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# Capital Assets Analysis Pricing Model as a Basis for Investment Decisions Investment in Shares of PT Mustika Ratu and PT Multi Indocitra Listed on the IDX Period 2022

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**Abstract.** In investing, prospective investors' astuteness in exploring and processing information will be used as a decision-making tool for investing which will determine how much risk and profit they will obtain in the future. This research aims to determine the magnitude of profits and risks and classify efficient and inefficient shares by applying the Capital Asset Pricing Model method to cosmetics sub-sector companies listed on the IDX. The method used in the research is a qualitative method with quantitative data, in the form of a list of the latest stock prices, interest rates, and the Indonesian Sharia Stock Index sourced from the official website of the Indonesian Stock Exchange, Yahoo Finance, and Bank Indonesia.

**Keywords:** Capital Asset Pricing Model, Risk, Profit

## INTRODUCTION

### Background Question

Economic growth is one indicator of a country's success. Countries conduct investment activities with the aim of economic growth. Therefore, investors need to more carefully evaluate which risky stocks are still worth investing in. This can be known by using the CAPM technique as an efficient analysis model for portfolio formation.

CAPM is a model that allows determining the relationship between the expected return of risky assets under balanced market conditions. The CAPM methodology allows investors to minimize investment risk, determine the expected return of a security, and measure stock price performance. Research by Ilona Cherie, Darminto, and Devi Farah shows that the capital asset pricing model is an equilibrium model that can be applied to the risk-return ratio.

This research was conducted in a company in the cosmetics industry. Researchers want to test the feasibility of stock investment in the cosmetics industry. The cosmetics sector stocks are divided into several stocks according to the products consumed by the general public. Based on the explanation above, this study aims to solve research problems related to "the application of the CAPM (Capital Asset Pricing Model) method as a basis for stock investment" (case study of companies listed on the IDX in the cosmetics industry).

### Problem Objective

The Research Objective is to provide a precise prediction of the relationship between the risk of an asset and its expected return.

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**Disadvantages and Advantages of CAPM**

As one of the financial models created to achieve certain goals. But like any other financial model, CAPM also has its drawbacks.

Advantages of CAPM The CAPM model has the following advantages:

1. Determining Expected Returns CAPM provides a systematic framework for estimating the expected returns of risky assets. This helps investors and analysts assess whether an asset will provide an appropriate return based on the risk taken.
2. Measuring Systematic Risk The CAPM model identifies systematic or market risk that cannot be avoided through diversification.
3. Considering this systematic risk allows investors to understand and assess the impact of this risk on asset returns.
4. Evaluating Stock Value CAPM is used to assess whether a stock is fairly valued. By comparing a stock's expected return to market risks and returns, investors can assess whether a stock's current price is undervalued or overvalued.

**Disadvantages of CAPM**

One of the biggest drawbacks of CAPM is its assumption that the capital market is always perfect and orderly influenced by various factors.

Here are the details:

1. Always efficient market assumption CAPM is based on the assumption that capital markets are perfectly efficient. This means that all information is publicly available and directly reflected in asset prices. In practice, however, there is evidence that markets are not always perfectly efficient and there are market inefficiencies that can affect the effectiveness of the CAPM.
2. Systematic Risk Assumption CAPM assumes that risk is systematic, or risk that cannot be avoided through diversification. The model ignores specific risks and risks that can be reduced through diversification. However, certain risks can also affect asset returns and are not accounted for by the CAPM.
3. Difficulties in Estimating Beta Values Determining the right beta value can be difficult. Historical data is used for beta estimation. Results may vary depending on the timeframe chosen and the method used. In addition, beta is not constant and can change over time, so the resulting estimates may not accurately reflect future conditions.
4. Sensitive to the choice of risk-free returns CAPM uses risk-free returns as one of its main inputs. However, the choice of risk-free return varies and can have a significant

impact on the CAPM results. In addition, the risk-free return may not reflect true risk under abnormal market conditions, such as during a financial crisis.

**Problem Formulation**

Based on the above problems, the researcher took the formulation of the problem.in other words: How is the stock return and risk if using the Capital Asset Pricing Model (CAPM) method in determining investment decisions in the cosmetics subsector? Which stocks should be purchased?

