regression equations are greater than 0.05, it means the null hypothesis is not rejected, therefore, it could be known that the common-effect model is better than the random-effect model. Based on the results of the three tests, it could be concluded that the most suitable panel data model for this study is the Common-Effect Model (CEM).

**Classical Assumption Test – Multicollinearity Test**

From the result of the multicollinearity test, all the values of Variance Inflation Factor (VIF) in multiple linear regression equation (EQ) 1, EQ2, EQ3, EQ4, EQ6, and EQ8 are less than 10, this means there is no multicollinearity problem between independent variables in the EQ1, EQ2, EQ3, EQ4, EQ6, and EQ8. Related to all the values of VIF in EQ5 and EQ7, one independent variable, namely Debt to Assets Ratio (DAR), has the values of VIF that are greater than 10 in the EQ5 (12.07) and EQ7 (10.52). This means there are multicollinearity problems between independent variables in the EQ5 and EQ7. Despite the existence of multicollinearity problems in the EQ5 and EQ7, it does not significantly affect the usefulness of the multiple linear regression equations to predict the value of the dependent variable. Because of this reason, the multicollinearity problems in the EQ5 and EQ7 are not a huge concern for this study that wants to focus on prediction or estimation.

**Significance Test**

The significance test, that has been performed for this study, consists of two tests, namely Test on Individual Regression Coefficients (t-Test) and Simultaneous Significance Test that contained Adjusted R<sup>2</sup> and F-Test. Related to the t-Test, the results of the t-Test for macroeconomics variables and market return can be seen through Table 3 below.

**Table 3: Results of t-Test for Macroeconomics Variables and Market Return**

		EQ1	EQ2	EQ3	EQ4	EQ5	EQ6	EQ7	EQ8
<b>GDP</b>	<b>Coefficient</b>	0.53	0.53	0.53	0.53	0.52	0.51	0.52	0.50
	<b>(p-value)</b>	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)	(0.18)	(0.17)	(0.18)
<b>Exchange Rate</b>	<b>Coefficient</b>	-0.47	-0.48	-0.47	-0.48	-0.47	-0.48	-0.48	-0.48
	<b>(p-value)</b>	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.11)
<b>Market Return</b>	<b>Coefficient</b>	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
	<b>(p-value)</b>	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

From the Table 3 above, it could be seen that only market return that positively affect the stock returns of consumer goods companies during the period of 2014-2018. The first reason is because the p-value of market return in multiple linear regression equation 1 until 8 (EQ1 - EQ8) are all less than the significance level, therefore, the null hypothesis is rejected. The second reason is because the coefficient values of market return in multiple linear regression equation 1 until 8 (EQ1 - EQ8) are all positive, therefore, the market return has a positive effect on the stock returns. It also could be known that the results of the t-Test do not support the second and third hypothesis of this study. The results of the t-Test only support the fourth hypothesis of this study.

Related to the results of the t-Test for consumer goods sub-sectors, it can be seen through Table 4 below.

**Table 4: Results of t-Test for Consumer Goods Sub-Sectors**

		EQ1	EQ2	EQ3	EQ4	EQ5	EQ6	EQ7	EQ8
<b>Food and Beverages</b>	<b>Coefficient</b>	1.82	1.20	1.93	1.35	1.08	0.53	0.89	0.63
	<b>(p-value)</b>	(0.64)	(0.74)	(0.62)	(0.69)	(0.79)	(0.88)	(0.83)	(0.86)
<b>Tobacco</b>	<b>Coefficient</b>	-2.48	-2.58	-2.49	-2.53	-3.42	-3.21	-3.37	-3.14
	<b>(p-value)</b>	(0.56)	(0.55)	(0.55)	(0.55)	(0.44)	(0.46)	(0.43)	(0.46)
<b>Cosmetics and Household</b>	<b>Coefficient</b>	1.54	1.36	1.57	1.46	1.86	1.55	1.92	1.66
	<b>(p-value)</b>	(0.59)	(0.63)	(0.58)	(0.61)	(0.50)	(0.58)	(0.49)	(0.55)

From the Table 4 above, it could be seen that all the consumer goods sub-sectors do not affect the stock returns of consumer goods companies during the period of 2014-2018. The reason is because the p-value of all consumer goods sub-sectors in multiple linear regression equation 1 until 8 (EQ1 - EQ8) are all more than the significance level, therefore the null hypothesis is not rejected. Because of this reason, the results of the t-Test do not support the fifth, sixth, and seventh hypothesis of this study.

Related to the results of the t-Test for financial ratios, it can be seen through Table 5 below.

