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The Importance of Investment Decisions Using the Capital Asset Pricing Model (Capm) In Hospital Stock

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Abstract

Background: This research tests the Capital Asset Pricing Model (CAPM) in determining the required rates of return on Indonesian healthcare sectors stocks with the actual rates of return.

Objectives: To find out the required speed of the Indonesia healthcare reported sector, especially hospital stocks, from April 1, [st] 2021, to March 31, 2022, and compare them with the actual rates of return in the corresponding periods to identify the valuation status of the stocks.

Methods: To be an empirical study, we adopted analytical research. The collecting data is from www.yahoo.finance.com and doing analytical research with CAPM

Results: The findings show that the Capital Asset Pricing Model (CAPM) did not give any appropriate forecast of the return from healthcare sectors stocks thought the one-year period of study because the result was different from the annual report from this group of hospital companies.

ConclusionsThe Capital Asset Pricing Model (CAPM) is not a good predictor of stock return in the Indonesian Stock Exchange healthcare sector.

*Keywords:*CAPM, healthcare stocks, systematic risk, capital asset

1.   Introduction

Indonesia is the largest archipelago globally, with a total population in 2010 is 240.676 million people. (Yodi Mahendradhata, 2017)Healthcare sector was transform to get profitability from two ways. First, the hospital services must be increase the insurance demand while reducing non-payment patient. Second, Medicare must link to reimbursements for reduce quality metrics create revenue uncertainty, with component the mix of publicly and privately insured patients. In data 2013, 31% of Indonesia's population of more than 250 million was uninsured; 61% were government-insured, and just 8% enjoyed private health insurance. Indonesia does not rank on par with its Association of Smoothest Asian Nations (ASEAN) neighbours regarding health care based

on the number of hospital beds, physicians, nurses, and midwives per 1,000 people. Indonesia still has the highest maternal mortality ratio in the world. (Wirtz, 2015)

In 2014, the Indonesian government introduced Universal Health Coverage (UHC), locally known as JKN and administered by an agency known as BPJS. This program demonstrated its commitment to reaching the Millennium Declaration that it signed in September 2000 with 140 million participants from Indonesia's UHC system. Health education, prevention, promotion, and rehabilitation are critical parts of strengthening a nation's health care, especially in rural areas. In 2010, the urban population was 49.9% of the total. Besides the high mortality rate, Indonesia was also facing the problem of Tuberculosis, HIV/AIDS, and recently is pandemic covid-19. (Wirtz, 2015)

In the current health care situation, the leading cause of death is 55.6% comes from Non-communicable diseases and stroke (19.5%). The health care landscape in Indonesia provides investors who are engaging in economic opportunity and the chance to "do good" by improving the living standards of many people. Investors can make a significant difference in Indonesia with strategic investment, bringing in expertise, finding innovative solutions, and putting down the foundations of the future health care system. (Wirtz, 2015)

Indonesia's political situation allows foreign investors to operate the specialized hospital in a market, and only 23% of the hospital are technical, and one of them is a maternity hospital. The investor was also facing difficulties building a new hospital due to a lengthy and complicated licensing process. This barrier attracts investors to existing small hospitals with the potential for improvements. From doctors and nurses, the investor can invest in building capacity for medical training and the health system to increase their skills. A forecast GDP growth of above 5% per year and a rising middle class will drive the demand for an affordable healthcare system.

