Stock Investment Decisions to Refund Level of Profits In Dealing Probability of Financial Market Risk

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Abstract:

One of the objectives of this research is to know the types of shares that are undervalued and overvalued by applying Capital Asset Pricing Model (CAPM) method, based on stock return and risk as a consideration in stock investment decision making process . In this study using the population on the company's shares listed in the Compass Market Index 100 period November 2014 - November 2017. Sample testing is done by processing data from the company's financial statements.The number of samples used in this study as many as 30 company shares, using purposive sampling method. The results showed that from 30 samples, showed 16 stocks included into the stock efficient (undervalued), meaning that the stock has an individual stock returns greater than expected rate of return. Therefore, the decision taken should sell the shares.While the remaining 14 shares are included in the stock is not efficient (overvalued), meaning that the stock has an individual stock return rate is smaller than the expected rate of return. Therefore the decision taken should sell the shares.

Keywords: CAPM, Investment, Stock Returns, Market Risk
JEL Classification Code: G1, G2, L0, L1

1. Introduction

Economic growth in Indonesia today is not only in the consumption sector but also in the investment sector. The government is also aware that investment is one of the most important factors in driving the economy. Therefore, the government is trying to improve investment procedures in the future so that it can stimulate a more favourable investment climate.

So it can be said that investment is a commitment to sacrifice current consumption with the aim of increasing consumption in the future. There are various types of investments, such as investing in real assets in the form of land, houses, gold while financial assets can be in the form of deposits, bonds, stocks, and other securities. The main objective of investors is to invest, of course, to obtain maximum profits. The level of profit that will be obtained depends on the level of risk of the stock. Analysis of risk and return is quite important for investors.

This study uses empirical data on Kompas 100 Index Market for the period 2014 - 2017. The Kompas 100 Indexes are a market index consisting of 100 shares of public companies traded on the Indonesia Stock Exchange (IDX). The shares listed in the Kompas 100 Market Index are a collection of stocks that have high liquidity, a large market capitalization value, and have good fundamentals and performance. Thus, researchers want to examine whether there is a stock that is feasible to invest in stocks listed in the Kompas 100 Market Index by using the CAPM approach, which can be seen in terms of risk and return.

2.   Literature Review

Investment is one of the funding activities in a company. Funding activity or so-called investment is often done in the capital market. The performance of the capital market and the public interest in investing in the capital market will result in a critical, meticulous, and accurate analysis of securities trading (Acharya & Pedersen; 2005). In the analysis report also presented the level of profit or loss of investment activity. In general, investors want to minimize risk and maximize the rate of return. In doing investment activity of course there are many alternative capital investment that influenced by many factors such as stock market conditions with various information available to obtain maximum profit   (Minović; 2012). There are many strategies   used by investors to reduce risk, one of them by diversifying various stocks in their investment, or in other words can be called as a portfolio setting technique (Kovačević;1998).

Portfolio of shares is an investment consisting of several shares of different companies in the hope that if there is a price decline in one stock there are other stocks that experienced an increase in stock prices, then the investment does not suffer a big loss (Amihud; 2002). The rate of return of a stock can is well estimated and simple with an estimation model (Jacobs; 2015). One estimation model that can know the relationship of risk with the return / return is Capital Asset Pricing Model (CAPM). The estimation model built on Markowitz's theory was first introduced (Shum & Tang; 2005), in the CAPM, the market balance has an important role. When the market is in equilibrium or equilibrium, the rate of return required by the investor for a stock will be affected by the risk of the stock (Schlegel; 2015).

Consumption and investment are two interrelated activities. Delay in current consumption can be interpreted as an investment in the future (Sajter & Ćorić; 2009). So it can be said that investment is a commitment to sacrifice current consumption with the aim of increasing consumption in the future (Lesmond; 2005). There are various kinds of investments, such as investment in real assets in the form of land, house, gold, while financial assets can be in the form of deposits, bonds, stocks, and other securities (Rahim & Nor; 2006). The main objective of investors to invest is certainly to obtain maximum profit. The amount of profit to be gained depends on the risk level of the stock (Hueng & Yau; 2013). Analysis of risk and return is important for investors.

CAPM is one model that describes the relationship between risk and return is quite simple because it uses only one variable to describe the risk. The variable in question is Beta, in Beta shows the sensitivity of return of securities to changes in market return (Mcgill., et al; 1997). The greater the value of beta and market return will be the higher the required rate of return investors (Morck et al; 2000).

Mladenović & Petrović (2002) describes the definition of an investment is the current commitment of money for a period of time in order to obtain future payments that will compensate for the investment; (i) when the fund is promised (ii) expected inflation rate, and (iii) uncertainty over future payments. According Minović & Živković (2012), investment is the delay of current consumption to be included into productive assets over a period of time. From the above understanding can be concluded the definition of stock investment is the placement of funds or capital by buying securities in the form of stock in the hope of obtaining a rate of return or profit on capital invested in such trades in the stock exchange (Lee; 2006).