## LITERATURE STUDY

**Definition of Investment Management**

Investment Management refers to the specialized management of asset holdings such as various securities such as stocks and bonds and real estate, with the aim of achieving profitable investment objectives for investors.

Such investors can be institutions (insurance companies, pension fund companies, etc.) or individual investors, and the funds are usually in the form of investment contracts or general joint agreements (KIK), such as investment funds. Investing is basically investing a certain amount of money today with the aim of achieving certain benefits in the future. Investment can be interpreted as a commitment to invest a certain amount of money today with the aim of earning profits in the future. In other words, investment means sacrificing current consumption in order to increase consumption in the future.

As quoted by Didit, Sharp said that investing means sacrificing current assets in order to obtain future assets that will certainly be more expensive. Jones, on the other hand, defines investment as investing a fixed amount in one or more assets over some future period.

a. Investment Management Functions There are five functions of investment management:
b. Scope of investment management services: conducting financial analysis, selecting assets and buying stocks, implementing plans, monitoring investments
c. By employing investment managers, the business activities consisting of investment management, consisting of making investments, executing orders and performing trading functions, settling trades, marketing, conducting internal audits, and preparing reports for customers.
d. Many parties are involved in the management of the investment management industry, including:
   1) Marketing staff. Attracting customers to the industry

2) Compliance personnel. Ensure the Company complies with all applicable regulations.
3) Internal auditors. Conduct and carry out internal audits.
4) Internal control function. Finance Department. Entrusted with initiating financial transactions. The same applies to computer professionals and employees.
5) Other support. Record every transaction and financial evaluation for thousands of customers.

**Definition of Portfolio Management**

Portfolio management is the process of managing funds invested in the form of a portfolio created by investors. Portfolio management is understood as a dynamic and systematic process. It is considered a process and therefore applicable to all investors. This process of portfolio management, as suggested by CFA, can be divided into three main parts: planning, execution, and feedback. To ensure proper portfolio management, you need to have the right mix of investment assets and change your portfolio from time to time. The main objective of portfolio management is to provide returns to investors or fund owners and minimize the risk of subsequent losses. There are two types of portfolio management based on the involvement of the investor or fund manager: active and passive.Berikut adalah definisi dan perbedaan antara manajemen portofolio aktif dan pasif.

1. Active Portfolio Management Active portfolio management is a portfolio management tactic that typically involves fairly intense buying, selling, or trading activity to outperform the market. While it has the potential to generate much higher returns than passive portfolio management, it also comes with relatively higher risks.
2. Passive Portfolio Management Passive portfolio management is often referred to as index fund management. The goal of passive portfolio management is to achieve the same returns as a specific reference index. This passive strategy usually does not require a specialized management team for the decision-making process. While there are two types of portfolio management, namely free and not free, depending on the amount of authority given by the fund owner to the investment management company.
3. Discretionary Portfolio Management

   Discretionary Portfolio Management is a form of portfolio management in which the investor as the owner of the funds gives full trust and authority to the investment management company to invest in accordance with the instructions and objectives of the investor. In this case, the portfolio manager handles all aspects including investment needs, documentation, etc. Regarding the investment portfolio, it is up to the investors and the final decision is in their hands.

4. Non-Discretionary Portfolio Management In management

   In non-discretionary portfolio management, investment managers provide advice to clients or investors with respect to their investment portfolio, and the final decision remains with the investor.

**Definition of CAPM**

CAPM or Capital Asset Pricing Model is a model in finance that is used to estimate the expected rate of return of certain financial assets, such as stocks or bonds, based on systematic risk or market risk. This model is very important for analyzing portfolios and pricing assets in the capital market. CAPM was first developed by William F. Sharpe in the 1960s, later expanded by John Lintner and Jan Mossin.CAPM is based on the principle that financial assets have two types of risk, namely systematic risk (market risk) and unsystematic (asset-specific risk). Systematic risk is risk that cannot be eliminated through portfolio diversification. Meanwhile, unsystematic risk can be eliminated through appropriate diversification methods. In practice, CAPM is a simple asset pricing method. The model is used as a baseline for investors to understand events in complex and elusive asset markets. Therefore, many investors choose to use the CAPM method to calculate returns on their valuable assets.