Holstein and Litzinger (2008) discussed how European and Canadian health care systems began to focus on cost containment after moving to make health care services available universally. In Indonesia, 58% population is a participant in the UHC system. The costs containment efforts typically preceded efforts to expand those covered. Regardless, the market segment for the private hospital is still a big market for the investor. The covid-19 pandemic that started in March 2020 has increased the uncertainty for the capital market because of the difference between the future trend of asset prices and people's expectations. This uncertain condition was followed by high demand for

new medical equipment like Personal Protective Equipment was highly needed during the pandemic. Still, this condition must follow with the proper asset valuation. For this condition, Capital Asset Pricing Models (CAPM) is a one-selected method to determine the relationship between the expected rate of return of assets in the securities market and risky investments. (Chuyan Wang, 2021)

After pandemic covid-19, the investor also needs to be aware of their cost of capital, particularly stocks. There is widespread agreement that the CAPM is a good predictor of share price movements in stock markets in finance. In developing economies era, it necessary need to validate stock markets. The investors need to get a solution for the mystery surrounding the issue of share price movement with examine the relevance of CAPM in the Indonesian healthcare industry, especially in the hospital business. The specific aim is to apply the CAPM to the Indonesian healthcare sector data and, from the results, infer whether healthcare sector stocks returns were correctly estimated, under, or overestimated at the time of the forecast. In addressing this objective, the study seeks to answer the question: From the perspective of the CAPM, are the subject-firms stocks returns correctly valued, undervalued, or overvalued by the CAPM? To hazard a guess, from the standpoint of the CAPM, the returns of the subject-firms stock were not correctly valued.

2.   Objectives

The population in this study is the shares of companies in the healthcare sectors listed on the Indonesia Stock Exchange (BEI) for the period 2021 to 2022, amounting to 5 (five) companies.

This method of research is to use a purposive sampling method, which is the selection of a random sample whose information is obtained by using specific considerations adjusted to the purpose of the study. The research sample is company shares in the healthcare sector listed on the Indonesia Stock Exchange (IDX) for April 1, 2021 – March 31th, 2022 that meet the requirement and criteria. Some criteria to be sampled are as follows:

a. Company shares active in healthcare are listed or traded on Indonesia Stock Exchange from April 2021 to March 2022.

b. The available data is complete from the period April 2021 to March 2022.

c. Issuers or companies were used as samples of listed companies listing investments in shares on the Indonesia Stock Exchange (IDX) during the study period.

d. The company meets the criteria of 5 (five) companies with a one-year research period of 1 year—the company code: MIKA, SILO, CARE, PRIM, HEAL.

3.   Methods

Data Collection Technique

Data was collected from the Indonesian Capital Market Directory (ICMD) from 2021 to 2022. The data source is used to find information about interest rates during the study period, closing prices of shares, and composite share price indices. The research location was at the Indonesia Stock Exchange (IDX).We download from www.yahoo.finance.com.

Analysis Technique

Calculate the Return Rate of Individual Shares (Ri), income received in dividends or income from changes in market prices from stock trading transactions calculated within one year.

Computation Methodology

The expected return as implied by the Capital Asset Pricing Model (CAPM) will be derived and compared with the actual return from each firm to ascertain whether the stock is appropriately valued, undervalued, or overvalued. It is necessary to derive the value for each variable in the CAPM equation to accomplish this.

Estimating the Expected Rate of Return

Adjust for risk rate for each of the firms will be determined using the capital asset pricing model (CAPM) to know the risk-free rate and the return on the whole market portfolio, the required rate of return on a risky asset will depend upon its beta coefficient, it tells us that the necessary rate of return on investment is equal to the risk-free rate plus a fraction (or multiple) or the market risk premium where the asset's beta coefficient represents the fraction (or multiple).

- To calculate the market rate of return is based on the Stock Price Index (CSPI), by the formula:

$$X = Rm = \frac{JCI(t1) - JCI(t0)}{JCI(t0)}$$

Description:

X=Rm = Market Rate of Return (R is based on the stock price index)

JCI (tl) = composite stock price Index period now

JCI (t0) = composite stock price Index period ago

- Calculate Rate of Return of Individual Stocks

Calculate the rate of return of individual stock based on the Closing Stock Price, with the formula:

$$Y = Ri = HSi(t1) - HSi(t0)$$

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$$\text{JCI } (t0)$$

Description:

Y=Ri = Rate of return of each company. (R is based on the advantages of individual stocks 1 each of the company)

HSi (tl) = the closing Price of the individual stock is the present period

HSi (t0) = the closing Price of the individual stocks last period

Estimation of Risk-Free Rate (Rf)

The risk-free rate is that which could be earned on some zero-risk asset. Assets that have strictly zero risk are, in practice, used in Indonesia's 10-year bond yield history were used to represent the risk-free rate of interest. This is because the interest payable on any of the two is fixed. The government is unlikely to default, and if the bill or bond is held to redemption, its maturity value is also specific.