2.1. Investment Risks and Problems

There are many notions of earnings management advanced by experts.   Asness., et al (2013) defines investment as a commitment to bundle assets at this time for some period of time to the future in order to earn income that can compensate for the sacrifices of: (i). Asset attachment at a given time (ii). Inflation rate, and (iii). Uncertainty of future earnings.

Another definition put forward by Asness., et al (2015), the stock is one of the most popular commodities traded in the capital market. Stocks provide a return rate in the form of capital gains. Broadly speaking, investment land can be divided into two, namely real investment (real asset

investment) and financial investment (financial asset investment) Jin & Myers (2006). Real investment is a commitment to tie assets to the real sector. The term real sector is often used to indicate sectors outside finance, such as trade, industry, agriculture and so on. As an example of real asset investment, such as buying factories, buying an apartment and then leasing, buying paintings for resale and more. While the financial investment involves written contracts, such as common stocks and bonds (Hou., et al; 2014). Therefore, in making a financial investment the role of an intermediary is absolutely necessary, and information about the company can be obtained from the prospectus, annual report or proposal. Of the two kinds of investments are of course all have different risks.

The risk arising from each investment depends on various factors, including interest rate risk, purchasing risk, bear and bull market risk, management risk, failure risk, liquidity risk, political risk, industry risk, etc. In various situations and conditions, investors can not know the exact rate of return. However, it can be formulated in the form of probability distributions of returns.

2.2. Rate of Return Assets and Risks Faced

Bali & Cakici (2004) stated that: "Stocks with high ratios of the book value of equity to the market value of equity (value stocks) have higher average returns than stocks with low book-to-market ratios (growth stocks)." In the context of investment management, return is the reward earned from investment. The rate of return can be divided into two, namely the actual return and expected reutrn (Kayhan & Titman; 2007). Actual return can be calculated using historical data, while expected reutrn will be known to investors in the future.

Expected return is the sum of the results of the rate of return that may occur in a period with profitability. Fama & French (2006), the component of rate of return consists of: (i). Profit or capital loss is the rate of profit (loss) for investors obtained from excess selling price (purchase price) above the purchase price (selling price) where both occur in the secondary market; (ii). The yield is the income or cash inflows that the investor receives periodically, for example in the form of interest or dividends. Yields are usually expressed as a percentage of the capital invested by an investor (George & Hwang; 2010). Of the two components above, then can calculate the total rate of return in the rate of return by summing capital gain and yield.

The expected return of the portfolio is simply the weighted average of the expected returns of each stock (Floyd., et al; 2015). The weighing factor is the proportion of funds invested in each share. Since the expected return of the portfolio is the weighted average of the expected return of each share, the contribution of share stock to the expected return of the portfolio will be greatly influenced by the expected return and the proportion of the initial market portfolio (Clare., et al; 2010). The risk is the amount of deviation between the expected return and the actual return. The greater the risk the greater the deviation. The risk is expressed as how far the results obtained can deviate from the expected results, (Hearn., et al; 2009). The amount of risk is proxied into the variance or standard deviation. The greater the value means the greater the deviation or the risk.

Balvers & Wu (2006), in the context of the portfolio, risks can be divided into two, namely: (i). Systematic risk "systematic risk refers to the portion of an individual asset's total variance attributable to the variability of the total market portfolio"; (ii). Unsystematic risk "Unystematic risk is the individual asset's variance that unrelated to the market portofolio (the asset's nonmarket variance) that is due to the asset's unique features". Systematic risk is a risk that can not be eliminated though by diversifying, because the fluctuation of risk is influenced by macro factors that can affect the market as a whole (Cooper., et al; 2006). For example changes in interest rates, foreign exchange rates, government regulations, and so forth. This risk can also be regarded as undervalued risk. Unsystematic risk is a risk that can be eliminated by diversification, as this risk involves the internal activities of each company or industry. These risk fluctuations vary in magnitude from one share to another (Frank & Shen; 2016). Therefore each share has different sensitivity to each market change. Examples are capital structure factor, asset structure, liquidity

level, profitability level, and so on. This risk can also be said to be diversifable risk (Cohen., et al; 2003).

According to Bekaert., et al (2007) there are several sources of risk that can affect the risk of any investment. These sources include: (1). Interest rate risk is the variability of return caused by changes in interest rates; (2). Market risk is the variability of return caused by overall market fluctuations; (3). Inflation risk is the risk that affects all shares quoted in a particular currency; (4). Business risk is the risk that arises because the company uses money instruments; (5). Financial risk is the risk that arises because the company uses money instruments; (6). Liquidity risk is a risk associated with a secondary market in which the investment instrument is traded; (7). Exchange rate risk is the risk incurred due to changes in the exchange rate of a country's currency to other countries if investors invest into various countries; (8). Country risk is a risk associated with the risk or political nature of a country in which to invest.