**Capital Markets**

**Definition of Capital Market**

The definition of capital market according to the Presidential Decree on Capital Market, Law Number 52 of 1976 stipulates that the capital market is a stock exchange within the meaning of Law Number 52 of 1976. already completed. 15 of 1952 (State Gazette Number 67 of 1952). According to the law, a stock exchange is a building or room that serves as an office and a place for securities trading activities, and the securities classified as securities are stocks, bonds, and other securities commonly referred to as securities. According to Fabozzi, cited by Wefi, the capital market can also be interpreted as a market for buying and selling securities that usually have a term of more than one year, such as stocks and bonds. The place where securities are traded is now called the stock exchange. Therefore, capital market means capital market.

According to Husnan as quoted by Wefi, the capital market (stock exchange) is a company whose main service is to carry out securities trading activities in the secondary market.

**Capital Markets**

**1. Capital Market Instruments**

The capital market generally trades several securities, such as stocks, bonds, mutual funds, and derivative products. Each of these securities has different returns and risks.

- Share

Shares are evidence of ownership in the assets of the company that issues them. By owning shares in a company, the investor has the right to the company's income and wealth after paying the company's debts. Shares are one type of security that is very popular for buying and selling in the capital market. Preferred stocks are stocks that combine the characteristics of bonds and common stocks, as they provide fixed income like bonds and have ownership rights like common stocks.

Preferred shareholders are entitled to receive the company's income and assets after deducting bond payments and debtor obligations (before the shareholders receive their rights). The difference is that unlike common stock, preferred stock does not give the holder voting rights in the election of directors or management.

Investors who buy ordinary shares will not necessarily get regular income from the company because ordinary shares do not require the company to pay a certain amount of cash to shareholders. This is very different from bonds that provide fixed income and a predetermined maturity time so that stocks have a relatively greater risk than bonds. Although investors do not have to earn a fixed income, investors can take advantage of fluctuations in stock prices to obtain capital gains. Capital gain is the difference between the share price when purchased and the share price when sold.

**Bonds**

Bonds are securities that provide a fixed amount of income to their owners. When buying a bond, investors know exactly how much nominal value will be repaid at maturity. However, corporate bonds are not without risk, as they may not be repaid if the issuer defaults. Therefore, investors should be careful in choosing which bonds to buy. Therefore, investors should pay attention to bond ratings that reflect the level of risk and quality of a bond compared to the performance of the issuing company.

**Mutual Fund**

A mutual fund is a certificate stating that the owner has entrusted a certain amount of funds to a mutual fund company to be used as an investment fund in both the capital market and money market. Mutual fund companies collect money from investors and invest it in the form of portfolios built by investment managers. Mutual funds can be divided into two areas:

closed-end mutual funds and open-end mutual funds. In closed-end mutual funds, the fund is closed when the amount of funds raised reaches a certain amount. Therefore, investors cannot withdraw their invested funds. An open-ended fund, on the other hand, allows investors to invest or withdraw money from the fund at any time as long as the fund is active. Investors can resell mutual funds they have bought or buy back mutual funds sold by the mutual fund company.

Derivative Products (Options and Futures) A derivative product is a security that is a derivative of another security and its value is highly dependent on the price of the other security, which is used as a benchmark.

There are various types of derivative products, including warrants, rights issues, options, and futures.

1) A warrant is an option issued by a company to acquire a certain number of shares at a certain price within a certain period of time (usually several years). The issuance of warrants is usually tied to other securities, such as stocks or bonds, to increase investor interest. Warrants are often referred to as "sweeteners" of stock and bond issues.
2) Rights issue is a derivative product derived from shares. A rights issue gives the owner the right to buy a large number of new shares of a company at a certain price. Rights issues are usually limited to existing shareholders. The company issues rights with the aim of reducing the issuance costs associated with issuing new shares without changing the shareholding of the shareholders.
3) Options are the right to buy or sell a certain number of shares at a predetermined price. Options can be either call options or put options.