Risk free or known by the rate of return risk-free refers to the rate of return of financial assets without risk. Interest rate securities issued by the government is the basis of measurement used, hereinafter referred to as the Certificate of Bank Indonesia (SBI). The formula used is:

$$Rf = \frac{\sum_{i=1}^{n} \text{the Level of Interest Rates on SBI}}{n}$$

Description:

Rf = Return-Free Risk

$\sum$ SBI = value of SBI

n = number of data

Theory and Calculation

The CAPM was developed by Sharpe, Lintner, and Mossin (1964) as the expected return on the market, usually to determine a cost of equity. Beta measures the company's risk or asset in question relative to the market. It states that the return on any investment or portfolio is related to the riskless rate of return and the expected return on the market in a linear fashion. It shows the relationship between the expected return of a security and its unavoidable systematic risk: (Ahmad Musodik, 2021)

Re = Rf + β(Rm – Rf)

Re = Expected rate of return on a security or a portfolio

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Rf = Risk-free rate of return, Rm = Expected market rate of return

β = Systemic risk of the deposit (the beta) relative to the market.

The Capital Asset Pricing Model (CAPM) formulates the expected – or minimum required – a rate of return on a company's equity. While CAPM has been challenging, it remains the most practical approach available to determine the cost of equity. The CAPM only assumes one source of systematic risk: market risk. The perceived limitations of the model arise in large part from problems in applying the model because systematic risk cannot be diversified and has to be a hedge. In equilibrium, it is compensated by a risk premium. The stock market exposes investors to a certain degree to market risk, and investors will be paid (proportional to your risk exposure). The real risk was decomposed into two components: systematic risk – related to Rm and unsystematic risk.

4.   Results

Table 1. List of 5 Companies of Health care Industry

listed on Indonesia stock exchange (BEI)

Table 1. Research Objects

No.	Sample data Healthcare Company	
	Company Name	**Emiten Code**
1	PT. Mitra Keluarga Karyasehat, Tbk	MIKA
2	PT. Siloam International Hospital, Tbk	SILO
3	PT. Medikaloka Hermina, Tbk	HEAL
4	PT. Royal Prima, Tbk	PRIM
5	PT. Metro Healthcare Indonesia, Tbk	CARE

Source: www.yahoo.finance.com

Result of Analysis of Rate of Return of Individual Stocks

Return of individual stocks (Ri) can be calculated by reducing the store's price this month with the share price of the previous month and comparing it with the stock price the month before. Following the individual stock's return calculation, five healthcare companies were listed on the stock exchange for April 1, 2021 – to March 31, 2022.

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Table 2. Return of Individual Stocks 5 Companies in the Healthcare Industry

	4/1/21	5/1/21	6/1/21	7/1/21	8/1/21	9/1/21	10/1/21	11/1/21	12/1/21	1/1/22	2/1/22	3/1/22	Ri
CARE	0	0.03184713	0.08024691	0.05714286	0.13513514	0.02857143	0.06018519	0.04366812	0.07740586	0.02912621	0.05660377	-0.0535714	0.0455301
SILO	0	0.003003	0	-0.002994	-0.015015	0.19512195	-0.122449	0.12790698	-0.1159794	-0.0349854	-0.0574018	0.02884615	0.00050446
PRIM	0	0.26553672	0.34821429	0.13907285	-0.127907	0.18	-0.0564972	0.2754491	-0.0610329	-0.01	-0.0959596	-0.0726257	0.06535422
HEAL	0	0.03532009	0.19402985	0.04464286	-0.008547	0.00862069	0.0042735	-0.1574468	0.08080808	0.02336449	-0.0273973	0.10328638	0.02507957
MIKA	0	-0.0152672	0.08527132	-0.075	-0.1003861	-0.0128755	-0.0086957	0.04385965	-0.0504202	0.11504425	-0.1190476	-0.0225225	-0.0133366