2.3. Risk Free Interest Rates and Asset Returns

Through Bank Indonesia Certificates (SBI), securities denominated in Rupiah currency issued by Bank Indonesia in recognition of short-term debt. SBI was first published in 1970 with the primary objective of creating interbank tradable money market instruments. However, after the issuance of a policy allowing banks to issue certificates of deposit in 1971, the SBI is no longer issued because the certificate of deposit will be able to replace the SBI. On June 1, 1983, there was a banking deregulation that made Bank Indonesia re-issue SBI as an instrument in conducting Open Market Operations (OPT) for the purpose of monetary contraction. SBI is one of the mechanisms used by Bank Indonesia to control rupiah stability. The interest rate applicable to each sale of SBI is determined by the market mechanism based on the auction system.

Bank Indonesia (BI) is strengthening the monetary operations framework by introducing a new BI rate policy rate or BI 7-Day Repo Rate, which will be effective on August 19, 2016. In addition to the current BI Rate, the introduction of the new policy rate is not change the monetary policy stance being applied (Grullon & Michaely; 2002). BI introduced new BI reference rates for policy rates to rapidly affect the money market, banking and real sector. The 7-Day BI Repo Rate instrument as a new reference has a stronger relationship to the money market interest rate, transactional or traded in the market, and encourages the deepening of financial markets (Gupta & Newberry;1997).

Benić & Franić (2008) used Markowitz's normative analysis to form a theory related to how to determine prices on assets. This theory makes the assumption that investor demand for securities is as proposed by Markowitz's portfolio selection model. According to Markowitz, the price of securities is the price of equilibrium. That is, the investment term dimension for investors is the same and there is no tax. The CAPM concept is generally useful to quantify the relationship between risk and return. The diversified risk can be eliminated by simple diversification. The objective of the CAPM is to determine the Required Rate of Return-the minimum RRR of the investment at risk. In the CAPM model, the only calculated risk is the systematic risk projected into the bet (Bundoo; 2006).

An asset that has a low beta value usually has a market price and its expected income will also be low. Conversely, assets that have a high beta value usually have a market price and expected income will be high. So, in general the more investors will be interested in buying on assets that have high beta value.

3. Research Method And Data Collection

In the investment decision analysis using the Capital Asset Pricing Model (CAPM) method consists of 2 variables that will be compared that is individual stock return (Ri) with the expectation return rate [E (Ri)].

3.1. Individual Return Shares Model (Ri)

Return is the rate of return from stock trading transactions to show the amount of profit or loss. The total return of an investment has two components. First, the dividends (profit sharing from the company to shareholders). Second, the value of the purchased asset may change, thus there is capital gain or capital loss. Capital gain can occur when stock prices increase. Conversely, capital loss occurs when stock prices decline (Bhandari;1988).

Return can be either realization return (actual rate of return) or expected return (expected rate of return of investor in the future). The return of individual stocks is the realization stock return calculated on a monthly basis (Cooper., et al; 2008), so that in processing the data using historical data from the stock price. Shares taken as samples are taken from stocks listed in the Compass Market Index 100, (Bhojraj & Swaminathan; 2006). Here is the formula to calculate the stock return:

$$(Ri) = \frac{P_t - P_{t-1}}{P_{t-1}}$$

3.2. Capital Asset Pricing Model (CAPM)

CAPM is a model that links the expected return of an asset to a balanced market condition (Blitz, & van Vliet; 2007). The CAPM model can be used as a relevant risk measure and how the relationship between risk for each asset. Fama & French (2004); In the CAPM model there is a positive relationship between expected levels of profit and systematic risk (β). Variable indicators of CAPM are: Market Return Rate (Rm) psar is a return fraction based on the development of the stock price index. This rate of return can serve as the basis for measuring investment perfomance from the portfolio (Haugen; 2002). If the market rate of return is greater than the risk-free rate of return, it can be said that the portfolio investment perfomance is in good condition; otherwise if market returns are less than risk-free returns, it can be said that portfolio investment perfomance is not good (Frazzini & Pedersen ; 2014). In calculating the market rate of return using monthly historical data from the Compass Market Index of 100 from November 2014 to November 2017. Here's the formula to calculate the market rate of return:

$$(Rm) = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

Information:
Rm   = market rate of return
IHSGt   = Compass market index 100th time t
IHSGt-1   = Compass market index 100th time t