**Table 5: Results of t-Test for Financial Ratios**

		EQ1	EQ2	EQ3	EQ4	EQ5	EQ6	EQ7	EQ8
ROA	Coefficient	-0.13	-0.14	-0.13	-0.14				
	(p-value)	(0.25)	(0.19)	(0.24)	(0.19)				
ROE	Coefficient					-0.07	-0.08	-0.07	-0.09
	(p-value)					(0.21)	(0.11)	(0.17)	(0.10)
CR	Coefficient	0.08	0.24			0.34	0.32		
	(p-value)	(0.91)	(0.69)			(0.65)	(0.59)		
QR	Coefficient			0.24	0.36			0.55	0.46
	(p-value)			(0.73)	(0.57)			(0.48)	(0.47)
TATO	Coefficient	6.08	6.00	6.32	6.27	6.33	6.24	6.68	6.56
	(p-value)	(0.06)	(0.07)	(0.05)	(0.06)	(0.05)	(0.06)	(0.04)	(0.05)
DAR	Coefficient	-0.05		-0.04		0.04		0.05	
	(p-value)	(0.62)		(0.65)		(0.80)		(0.71)	
DER	Coefficient		-0.01		-0.01		0.02		0.02
	(p-value)		(0.77)		(0.74)		(0.49)		(0.49)
PER	Coefficient	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04
	(p-value)	(0.80)	(0.76)	(0.75)	(0.72)	(0.67)	(0.66)	(0.60)	(0.61)

From the Table 5 above, it could be seen that only Total Asset Turnover (TATO) that positively affect the stock returns of consumer goods companies during the period of 2014-2018. The first reason is because the p-value of Total Asset Turnover (TATO) in multiple linear regression equation 1 until 8 (EQ1 - EQ8) are all less than the significance level, therefore, the null hypothesis is rejected. The second reason is because the coefficient values of Total Asset Turnover (TATO) in multiple linear regression equation 1 until 8 (EQ1 - EQ8) are all positive, therefore, the Total Asset Turnover (TATO) has a positive effect on the stock returns. It also could be known that the results of the t-Test do not support the eighth, ninth, eleventh, and twelfth hypothesis of this study. The results of the t-Test only support the tenth hypothesis of this study.

Related to the results of Simultaneous Significance Test that contained Adjusted R<sup>2</sup> and F-Test, it could be seen through Table 6 below.

**Table 6: Results of Adjusted R<sup>2</sup> and F-Test**

	EQ1	EQ2	EQ3	EQ4	EQ5	EQ6	EQ7	EQ8
Adjusted R-squared	0.1328	0.1320	0.1334	0.1329	0.1342	0.1362	0.1357	0.1375
Prob(F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Related to the Adjusted R<sup>2</sup>, the independent variables (GDP growth rate, exchange rate, market return, food and beverages sub-sector, tobacco sub-sector, cosmetics and household sub-sector, ROA, ROE, CR, QR, TATO, DAR, DER, and PER) have the ability of around 13% to explain the dependent variable (stock return).

Related to the F-Test, all eight multiple linear regression equations have probability(F-statistic) or p-value (0.00) that are less than 0.05. This means the null hypothesis is rejected; therefore, it could be known that all the independent variables (GDP growth rate, exchange rate, market return, food and beverages sub-sector, tobacco sub-sector, cosmetics and household sub-sector, ROA, ROE, CR, QR, TATO, DAR, DER, and PER) have same impact on the dependent variable (stock return).

### Result Analysis and Discussions

Since the result of this study indicated that there is no difference of stock returns among consumer goods sub-sectors, it could be presumed that the investors, who bought stocks from consumer goods companies during the period of 2014-2018, did not experience any difference of stock returns when they bought stocks from companies under the food and beverages sub-sector, tobacco sub-sector, pharmaceuticals sub-sector, as well as cosmetics and household sub-sector. Further study is required in order to investigate the reasons why the investors, who bought stock from companies under each of the consumer goods sub-sectors during the period 2014-2018, did not experience any difference of stock returns.