Source: Data processed by Microsoft Excel

Based on Table 2, it can be seen that share rate return (Ri) and the highest in PT. Royal Prima, Tbk is equal to 0.06535422 and the lowest on PT. Mitra Keluarga Karyasehat, Tbk that is equal to -0.0133366

Result of Analysis of Market Returns

In calculating return on the market, JKSE is used in this calculation. The use of JKSE is considered to represent the entire transaction activity of existing shares on the stock exchange.

Table 3. Market Return JKSE April 1, 2021 – March 31,2022

Date	JKSE	Ri JKSE
4/1/21	5995.6162	0
5/1/21	5947.4629	-0.0080314
6/1/21	5985.4888	0.00639363
7/1/21	6070.0391	0.01412588
8/1/21	6150.2988	0.01322228
9/1/21	6286.9429	0.02221746
10/1/21	6591.3462	0.04841834
11/1/21	6533.9321	-0.0087105
12/1/21	6581.4819	0.00727736
1/1/22	6631.1509	0.00754677
2/1/22	6888.1709	0.03875949
3/1/22	7071.4419	0.02660663
	Rm	0.01398549
	the highest Rm	0.04841834
	the lowest Rm	-0.0087105

Source: Data processed by Microsoft Excel

Result of Analysis of Risk-Free

The data rate of BI rate in this study is used as an indicator in calculating the level of Risk-Free (Rf); the result of the calculation of the Risk-Free rate is as follows:

Table 4: Result of Calculation of Risk-Free April 2021 – March 2022

Risk Free	
6.5100	0.0000
6.4270	-0.0127
6.3820	-0.0070
6.2640	-0.0185
6.1900	-0.0118
6.3480	0.0255
6.0500	-0.0469
6.2950	0.0405
6.6340	0.0539
6.4280	-0.0311
6.4630	0.0054
6.8400	0.0583
6.4026	0.004633309

Source: www.yahoo.finance.com

Result of Analysis of Calculation of Systematic Risk of Individual Stocks and Expected Return

Table 5. Result of Analysis of Calculation of Systematic Risk of Individual Stocks and Expected Return

Code Issuer	Rf	Beta	Rm	Rm-Rf	Beta(Rm-Rf)	CAPM = RF + Beta(Rm-Rf)
CARE	0.004633	-0.0207	0.013985492	0.009352183	-0.000193551	0.004439758
SILO	0.004633	-1.6702	0.013985492	0.009352183	-0.015619935	-0.010986626
PRIM	0.004633	-5.3194	0.013985492	0.009352183	-0.049747791	-0.045114483
HEAL	0.004633	0.4414	0.013985492	0.009352183	0.004127973	0.008761281
MIKA	0.004633	-1.5690	0.013985492	0.009352183	-0.014673291	-0.010039982

Source: Data processed by Microsoft Excel

It calculated the asset's beta measures how sensitive its returns to a market are. When beta is zero, it indicates no correlation with the benchmark; one indicates a stock has the same volatility as the market, more than one suggests a stock is more volatile than its benchmark, and less than one is less volatile than the benchmark. (Brenyah, 2017)

Based on the calculation above, the stock can be classified by comparing the Ri, Re (CAPM), and CAPM. If the value of Ri>Re, then the shares can be classified as a stock that has a value undervalue. Whereas if the value of Ri<Re, the shares can be classified as a stock with an overvalue. Here are presented the data classification of stock five companies of the healthcare industry listed on the stock exchange as follows:

