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Capital Asset Pricing Model Analysis: A Study On Indonesia Food And Beverage Sub Sector At Indonesia Stock Exchange

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Abstract

The economic development of a country surely is goal for any country. There are many ways that can be done to measure it, one of them by knowing the level of development of capital markets and securities industries in the country. This study aimed to measure and analyze food and beverage sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model. The sample used is active companies in stock transaction, such as: ADES, AISA, ALTO, CEKA, ICBP, INDF, MLBI, MYOR, ROTI, ULTJ listed in food and beverage sub sectors. Based on the results of the study, it can conclude that after analyzing the food and beverage sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model, Beta that is significant shows that the stock is worthy to invest, and they are AISA, INDF, ICBP and ROTI based on the period observed from January to March 2015. This indicate that in the first quarter of 2015, the four stocks shows great promises for investor to invest and out of the four, ICBP has positive rate of return.

I. INTRODUCTION

The economic development of a country surely is goal for any country. There are many ways that can be done to measure it, one of them by knowing the level of development of capital markets and securities industries in the country. Capital markets is a market where people are prepared to trade stocks, bonds and other types of securities with the services of brokerage (SinarmasSekuritas, 2015). Indonesia is a country with a prospect that in 2014 has found themselves with a new president, named JokoWidodo. The coming of a new elected president is probably insinuating investors to invest because of a new hope in a new leader of a developing country like Indonesia. Investing, essentially is buying an asset that in the future is expected be able to sell them back with a higher value. One of the main reasons we invest is to prepare for the future as early as possible through planning tailored to the needs of today's financial capability.

In fact, the Indonesian people still prefer to keep their funds in the banking instruments in the form of savings and deposits than in investment instruments in the form of fixed income and stocks, although investment instruments offer higher returns than bank instruments. But because of the level of risk that must be borne in higher capital markets so they have to be careful in allocating funds.

Several methods of performance measurement using a certain size that has been adjusted to the level of risk has been developed by experts. The size of fund performance that is widely used in previous studies is the size of Sharpe, Treynor and Jensen or better known as the Method of Capital Asset Pricing Model (CAPM). This method can provide precise predictions about the relationship between the risk of an asset with the expected return. The use of the CAPM method for measuring a portfolio of mutual funds that can efficiently help to choose the right mutual fund portfolio, so that investors can achieve their investment objectives. This study aims to analyze the food and beverage sub sector using Capita Asset Pricing Model from January to March of 2015.

II. REVIEW OF RELATED LITERATURE

Investing is an activity to invest, either directly or indirectly, in the hope in due course the owners of capital to get some benefit from the results of the investment. The term investment can be associated with a variety of activities, such as: investment in one or more assets owned (Sunariyah, 2004:4); the capital investment decision of individual with excess funds (Tandelilin, 2010).

On the other hand, Pratomo and Nugraha (2009:6) sees that one of the reason why people invest is because of due to inflation. This shows that every investment in addition expected to return, also pose a risk (Tandelilin, 2010). Halim (2005:42) said that risk is the magnitude of the deviation between the expected rate of return with the actual rate of return. The greater the deviation means that the greater the level of risk (Tandelilin, 2010).Tandelilin (2010) further describe the Markowitz principle of "don't put all your eggs in one basket" with reason that when they fall, all the eggs would broke. The same with investment, investor need to diversity its risks. To invest, an investor can look into the capital market. The capital market is a market that peddles copies of various financial instruments (Nasarudin and Surya, 2004:13).Capital markets allows companies to obtain long-term financing sources are relatively cheap from financial instruments in various securities (securities). Investing in the stock market should at least pay attention to two things: the benefits to be obtained and the risks that may occur. In contrast, in the same place the company in need of funds, offer securities by way of listing prior to the official authority in the capital market as an issuer.Capital market instruments are all marketable securities (securities) are commonly traded through capital markets (Siamat, 2004:267). Meanwhile, according Anoraga and Pakarti (2003: 54) sees capital market instruments as all securities that are traded on or exchanges. Capital market instruments is generally long term. The most common instruments are traded through the Stock Exchange in Indonesia today are stocks, bonds, rights, options, and warrants.