From the results of the t-Test, only market return and Total Asset Turnover (TATO) that positively affect the stock returns of consumer goods companies during the period of 2014-2018. This means when the market return (IHSG or JKSE's return) and total asset turnover of the companies increase, the stock returns of the companies will also increase. Since the market return and total asset turnover positively affects the stock returns, it means the results of this study support the fourth ( $H_4$ ) and tenth ( $H_{10}$ ) hypothesis of this study. It could be assumed that the reason why the market return positively affects the stock returns of consumer goods companies during the period of 2014-2018 is because the market return can become an indicator for the investors to buy or not buy the stocks of companies. When the market return increases, it can give a sign for the investors to buy the stocks of consumer goods companies, while, when the market return decreases, it can give a sign for the investors not to buy the stocks of consumer goods companies. Related to the reason why the total asset turnover positively affects the stock returns of consumer goods companies during the period of 2014-2018, it could be assumed that when the total asset turnover of a company is high, it can indicate that the company has better management in using its assets to drive better sales, which eventually may result in the increase of profit. The ability of the management of the company to utilize the company's assets to generate better sales can be perceived as attractive by the investors, which eventually may support the decisions of the investor to buy the shares of the company. When there are many investors that want to buy the shares of a company, the price of the company's share will increase due to the high demand. This eventually will cause the increase of the stock returns.

Since the results of this study indicated that only market return and total asset turnover that have positive effects towards the stock returns of consumer goods companies during the period of 2014-2018, it means the results of this study align with the theory of Capital Asset Pricing Model (CAPM). The Capital Asset Pricing Model (CAPM) is a single factor model that recognizes only one factor, which is the sensitivity towards the market return (Abbasi et al., 2017). The theory of Capital Asset Pricing Model (CAPM) considers how that one factor, namely the sensitivity towards the market return, affects the returns of the individual stocks because the movement of the market is impacted by the information from other factors. Further study is still required to further investigate the reasons behind why only market return and total asset turnover that have positive effects towards the stock returns of the consumer goods companies during the period of 2014-2018.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The conclusions from the results of each of the tests are:

1. To answer the first research question, this study used the difference of means test consists of independent sample t-test and paired sample t-test. From the results of the independent sample t-test, it could be known that there is no difference of stock returns between food and beverages versus tobacco (A vs B) sub-sector, food and beverages vs pharmaceuticals (A vs C) sub-sector, food and beverages versus cosmetics and household (A vs D) sub-sector, tobacco versus pharmaceuticals (B vs C) sub-sector, tobacco versus cosmetics and household (B vs D) sub-sector, and pharmaceuticals versus cosmetics and household (C vs D) sub-sector. From the results of the paired sample t-test, it also could be known that there is no difference of stock returns among the consumer goods sub-sectors. Basically, from the results of the paired sample t-test, it could be known that its results support the results of the independent sample t-test.
2. To answer the second until tenth research questions, this study used the panel data regression and significance test, especially the test on individual regression coefficients (t-Test). Based on the results of the panel data regression and t-Test, only market return (IHSG or JKSE's return) and TATO that positively impact the stock returns of consumer goods companies during the period of 2014-2018. Meanwhile, the GDP growth rate, exchange rate, food and beverages sub-sector, tobacco sub-sector, cosmetics and household sub-sector, ROA, ROE, CR, QR, DAR, DER, and PER do not have effects towards the stock returns of the consumer goods companies during the period of 2014-2018.

In conclusion, since only market return (IHSG or JKSE's return) and Total Asset Turnover (TATO) that give positive effects towards the stock returns of consumer goods companies during the period of 2014-2018, it means fluctuations in the stock returns of consumer goods companies during the period of 2014-2018 can be explained by the market return and TATO. From the results of this study, it also can be concluded that the results are aligned with the theory of Capital Asset Pricing Model (CAPM) because the theory of CAPM recognizes only one factor, which is the sensitivity towards the market return, and considers how the sensitivity towards the market return affects the returns of the individual stocks.

### Recommendations

#### For Managers

The recommendations for the managers are to focus on business models that can enhance Total Asset Turnover (TATO) because based on the results of this study, the Total Asset Turnover (TATO) positively impacts the stock returns of the consumer goods companies during the period of 2014-2018 and to be aware of the changes in the return of the stock market because based on the results of this study, the market return positively affects the stock returns of the consumer goods companies during the period of 2014-2018.

#### For Investors

The recommendations for the investors are to analyze the market return because the increase or decrease of the market return can give a sign for the investors to buy or not buy the stocks of the companies and to analyze the financial reports of targeted companies to comprehend the financial performance of the companies, which eventually will help them in choosing the most suitable companies to invest in.

### For Further Research

The recommendations for the researchers who want to continue and develop this study are to use other macroeconomics variables, such as interest rate and inflation rate, in order to analyze their impacts towards stock returns, to analyze other companies under different industry sectors in order to obtain possible different results regarding the impact of fundamental factors on stock returns of the companies, and to analyze in longer observation period or to use different observation period in order to obtain more accurate or possible different research results and to get more research samples.

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