Table 6. Classification of Stock and Recommendation

	Ri	Re	Result = Ri > Re	Value Stated	Decision
CARE	0.04553	0.004439758	TRUE	UNDERVALUE	BUY
SILO	0.000504455	-0.010986626	TRUE	UNDERVALUE	BUY
PRIM	0.065354221	-0.045114483	TRUE	UNDERVALUE	BUY
HEAL	0.025079572	0.004034613	TRUE	UNDERVALUE	BUY
MIKA	-0.01333663	-0.010039982	FALSE	OVERVALUE	SELL

Source: Data processed by Microsoft Excel

Based on table 6, only one company was classified as overvalue, is PT Mitra Keluarga Karyasehat, Tbk.

5. Discussion

CAPM is the primary asset pricing model widely used in the financial investing fields. Most market participants use CAPM to decide their portfolio composition and other investment decisions, risky price assets and estimate the expected return. In CAPM, a lot of factors could bring an impact. The beta of funds is higher than the beta of stocks, meaning that funds move closer to the market, which can be impacted by chosen industry. In the healthcare industry, the beta would be higher, which will affect the test result. Besides, the external factor may cause inconsistencies since CAPM has some inherent limitation that impacts test results. CAPM may not represent the whole holding company and not depict a comprehensive picture. CAPM is also not testable unless the exact composition of the market portfolio is known. (Peng, 2021)

Furthermore, inconsistency with CAPM may be caused by the existing factor, beta, which does not reward some of the risks, and factors from the firm size and the value of the stock. From Nwani's study, beta hardly explains the variation of the security return, and beta plays an insignificant role as a pricing factor.

The regression test result consistently considers the difference between the actual return and the expectation at the average real level. Therefore, the application of CAPM may misguide the investors to have a false expectation of the stock movement and bring wrong investment decisions.

Capital Asset Pricing Model (CAPM) using Python

For one year period, CAPM is not rejected. Beta is linearly related to the return, consistent with CAPM predictions. According to CAPM, the value of α is expected to be zero, and it is very random and cannot be predicted. From linear regression, the equation is in the form of y = mx+b. To implement its function to calculate the linear regression, we must import NumPy and pandas to

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deal with data and use matplotlib to visualize. For the linear regression model, we import from sklearn. Get the data from excel that we download from www.yahoo.finance.com, get the value of the closed stock, and calculate the return from each stock (5 hospital stocks that we select are CARE, SILO, PRIM, HEA, L, and MIKA). Tor visualization, according to CAPM, there should be some relation between the stock performance and market performance. As seen from the plot, the stock performance mimics the market performance and can be compared. The cumulative returns are found. This calculation shows that using excel and Python have a similar result for beta and intercept. (Table 7-11).

Table 7. Regression Result for CARE

```
                         OLS Regression Results
==============================================================================
Dep. Variable:                   CARE   R-squared:                       0.001
Model:                            OLS   Adj. R-squared:                 -0.142
Method:                 Least Squares   F-statistic:                  0.005309
Date:                Mon, 18 Apr 2022   Prob (F-statistic):              0.944
Time:                        16:13:30   Log-Likelihood:                 14.378
No. Observations:                   9   AIC:                            -24.76
Df Residuals:                       7   BIC:                            -24.36
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const          0.0443      0.023      1.892      0.100      -0.011       0.100
JKSE           0.0716      0.982      0.073      0.944      -2.251       2.394
==============================================================================
Omnibus:                        1.744   Durbin-Watson:                   1.811
Prob(Omnibus):                  0.418   Jarque-Bera (JB):                0.164
Skew:                          -0.301   Prob(JB):                        0.921
Kurtosis:                       3.274   Cond. No.                         53.1
==============================================================================
```