A fundamental question in finance is how the risk of an investment should affect its expected return (Perold, 2004). The Capital Asset Pricing Model (CAPM) provided the first coherent framework for answering this question. The CAPM builds on the model of portfolio choice developed by Harry Markowitz in 1959. Sharpe in 1964 and Lintner in 1965, add two key assumptions to the Markowitz theory (Fama and French, 2004). Famaand French (2003) explain that the capital asset pricing model (CAPM) of William Sharpe in 1964 and John Lintner in 1965 marks the birth of asset pricing theory. Moreover, before their breakthrough, there were no asset pricing models built from first principles about the nature of tastes and investment opportunities and with clear testable predictions about risk and return. Four decades later, the CAPM is still widely used in applications, such as estimating the cost of equity capital for firms and evaluating the performance of managed portfolios (Fama and French, 2003).

According to Perold (2004), the Capital Asset Pricing Model is a fundamental contribution to our understanding of the determinants of asset prices. The CAPM tells us that ownership of assets by diversified investors lowers their expected returns and raises their prices.Moreover, investors who hold undiversified portfolios are likely to be taking

risks for which they are not being rewarded (Perold, 2004). Perold (2004) described that, in their findings, on the initial test of the CAPM, Black, Jensen and Scholes (1972) and Fama and MacBeth (1973) supported the theory in that high beta stocks were found to have had higher returns than low beta stocks.
In more recent events,Ruffiano (2014) describe that the Recession of 2008 has prompted calls for a microeconomic theory to predict the behavior of capital markets.Morever he said that, many insights can be drawn from the capital asset pricing model (CAPM) under risk, and from its many variations (Ruffino, 2014: 2). On the other hand, Fama and French (2004:43) criticize that the version of the CAPM developed by Sharpe in 1964 and Lintner in 1965, it has never been an empirical success. Nevertheless, the CAPM still used in research such as CAPM research in Nigeria by Oke (2013), that used Capital Asset Pricing Model (CAPM) to the Nigerian stock market using weekly stock returns from 110 companies listed on Nigerian stock exchange (NSE) from January 2007 to February 2010.

III. METHOD OF THE STUDY

The method of the study used is descriptive where the data used collected, analyzed and presented in a descriptive manner. The date used were secondary data derived from monthly stock price, the interest rate of Bank Indonesia (BI) and CompositeIndex data. The sample used in the study are companies that are listed in the Food and Beverage sub sector listed in Indonesia Stock Exchange with company code as follows: ADES, AISA, ALTO, CEKA, ICBP, INDF, MLBI, MYOR, ROTI, ULTJ.The sample obtained from the active companies traded during the observation period of month January, February and March in the year 2015. The data was analyzed using Capital Asset Pricing Model method and SPSS software.

IV. RESULTS AND DISCUSSION

RATE OF RETURN (E (R))

Stock Price used is closing stock price at the end of the observation. So if investors buy or sell transaction on this day, the price will be obtained will be known on stock announcement the next day, so the publication shares do every day can give an indication to the investors to make a decision to buy or sell. On this basis the average return on the shares of this study will be calculated based on the daily period as follows:

Table 1: Return Rata-Rata Food Sector

	Return (Ri)		
Tahun	January	February	March
ADES	0.0006	0.0004	0.0002
AISA	0.0017	0.0015	-0.0036
ALTO	-0.0016	0.0018	-0.0008
CEKA	-0.0005	-0.0031	0.0068
ICBP	0.0050	0.0001	0.0012
INDF	0.0007	-0.0013	0.0002
MLBI	-0.0004	-0.0063	-0.0024
MYOR	0.0067	0.0003	0.0076
ROTI	0.0002	-0.0059	0.0005
ULTJ	0.0054	0.0006	-0.0002
Rm	0.0004	0.0018	0.0004
Rf	0.0775	0.0764	0.0750
Ri	0.0018	-0.0012	0.0009
E (R)	0.0005		

Table 1 shows each company observed that were listed in the Food and Beverage sub sector at Indonesia Stock Exchange from January to March of year 2015. The rate of return for the observed period is 0.0005.