   A call option gives its owner the right to buy a certain number of shares at a certain price within a certain period of time. In contrast, a put option gives the right to sell a certain number of shares at a certain price and quantity within a predetermined period of time, so the issuer and the buyer of the option have different expectations. With a call option, the issuer expects the stock price to fall, but the buyer expects the stock price to rise upon expiration. Conversely, with a put option, the issuer expects the stock price to rise, but the buyer expects the stock price to fall upon expiration. Options usually have a term of a few months, but there are also longer-term options known as long-term options (LEAPS).
4) In a futures transaction, the buyer must fulfill the agreed contract (in terms of obligations). A futures contract is an agreement between a buyer and a seller to exchange a specific asset in the future. The seller provides a specific asset at a

predetermined time in exchange for a fixed amount of money from the buyer. Payment is made on time, but to reduce the risk of not fulfilling the contract on time, the buyer must provide a certain amount (margin) at the beginning of the contract. In addition to being used as a speculative tool. Futures contracts also act as a hedge that reduces the uncertainty of future prices. By purchasing futures, you can protect your investment from unexpected price movements in the future.

**METHODS AND DATA**

Research methods are scientific methods to obtain valid data with the aim of discovering, developing, and proving certain knowledge and using that knowledge to understand, solve, and predict problems in a particular field. These data are then described, proven and developed, and original theories are found from these data.

Research activities are generally carried out to understand, solve, and predict problems that arise in human life. The type of research used in this study is descriptive research. Zuriah (2009: 47) says, "Descriptive research is research that aims to provide systematically and accurately the symptoms, facts, or events related to the characteristics of a particular population or region." I explain. This research uses a quantitative qualitative approach because it uses analytical and numerical techniques.

**DATA TYPES**

**Qualitative Research**

Qualitative research is basically descriptive research and tends to use analysis. Qualitative research emphasizes process and meaning (the subject's point of view). The theoretical basis becomes a guideline to ensure that the research focus is in accordance with the facts in the field. This rationale is also a material for reviewing the research environment and discussing research findings. Kriyantono said, ``The purpose of qualitative research is to explain a phenomenon in depth through comprehensive data collection. " Qualitative research emphasizes the depth of data obtained by researchers. The deeper and more detailed the data obtained, the better the quality of the qualitative research. By using this method, researchers analyze the data obtained in the field in detail. Researchers cannot investigate the observed social situation because the whole reality that emerges is a unity that occurs naturally. The results of qualitative research can also bring up new theories or concepts if they conflict with theories or concepts that have been considered previously in research.

## DATA SOURCE

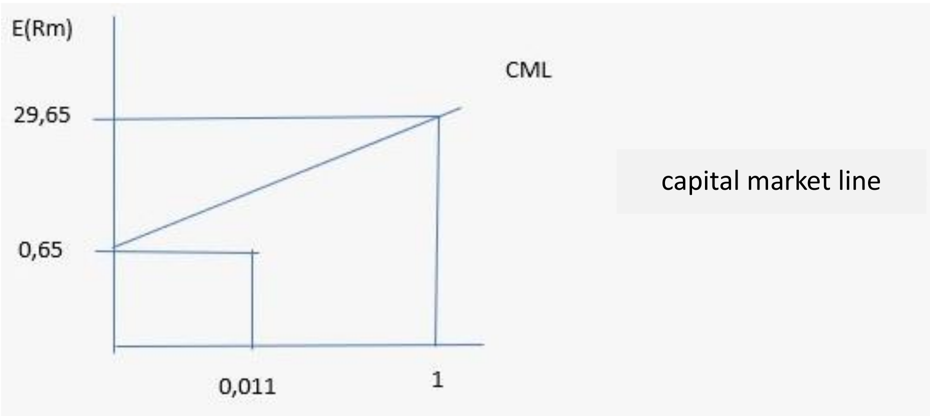
### Secondary Data

According to Husein Umar (2013), secondary data is primary data that is further processed by primary data collectors or other parties and presented in the form of tables, graphs, and others. According to Sugiyono (2008: 402), secondary data is "a data source that does not directly provide data to data collectors". According to the Big Indonesian Dictionary (KBBI), secondary data is data that researchers obtain not directly from the subject matter, but from other sources, both oral and written. Secondary data is data that refers to information from existing sources such as important documents, websites, and books. Secondary data can come from data collected by other organizations or individuals, such as census data collected by the government. Secondary data is usually more accessible than primary data. Secondary data generally comes in the form of graphs, charts, or tables.