Source: Data procced by Kaggle

Table 8. Regression Result for SILO

```
                         OLS Regression Results
==============================================================================
Dep. Variable:                   SILO   R-squared:                       0.096
Model:                            OLS   Adj. R-squared:                 -0.033
Method:                 Least Squares   F-statistic:                    0.7476
Date:                Tue, 19 Apr 2022   Prob (F-statistic):              0.416
Time:                        09:17:24   Log-Likelihood:                 8.7086
No. Observations:                   9   AIC:                            -13.42
Df Residuals:                       7   BIC:                            -13.02
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const          0.0233      0.041      0.563      0.591      -0.075       0.121
JKSE          -1.8260      2.112     -0.865      0.416      -6.820       3.168
==============================================================================
Omnibus:                        6.106   Durbin-Watson:                   1.541
Prob(Omnibus):                  0.047   Jarque-Bera (JB):                2.101
Skew:                           1.134   Prob(JB):                        0.350
Kurtosis:                       3.675   Cond. No.                         60.8
==============================================================================
```

Source: Data procced by Kaggle

Table 9. Regression Result for PRIM

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                   PRIM   R-squared:                       0.471
Model:                            OLS   Adj. R-squared:                  0.395
Method:                 Least Squares   F-statistic:                     6.227
Date:                Mon, 18 Apr 2022   Prob (F-statistic):             0.0413
Time:                        16:55:52   Log-Likelihood:                 6.2701
No. Observations:                   9   AIC:                            -8.540
Df Residuals:                       7   BIC:                            -8.146
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const          0.1654      0.056      2.932      0.022       0.032       0.299
JKSE          -5.9776      2.395     -2.495      0.041     -11.642      -0.313
==============================================================================
Omnibus:                        0.003   Durbin-Watson:                   3.614
Prob(Omnibus):                  0.998   Jarque-Bera (JB):                0.193
Skew:                           0.031   Prob(JB):                        0.908
Kurtosis:                       2.286   Cond. No.                         52.6
==============================================================================
```

Source: Data procced by Kaggle

Table 10. Regression Result for HEAL

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                   HEAL   R-squared:                       0.142
Model:                            OLS   Adj. R-squared:                  0.019
Method:                 Least Squares   F-statistic:                     1.159
Date:                Mon, 18 Apr 2022   Prob (F-statistic):              0.317
Time:                        17:08:06   Log-Likelihood:                 12.281
No. Observations:                   9   AIC:                            -20.56
Df Residuals:                       7   BIC:                            -20.17
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const         -0.0172      0.030     -0.581      0.579      -0.087       0.053
JKSE           1.6736      1.555      1.077      0.317      -2.002       5.349
==============================================================================
Omnibus:                        1.823   Durbin-Watson:                   2.171
Prob(Omnibus):                  0.402   Jarque-Bera (JB):                0.923
Skew:                          -0.753   Prob(JB):                        0.630
Kurtosis:                       2.557   Cond. No.                         66.5
==============================================================================
```