3.3. Risk Free Return Model (Rf)

This rate of return can serve as the basis for determining the minimum rate of return. This is because the return on investment in risky sectors must have a greater risk of investment in the risk-free sector. The basis used in the risk-free rate of return is the interest rate on securities issued by the government, namely Certificates of Bank Indonesia (Brennan., et al; 1998). Calculates the risk-free returns as follows:

$$R_f = \frac{\sum_{i=1}^{n} R_f}{n}$$

Information:
Rf   = risk-free returns
n   = number of data

3.4. Systematic Risk Model (β)

Systematic or beta risk measures the volatility of portfolio returns with market returns. Volatility is the fluctuation of the rate of return of each stock or portfolio within a certain period (Carhart; 1997). In the CAPM method, the bigger the beta the stock will be the greater the return to be obtained. Here's the formula of calculating systematic risk or beta stock:

$$\beta_i = \frac{\sum_{i=1}^{n} (R_{it} - \bar{R}_{it}) \cdot (R_{mt} - \bar{R}_{mt})}{\sum_{i=1}^{n} (R_{mt} - \bar{R}_{mt})^2}$$

Information:

β_i = beta securities to-i on the month to-t

R_i = return realization of securities to-i on the month to-t

R_m = return market on the month to-t

$\bar{R}_{mt}$ = average market return on month to-t

3.5. Expected Return Model [E (Ri)]

CAPM is a model used to calculate the expected rate of return of a risky asset with the risk of the asset at a balanced market condition (Chen., et al; 2012). The CAPM model is used as a relevant risk measurement tool and to determine the price of a stock by considering the risk contained in each asset. Here's the formula used to calculate expected rate of return:

$$E(R_i) = R_f + \beta_i [E(R_m) - R_f]$$

Information:

$E(R_i)$ = expected rate of return

R_f = risk-free returns

β_i = systematic risk level of stock i

$E(R_m)$ = expected rate of return on the market portfolio

3.6. Security Market Line (SML) and Stock Classification for Investment

SML is a graph showing the typical relationship between diversified risk / systematic risk (β) with expected stock returns [E(Ri)]. If the stock is above the SML line then it can be said that the stock is undervalued, otherwise if the stock is below the SML line then it can be said that the stock is overvalued.

In assessing stocks for investment decisions is determined by comparing individual stock returns (R_i) with expected stock returns [E(R_i)]. The formulation is as follows: (i). Stock is efficient if the return rate of individual stock is greater than expected stock return / (Ri)> E (Ri). (ii). Stocks are inefficient if the individual stock returns are less than expected returns / (Ri) <E (Ri).

3.7. Data and Research Criteria

This study uses empirical data on Kompas 100 Index Market 2014 - 2017 period. Compass 100 Index is a market index consisting of 100 shares of public companies traded in Indonesia Stock Exchange (IDX). In this research will analyze the stocks efficiently and inefficiently to determine investment decision on stocks listed in Compass index 100 years 2014-2017. The number of companies listed in the Compass 100 Index is 100 companies. The process of selecting the sample is done by purposive sampling method with the following criteria:

Table 3.1 Criteria Research Objects

No	Sample Criteria	Amount
1.	Companies listed in the Compass Index of 100 for a 4-year period from 2014-2017	100
2.	Companies that are not in the sample research	(32)
3.	Inconsistent samples are included in the Compass 100 Index for 4 consecutive years, ie 2014, 2015, 2016 and 2017	(38)
The amount of research samples		30

Source: Researcher Output Data, 2017

The data used in this research is time series data for the four year period from 2014-2017. Of the total sample of 30 data. Data analysis used in this research consist of IndIvidual Stock Return (Ri), Market Return Rate (Rm), Risk Free Return (β_f), Systematic risk (β), and expected Return Rate [E (Ri)].

Stocks listed in the Kompas Market Index 100 are stocks that have high liquidity, large market capitalization values, and have good fundamentals and performance. The data used in this research is secondary data, that is historical data of stock price in Compass 100 Market Index in 2014, 2015, 2016 and 2017. Market price data is obtained from (https://www.investing.com). While individual shaam prices are obtained from Yahoo finance (https://finance.yahoo.com). In this study there are some limitations on the population used, including: (i). Companies listed in the Compass Index of 100 for a period of 4 years from 2014-2017. (ii). The company has monthly historical data from 2014-2017. (iii). The Company encloses the information required for CAPM calculations.

4. RESULT ANALYSIS AND DISCUSSION

According to Minović & Živković (2010), the investment objective is to improve the welfare of investors. Welfare in this case represents monetary welfare that can be measured by the sum of current income plus the value of future income. Investors who choose to reduce their current consumption will have possible excess funds that can be used for investment. The fund, if invested, will provide hope of increasing the ability of investors in the future, which is obtained from peningkatann welfare investors. Therefore it can be concluded that the purpose of a company to invest is to earn profits in the future. Stock is a term that is not often heard in the business world.