## RESULTS AND DISCUSSION

| Date | 2022 Period Stock Data | | IHSG |
|---|---|---|---|
| | PT. MUSTIKA RATU (MRAT) | PT. MULTI INDOCITRA (MICE) | |
| 1/1/2022 | 274,00 | 376,00 | 6.859,91000 |
| 1/2/2022 | 214,00 | 354,00 | 6.997,03000 |
| 1/3/2022 | 200,00 | 378,00 | 6.916,45000 |
| 1/4/2022 | 183,00 | 362,00 | 6.921,41000 |
| 1/5/2022 | 187,00 | 392,00 | 6.899,39000 |
| 1/6/2022 | 226,00 | 392,00 | 6.895,44000 |
| 1/7/2022 | 250,00 | 420,00 | 6.921,73000 |
| 1/8/2022 | 360,00 | 510,00 | 6.957,83000 |
| 1/9/2022 | 388,00 | 480,00 | 6.966,66000 |
| 1/10/2022 | 570,00 | 460,00 | 6.953,26000 |
| 1/11/2022 | 885,00 | 510,00 | 6.889,5000 |
| 1/12/2022 | 765,00 | 535,00 | 6.859,51000 |

| Date | Stock Return Period 2022 | | IHSG |
|---|---|---|---|
| | PT. MUSTIKA RATU (MRAT) | PT. MULTI INDOCITRA (MICE) | |
| 1/1/2022 | | | |
| 1/2/2022 | -0,218978102 | -0,058510638 | 0,0199886 |
| 1/3/2022 | -0,065420561 | 0,06779661 | -0,011516315 |
| 1/4/2022 | -0,085 | -0,042328042 | 0,000717131 |
| 1/5/2022 | 0,021857923 | 0,082872928 | -0,003181433 |
| 1/6/2022 | 0,20855615 | 0 | -0,000572514 |
| 1/7/2022 | 0,10619469 | 0,071428571 | 0,003812665 |
| 1/8/2022 | 0,44 | 0,214285714 | 0,005215459 |
| 1/9/2022 | 0,077777778 | -0,058823529 | 0,001269074 |
| 1/10/2022 | 0,469072165 | -0,041666667 | -0,001923447 |
| 1/11/2022 | 0,552631579 | 0,108695652 | -0,009169799 |
| 1/12/2022 | -0,13559322 | 0,049019608 | -0,004353001 |
| | 3,976 | 659,977,2 | 31369,9 |



| Matrix Varian Kovarian | PT MUSTIKA | Multi Indocitra Tbk(MICE) | IHSG |
|---|---|---|---|
| IHSG | -260,906,215 | 275,283,909 | 31369,9 |

| COMPONENTS FOR SML | | |
|---|---|---|
| | PT MUSTIKA RATU | PT MULTI INDOCITRA |
| BETA | 1 | 0,01189 |
| RISIKO PREMIUM | 29,34 | 29,34 |
| E(RI) | 29,65 | 0,65167 |

| Risk Free (Rf) | Year 2022 |
|---|---|
| Jan-22 | 0.035 |
| Feb-22 | 0.035 |
| Mar-22 | 0.035 |
| Apr-22 | 0.035 |
| May-22 | 0.035 |
| Jun-22 | 0.035 |
| Jul-22 | 0.035 |
| Aug-22 | 260,416,667 |
| Sep-22 | 329,861,111 |
| Oct-22 | 295,138,889 |
| Nov-22 | 0.055 |
| Dec-22 | 364,583,333 |
| Average | 3,125 |
| Maximum | 0.055 |
| Minimum | 0.035 |

1. Beta on PT MUSTIKA RATU = 1 means the same as the market market, meaning that the stock price is in the same condition as the market index and E (Ri) < Ri means it is worth buying.
2. Beta on Multi Indocitra Tbk (MICE) < 1 means that the stock price is not affected by the market index. E (Ri) < Ri means it is worth buying.

## CONCLUSIONS

Shares of PT Mustika Ratu and PT Multi Indocitra both have E (Ri) < Ri so they can be purchased. But if compared which one is more profitable, the answer is investment in PT Mustika Ratu because the higher the systematic risk of an asset, the greater the return received by investors.

## ADVICE

Given the many stock products in circulation, as an investor it is necessary to be wise in choosing stocks with the right method. As in this CAPM assesses return expectations and assesses risk. And in choosing a stock, choose a stock expectation that is smaller than the stock price

1. In choosing a stock, choose a stock expectation that is smaller than the stock price.
2. Choose a large systematic risk because the higher the systematic risk of an asset, the greater the return received by investors.

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