MARKET RETURN (RM)

In this research to look for the market return as the benchmarks used are bond index. This is because the fixed income funds have a portfolio that is largely similar to the types of investment instruments from bond index. Market return is the cumulative profit rate that reflects all shares listed on the Stock Exchange in this case Composite Index.

Tabel 2: Market Return (Rm)

Return Market (Rm)	
Tahun	Period
January	0.0018

February	0.0004
March	0.0004
Rm	0.0009

Table 2 above shows that the market return in the month of January shows a positive value of 0.0004, February with 0.0018, and March 0.004 with average market return (Rm) of 0.0009.

RISK FREE RATE OF RETURN (RF)

Risk-free rate of return is the compensation value of the fund deferred consumption, but not to assume the risk. Thus, the risk-free rate of return reflects the fundamental fact that by investing at this time means it will be able to consume more in the future. In this study, the risk-free rate of return is the interest rate of Bank Indonesia (BI). BI Rate is regarded as a safe instrument because it is published by the government. Results calculation BI rate during the observation period resulted in the risk free rate of 0.0763 for the period observed.

Table 3: Risk Free Rate of Return (Rf)

Risk Free Rate of Return (Rf)	
Year	Rate
January	0.0775
February	0.0763
March	0.0750
Rf	0.0763

BETA ANALYSIS OF CAPITAL ASSET PRICING MODEL (CAPM)

Beta in the concept of Capital Asset Pricing Model (CAPM) is a systematic risk. The sensitivity of the rate of profit to market changes commonly referred to as beta investments. Beta in this study using market beta calculation derived from index bonds.

Table 4: Beta Analysis CAPM

Company	Rate of Return	Std. Dev.	Beta	Sig.	Beta	E (R)	Interpretation
ADES	0.0004	0.015337	-0.045	0.959	Defensive	+	Beta Not Significant
AISA	-0.0001	0.015459	1.486	0.017	Aggressive	-	Beta Significant
ALTO	-0.0002	0.015814	0.093	0.704	Defensive	-	Beta Not Significant
CEKA	0.0010	0.015983	1.408	0.194	Aggressive	+	Beta Not Significant
ICBP	0.0021	0.016135	2.318	0.004	Aggressive	+	Beta Significant
INDF	-0.0001	0.015899	0.933	0.035	Linear	-	Beta Significant
MLBI	-0.0030	0.016104	0.18	0.473	Defensive	-	Beta Not Significant
MYOR	0.0049	0.015094	0.726	0.544	Defensive	+	Beta Not Significant
ROTI	-0.0017	0.015199	1.336	0.03	Aggressive	-	Beta Significant
ULTJ	0.0019	0.015123	-0.007	0.985	Defensive	+	Beta Not Significant

Based on the table above, the results shows that the type of stocks that is defensive are: ADES, ALTO, MLBI, MYOR and ULTJ. Aggressive stock can be seen from the observation from: AISA, CEKA, ICBP, and ROTI. On the other hand, the type of stocks that are closed to linear is INDF. Moreover, rate or return from stocks that shows positive return are: ADES, CEKA, ICBP, MYOR and ULTJ. However, there are only four stocks that has significant beta. Beta that is significant shows that the stock is worthy to invest, and they are AISA, INDF, ICBP and ROTI based on the period observed from January to March 2015.

V. Discussion

Based on the results of the study and after analyzing the food and beverage sub sector of the Indonesian Stock Exchange using Capital Asset Pricing Model, the Beta shows that it is significant and shows that the stock is worthy to invest, and they are AISA, INDF, ICBP and ROTI based on the period observed from January to March 2015. This indicate that in the first quarter of 2015, the four stocks shows great promises for investor to invest and out of the four, ICBP has positive rate of return.

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