4.1. Return of Individual Shares (Ri)

The return of individual stocks is the rate of return of each stock based on the development of the stock index. In this study, researchers used 30 research samples in the period November 2014 s / d November 2017. The results of the calculation of the return rate of individual stocks during the period November 2014 to November 2017, showed that the shares of the company Bank Rakyat Indonesia Persero (BRI) has the largest average rate of return of 0.5511 or 55.11% and shares with the lowest average rate of return ie -0.0392 or -3.93% of the company Matahari Putra Prima (MPPA).

Table 4.1. Return of Individual Shares (Ri)

No	Company Code	Company name	Ri
1.	AALI	Astra Agro Lestari	-0.0082
2.	ADHI	Adhi Karya Persero	0.0016
3.	ADRO	Adaro Energy	0.0238
4.	AKRA	Akr Corporindo	0.0142
5.	APLN	Agung Podomoro	-0.0062
6.	BBCA	Bank Central Asia	0.0135
7.	BBNI	Bank Negara Indonesia (Persero)	0.0107
8.	BBRI	Bank Rakyat Persero	0.5511
9.	BDMN	Bank Danamon	0.0142
10.	BHIT	Mnc Investama	-0.0226
11.	BKSL	Sentul City	0.0176
12.	BSDE	Bumi Serpong Damai	0.0014
13.	BWPT	Eagle High	0.0055
14.	GGRM	Gudang Garam	0.0080
15.	GJTL	Gajah Tunggal	-0.0027
16.	ICBP	Indofood Cbp	0.0287
17.	INTP	Indocement Tunggal	-0.0024
18.	ITMG	Indo Tambangraya	0.0145
19.	KLBF	Kalbe Farma	-0.0007
20.	LSIP	PP London Sumatra	-0.0008
21.	MAPI	Mitra Adiperkasa	0.0098
22.	MPPA	Matahari Putra Prima	-0.0392
23.	PNLF	Panin Financial	-0.0006
24.	PWON	Pakuwon Jati	0.0099
25.	SCMA	Surya Citra Media	-0.0102
26.	TBIG	Tower Bersama	-0.0082
27.	TINS	Timah Persero	-0.0007
28.	TLKM	Telekomunikasi	0.0117
29.	UNVR	Unilever Indonesia	0.0135
30.	WIKA	Wijaya Karya	-0.0051
Average			0.0214

Source: Researcher Output Data, 2017

4.2. Market Return Rate (Rm)

Represents the market rate of return for the four study periods, November 2014 to November 2017. The largest market return rate occurs in October 2015 of 0.0760 or 7.60%. This figure describes the stock trading in the Compass 100 Index is very active in October 2015. While the smallest rate of return occurred in April 2015 which amounted to -0.0956 or -9.56%. This figure describes the condition of trading in Composite Stock Index 100 is experiencing sluggishness. The monthly average is the sum of all market returns divided by 36 months.

Table 4.2 Market Return Rate (Rm)

Date	IHSG	Rm
30-Oct-2014	1,109.52	
30-Nov-2014	1,132.94	0.0211
31-Dec-2014	1,144.63	0.0103
31-Jan-2015	1,158.91	0.0125
28-Feb-2015	1,202.35	0.0375
31-Mar-2015	1,217.10	0.0123
30-Apr-2015	1,100.69	-0.0956
31-May-2015	1,141.03	0.0366
30-Jun-2015	1,060.71	-0.0704
31-Jul-2015	1,027.82	-0.0310
31-Aug-2015	965.04	-0.0611
30-Sep-2015	881.89	-0.0862
31-Oct-2015	948.92	0.0760
30-Nov-2015	942.27	-0.0070
31-Dec-2015	986.73	0.0472
31-Jan-2016	993.54	0.0069
29-Feb-2016	1,034.73	0.0415
31-Mar-2016	1,049.37	0.0141
30-Apr-2016	1,039.74	-0.0092
31-May-2016	1,024.14	-0.0150
30-Jun-2016	1,075.03	0.0497
31-Jul-2016	1,116.93	0.0390
31-Aug-2016	1,158.60	0.0373
30-Sep-2016	1,152.62	-0.0052
31-Oct-2016	1,160.47	0.0068
30-Nov-2016	1,082.21	-0.0674
31-Dec-2016	1,116.64	0.0318
31-Jan-2017	1,109.50	-0.0064
28-Feb-2017	1,133.38	0.0215
31-Mar-2017	1,169.94	0.0323
30-Apr-2017	1,194.32	0.0208
31-May-2017	1,208.18	0.0116
30-Jun-2017	1,226.47	0.0151
31-Jul-2017	1,223.51	-0.0024
31-Aug-2017	1,224.96	0.0012
30-Sep-2017	1,228.41	0.0028
31-Oct-2017	1,247.18	0.0153
Amount		0.1444
Average / Month		0.0040

Source: Researcher Output Data, 2017

When associated with the CAPM method, the market rate of return has a role as one of the variables used to calculate the magnitude of risk to be used in the CAPM formula. In addition, the market rate of return can also be used as a measure of stock investment perfomance by comparing it with risk-

free market returns. If the market return rate is greater than the risk-free return rate (Rm> Rf), then the investment perfomance can be said to be efficient. On the contrary, if the market return rate is less than the risk free return rate (Rm <Rf), then the investment perfomance can be said to be inefficient.