Table 11. Regression Result for MIKA

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                   MIKA   R-squared:                       0.030
Model:                            OLS   Adj. R-squared:                 -0.108
Method:                 Least Squares   F-statistic:                    0.2170
Date:                Mon, 18 Apr 2022   Prob (F-statistic):              0.655
Time:                        17:14:41   Log-Likelihood:                 13.090
No. Observations:                   9   AIC:                            -22.18
Df Residuals:                       7   BIC:                            -21.79
Df Model:                           1
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
const          0.0105      0.028      0.368      0.724      -0.057       0.078
JKSE          -0.6311      1.355     -0.466      0.655      -3.834       2.572
==============================================================================
Omnibus:                        1.527   Durbin-Watson:                   0.900
Prob(Omnibus):                  0.466   Jarque-Bera (JB):                0.839
Skew:                           0.700   Prob(JB):                        0.657
Kurtosis:                       2.474   Cond. No.                         63.4
==============================================================================
```

Source: Data procced by Kaggle

Relationship between Individual Rate of Return and Investment Rate of Return

Based on an analysis of five companies in the health care industry, the highest stock return (Ri) is PT. Royal Prima, Tbk that equal to 0.06535422, followed by PT. Metro Healthcare, Tbk PT. Medikaloka Hermina, Tbk PT. Siloam International Hospital, Tbk and lowest on PT. Mitra Keluarga Karyasehat, Tbk that is equal to -0.0133366. Most of the company that we review in the healthcare industry has positive shares meaning and means the growth of company opportunities was increased. The investor will buy these stocks because this is a good indicator of the company's growth prospect in the future. For negative shares, only PT. Mitra Keluarga Karyasehat Tbk has negative shares, and it shows that small or large companies are not a factor that affects the company's high and low stock returns. (Cynthia Eka Violita, 2019)

Individual Stock Systematic Risk Calculation Analysis

After calculating the systematic risk (β), the highest (β) is PT. Medikaloka Hermina, Tbk and the lowest (β) is PT. Royal Prima, Tbk. All company has negative β except PT. Medikaloka Hermina, Tbk. If β is less than one, stocks are less volatile than the current mark, which will invest visibly. All five companies have β<1 and it is called defensive stocks. If the β>1 usually moves faster than market movements, it is called aggressive stock. Now, we can conclude that the lowest beta values with the purpose of investment while bearing lower risk and thus suggest including in the portfolio and allocating investment funds accordingly. (Syed Mohammad Faisal, 2018)

Negative and positive beta coefficients offer similar levels of return, and contrary to theory, the negative beta stocks do not provide investors with lower returns. When the negative beta portfolios, the slope is negative, and, as expected, the portfolio's return goes down with a falling beta coefficient. The alternative hypothesis failed to be approved for the intercept, meaning differences between the intercept value and the return on the risk-free assets could not be displayed. Regarding the positive beta portfolios, the intercept is statistically significantly different from the return of the risk-free assets, but the alternative hypothesis could not be approved; in other words, a statistically significant difference between the empirical return and the other real return. Regression analysis was applied to portfolios' returns and their correspondent absolute beta values. This method establishes how removing the minus sign affects the Capital Asset Pricing Model. Regression results for the negative and positive beta portfolios suggest that the graph is not symmetric. (Wolski, 2009)

Expected Rate of Return Analysis

Based on the calculation, the company with the highest rate of return is PT. Medikaloka Hermina, Tbk with 0.008761281 and the lowest return is PT. Royal Prima, Tbk is -0.045114483. Of these five companies in the healthcare industry, only PT. Medikaloka Hermina, Tbk and PT. Metro Health Care, Tbk. with positive return and others 3 have negative return is PT. Siloam International Hospital Tbk, PT. Royal Prima, Tbk, and PT. Mitra Keluarga Karyasehat, Tbk. A company with a positive return means the company makes a profit, and a company with a negative return means the company suffers a loss. (Wolski, 2009)

CONCLUSION

Investors use CAPM when they want to assess the fair value of a stock and need to compensate in two ways: time value of money and risk. So when the level of risk changes or other factors in the market make an investment riskier, they will use the formula to help re-determine pricing and forecast expected returns. The findings were confirmed by regression analysis applied to average returns and beta coefficients of five stock portfolios. As expected, the empirical showed a negative slope for the negative beta portfolios. Constructing portfolios from all available market shares makes the research representative of the whole market. Regression was applied to portfolios for which the absolute beta value was found to validate the CAPM assumptions, according to which market equilibrium is influenced by the risk-free return, the return on the entire market, and the stock portfolio's systematic risk measured by the beta coefficient. (Wolski, 2009)

The findings show that the Capital Asset Pricing Model (CAPM) did not give any appropriate forecast of the return from healthcare sectors stocks thought the one-year period of study because the result was different from the annual report from this group of hospital companies. Therefore, the Capital Asset Pricing Model (CAPM) is not a good predictor of stock return in the Indonesian Stock Exchange healthcare sector.

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