4.3. Risk Free Return Rate (Rf)

The calculation of the risk-free return is shown in Table 4.3. The highest risk-free return rate of 7.75% occurred in December 2014 to January 2015. Through the data, it can be said that if investors invest in the money market during the month, the profit earned by investors is 7.75% per year with a risk of 0% no risk). Investors certainly benefit from investing in SBIs or risky deposits. On the other hand, the lowest risk-free return is at 4.25% occurring from September to October 2017.

Table 4.3 Table of Risk-Free Rate of Return

Date	Rm
30-Nov-2014	7.50%
31-Dec-2014	7.50%
31-Jan-2015	7.75%
28-Feb-2015	7.75%
31-Mar-2015	7.50%
30-Apr-2015	7.50%
31-May-2015	7.50%
30-Jun-2015	7.50%
31-Jul-2015	7.50%
31-Aug-2015	7.50%
30-Sep-2015	7.50%
31-Oct-2015	7.50%
30-Nov-2015	7.50%
31-Dec-2015	7.50%
31-Jan-2016	7.50%
29-Feb-2016	7.25%
31-Mar-2016	7.00%
30-Apr-2016	6.75%
31-May-2016	5.50%
30-Jun-2016	5.50%
31-Jul-2016	5.25%
31-Aug-2016	5.25%
30-Sep-2016	5.25%
31-Oct-2016	5.00%
30-Nov-2016	4.75%
31-Dec-2016	4.75%
31-Jan-2017	4.75%
28-Feb-2017	4.75%
31-Mar-2017	4.75%
30-Apr-2017	4.75%
31-May-2017	4.75%
30-Jun-2017	4.75%
31-Jul-2017	4.75%
31-Aug-2017	4.75%
30-Sep-2017	4.50%
31-Oct-2017	4.25%
Amount	2.1875
Average / bulan	0.0608

Source: Researcher Output Data, 2017

4.4. Systematic Risk (β_i)

Based on the calculation of systematic risk (β_i) of the 30 companies sampled, show that the greatest systematic risk is owned by Gajah Tunggal company (GJTL) with a value of 2.52. In other words, Gajah Tunggal Shares have the highest risk, have a very active tendency and are very sensitive to market price changes. On the other hand, the smallest systematic risk is owned by the company of London Sumatera (LSIP) with a value of 0.14. In other words, London PP Stock

Sumatra has a low risk of failure, has a passive tendency and is less sensitive to changes in market prices. Table 4.4 shows the result of systematic risk calculation of each company.

Table 4.3 Systematic Risk Table of Companies

No	Company Code	Company name	β_i
1.	AALI	Astra Agro Lestari	0.15
2.	ADHI	Adhi Karya Persero	2.32
3.	ADRO	Adaro Energy	0.48
4.	AKRA	Akr Corporindo	0.74
5.	APLN	Agung Podomoro	1.62
6.	BBCA	Bank Central Asia	1.12
7.	BBNI	Bank Negara Indonesia (Persero)	1.83
8.	BBRI	Bank Rakyat Persero	1.77
9.	BDMN	Bank Danamon	1.62
10.	BHIT	Mnc Investama	0.87
11.	BKSL	Sentul City	1.61
12.	BSDE	Bumi Serpong Damai	2.08
13.	BWPT	Eagle High	0.93
14.	GGRM	Gudang Garam	0.59
15.	GJTL	Gajah Tunggal	2.52
16.	ICBP	Indofood Cbp	1.18
17.	INTP	Indocement Tunggal	1.11
18.	ITMG	Indo Tambangraya	0.33
19.	KLBF	Kalbe Farma	1.11
20.	LSIP	PP London Sumatra	0.14
21.	MAPI	Mitra Adiperkasa	1.93
22.	MPPA	Matahari Putra Prima	1.95
23.	PNLF	Panin Financial	1.82
24.	PWON	Pakuwon Jati	2.09
25.	SCMA	Surya Citra Media	0.67
26.	TBIG	Tower Bersama	0.62
27.	TINS	Timah Persero	0.37
28.	TLKM	Telekomunikasi	0.84
29.	UNVR	Unilever Indonesia	0.5
30.	WIKA	Wijaya Karya	1.74
Amount			36.65
Average systematic risk (β_i)			1.2217

Source: Researcher Output Data, 2017

In the CAPM method, the risk is systematic (β_i) is the relationship between the rate of return of a stock and the market rate of return as it is the result between the stock covariance and the market

variant. An investor should consider systematic risk (β_i) of each share because it will affect the fluctuation of the stock price.

4.5. Expected Returns [E (Ri)]

The expected rate of return is the amount of expected profit from investors on the investments made. Calculating expected rate of return can be calculated using the CAPM Method using the risk-free return variables (Rf), expected market returns [E (Rm)], and system risks from each stock (β_i). Table 4.5 is the result of the expected rate of return of E (Ri) of 30 sample stocks.

Table 4.5 Expected Returns Table E (Ri)

| No	Company Code	Company name	Beta * E(Rm)- Rf	E(Ri)
1.	AALI	Astra Agro Lestari	-0.0003	0.0058
2.	ADHI	Adhi Karya Persero	-0.0048	0.0013
3.	ADRO	Adaro Energy	-0.0010	0.0051
4.	AKRA	Akr Corporindo	-0.0015	0.0045
5.	APLN	Agung Podomoro	-0.0033	0.0027
6.	BBCA	Bank Central Asia	-0.0023	0.0038
7.	BBNI	Bank Negara Indonesia (Persero)	-0.0038	0.0023
8.	BBRI	Bank Rakyat Persero	-0.0037	0.0024
9.	BDMN	Bank Danamon	-0.0033	0.0027
10.	BHIT	Mnc Investama	-0.0018	0.0043
11.	BKSL	Sentul City	-0.0033	0.0027
12.	BSDE	Bumi Serpong Damai	-0.0043	0.0018
13.	BWPT	Eagle High	-0.0019	0.0042
14.	GGRM	Gudang Garam	-0.0012	0.0049
15.	GJTL	Gajah Tunggal	-0.0052	0.0009
16.	ICBP	Indofood Cbp	-0.0024	0.0036
17.	INTP	Indocement Tunggal	-0.0023	0.0038
18.	ITMG	Indo Tambangraya	-0.0007	0.0054
19.	KLBF	Kalbe Farma	-0.0023	0.0038
20.	LSIP	PP London Sumatra	-0.0003	0.0058
21.	MAPI	Mitra Adiperkasa	-0.0040	0.0021
22.	MPPA	Matahari Putra Prima	-0.0040	0.0020
23.	PNLF	Panin Financial	-0.0038	0.0023
24.	PWON	Pakuwon Jati	-0.0043	0.0018
25.	SCMA	Surya Citra Media	-0.0014	0.0047
26.	TBIG	Tower Bersama	-0.0013	0.0048
27.	TINS	Timah Persero	-0.0008	0.0053
28.	TLKM	Telekomunikasi	-0.0017	0.0043
29.	UNVR	Unilever Indonesia	-0.0010	0.0050
30.	WIKA	Wijaya Karya	-0.0036	0.0025

Source: Researcher Output Data, 2017

From the sample being processed, the highest expected return is the shares of the London Sumatera (LSIP) company of 0.0058 or 0.58%. While shares with the smallest rate of return is the shares of the company Gajah Tunggal (GJTL) of 0.0009 or 0.09%.

4.6. Securities Line Market Chart

Securities Line Market (SML) or Securities Market Lines (GPS) is a CAPM model presented graphically. Through SML can show the relationship between the magnitude of systematic risk with the expected rate of return. Graph 4.1 is an SML graph of 30 stocks of companies that are samples in this study.

Fig (4.1): Security Line Market
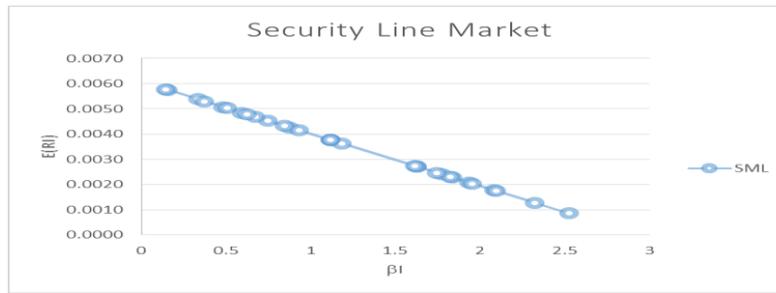
In Graph 4.1, it can be seen that there is a negative relationship between systematic risk (β) with expected rate of return [E (Ri)]. The greater the systematic risk, the smaller the expected rate of return.

4.7. Stock Investment Decisions Under CAPM

In determining stock investment decisions, investors should be able to distinguish efficient and inefficient stocks. Stocks are said to be stocks are efficient when individual stock returns are greater than expected returns [(Ri)> E (Ri)]. But stocks are said to be inefficient when the return on individual stocks is smaller than the expected rate of return [(Ri) <E (Ri)].

**Table 4.6 Table Grouping of Undervalued and Overvalued stocks**

No	Company Code	Ri	E(Ri)	Value	Decision
1.	AALI	-0.0082	0.0058	Overvalued	Selling
2.	ADHI	0.0016	0.0013	Undervalued	Buying
3.	ADRO	0.0238	0.0051	Undervalued	Buying
4.	AKRA	0.0142	0.0045	Undervalued	Buying
5.	APLN	-0.0062	0.0027	Overvalued	Selling
6.	BBCA	0.0135	0.0038	Undervalued	Buying
7.	BBNI	0.0107	0.0023	Undervalued	Buying
8.	BBRI	0.5511	0.0024	Undervalued	Buying
9.	BDMN	0.0142	0.0027	Undervalued	Buying
10.	BHIT	-0.0226	0.0043	Overvalued	Selling
11.	BKSL	0.0176	0.0027	Undervalued	Buying
12.	BSDE	0.0014	0.0018	Overvalued	Selling
13.	BWPT	0.0055	0.0042	Undervalued	Buying
14.	GGRM	0.0080	0.0049	Undervalued	Buying
15.	GJTL	-0.0027	0.0009	Overvalued	Selling
16.	ICBP	0.0287	0.0036	Undervalued	Buying
17.	INTP	-0.0024	0.0038	Overvalued	Selling
18.	ITMG	0.0145	0.0054	Undervalued	Buying
19.	KLBF	-0.0007	0.0038	Overvalued	Selling
20.	LSIP	-0.0008	0.0058	Overvalued	Selling
21.	MAPI	0.0098	0.0021	Undervalued	Buying
22.	MPPA	-0.0392	0.0020	Overvalued	Selling
23.	PNLF	-0.0006	0.0023	Overvalued	Selling
24.	PWON	0.0099	0.0018	Undervalued	Buying
25.	SCMA	-0.0102	0.0047	Overvalued	Selling
26.	TBIG	-0.0082	0.0048	Overvalued	Selling
27.	TINS	-0.0007	0.0053	Overvalued	Selling
28.	TLKM	0.0117	0.0043	Undervalued	Buying
29.	UNVR	0.0135	0.0050	Undervalued	Buying
30.	WIKA	-0.0051	0.0025	Overvalued	Buying

In Table 4.6, of the 30 sampled firms, it is known that there are 16 companies that have an individual stock return greater than the expected rate of return (Ri)> E (Ri)]. These stock groups can be regarded as undervalued shares. The stocks are undervalued. The rest, as many as 14 companies that have individual stock returns are smaller than the expected rate of return [Ri] <E (Ri)]. These stock groups can be regarded as overvalued shares.

The following graph 4.2 is a graph that presents efficient / undervalued stocks and inefficient / overvalued stocks.

Fig(4.2): Efficient stock charts and inefficient stocks
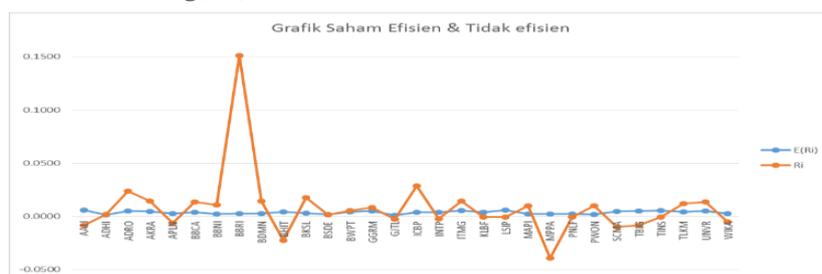
Can be seen in Graph 4.2 there are 16 stocks are efficient / undervalued and the remaining 14 shares are inefficient / overvalued shares. It can also be seen that the shares of Bank Rakyat Persero (BBRI) have the biggest difference between Ri and E (Ri), which is 0.5511. Where Ri> E (Ri) shares BBRI is the most efficient stock in the Compass Market Index 100 in the period November 2014 until November 2017.

5. Conclusion

This study aims to obtain empirical evidence regarding the grouping of shares included in efficient / undervalued shares and shares that are included in the stock is not efficient / overvalued. This research is conducted by taking samples of 30 data classified in all industry sectors recorded in Compass 100 Market Index during the period 2014-2017.

The average return of individual stocks of 30 research sample companies is 0.0214 and the average market return is 0.0040. Thus, the average individual stock is greater than the average market share return. This condition describes the stock in a good perfomance. There are 16 companies classified as efficient / undervalued shares and the remaining 14 companies are in an inefficient / overvalued stock.

Given the limitations in this study and for further further research, here are some suggestions: (i). Adding other variables also influences the investment decision-making process such as the existence of information asymmetry or insider information practices. (ii). Using a wider sample research object that can provide more significant results with the stock market.

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