THE ANALYSIS OF SYSTEMATIC RISK AND EXPECTED RETURN OF STOCK OF PROPERTY AND REAL ESTATE SECTOR IN JAKARTA STOCK EXCHANGE

A THESIS

Presented as Partial fulfillment of the Requirements
to Obtain the Bachelor Degree in Accounting Department.

By

IDRIS TRI BUDIYARTO

Student Number: 96212197
Student Registration Number:960051011303120195

DEPARTMENT OF ACCOUNTING
INTERNATIONAL PROGRAM
FACULTY OF ECONOMIC
ISLAMIC UNIVERSITY OF INDONESIA
JOGJAKARTA
2006

THE ANALYSIS OF SYSTEMATIC RISK AND EXPECTED RETURN OF STOCK OF PROPERTY AND REAL ESTATE SECTOR IN JAKARTA STOCK EXCHANGE

By

IDRIS TRI BUDIYARTO

Student Number: 96212197
Student Registration Number:96005101130312019 5

Approved by

Content Advisor,

Drs. Arief Bachtiar, MSA **February 28, 2006**

Language Advisor,

Cithra Orisinilandri, MA **March 28, 2006**

THE ANALYSIS OF SYSTEMATIC RISK AND EXPECTED RETURN OF STOCK OF PROPERTY AND REAL ESTATE SECTOR IN JAKARTA STOCK EXCHANGE

A BACHELOR DEGREE THESIS

By

IDRIS TRI BUDIYARTO

Student Number: 96212197
Student Registration Number:960051011303120195

Defended before the Board of Examiners
On February 28th 2006
And Declared Acceptable

Board of Examiners

Examiner 1

Arief Bachtiar, Drs., MSA., Ak. .....

Examiner 2

Yunan Najamuddin, Drs., MBA., Akt. .....

Jogjakarta, February 13, 2006
International Program
Faculty of Economics
Islamic University of Indonesia

Drs. Suwarsono, MA

ACKNOWLEDGEMENTS

Alhamdulillah..... Finally, I have done with my thesis and I am *sick* enough through all this time. For note here I finish my degree for over than 9 years...(sembilan tahun lamanya...), just like a song. All praises is only for ALLAH and you're the might One, because of You, I finally done my degree. Thank you....!!!. Pak Arief thank you for your kindness and patience on helping me to finish my thesis and it is from the bottom of my heart. If not because of you, I think the faculty will kick me out. To International Program Management, thank you for your support and cooperation.

First of all, thank you to my father and mother for supporting me and for your patience, trust me that it is true and it is real that I finally graduate from the university that you chooses for me. To AD 4505 KS for taking me every where I want to go. Jogja – Solo it does not matter to you. You're my first love babe. Pingit team; Arief SE. Ato SE, Badra SE, Kandar SE (in the process)), with you all we've been good fellow and I hope we still in the next future.

From Kudus with love; Adi SE, Edo ST, Sam SE, Boneng, Ajid SE, Ipin SE (in the process), thank you for the computer, for giving me support, for having fun in the *Karimun Jawa islands*, the place I used to stay in the night and above all we are best friend and we always will.

To all my International Program friends; Iwan, Jampes Andre, Oik, Jay, you can see now finally I graduate from the IP though I am the last one... piss...

For the others that I can not mentioned one by one, *matur nuwun sedoyonipun amargi panjenengan sedoyo dalem saget lulus.*

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Budiyarto, 2006, The Analysis of Systematic Risk and Expected Return of Stock of Property and Real Estate in Jakarta Stock Exchange. Jogjakarta. Accounting Department. Faculty of Economics. Islamic University of Indonesia.

The main purpose of a public company in conducting its operation is to maximize its shareholders' wealth or expected return. Considering in conducting this goal it will follows by risk. Higher risk that shareholder receive, higher expected return they will ask for. Risk it self divided into 2: systematic risk and unsystematic risk.

This thesis was using single index method to analyze the relation between systematic risk and expected return of property and real estate in Jakarta Stock Exchange. The researcher used daily stock price from only 5 companies that have the most active stock trading in the current time.

ABSTRAKSI

Budiyarto, 2006, Analisa Resiko Sistematik dan Tingkat Keuntungan yang Diharapkan pada Perusahaan Properti dan Real Estat di Bursa Efek Jakarta. Jogjakarta. Jurusan Akuntansi. Fakultas Ekonomi. Universitas Islam Indonesia.

Tujuan utama dari perusahaan publik adalah untuk memaksimalkan keuntungan para pemegang saham atau tingkat keuntungannya. Yang pastinya dalam usahanya untuk mencapai ini pasti akan di ikuti resiko yang kemungkinan akan muncul dalam tahap untuk mencapainya. Dalam hal ini semakin tinggi resiko yang akan di terima, para pemegang saham akan di pastikan meminta tingkat keuntungan yang semakin tinggi pula. Dan itu sebagai dari konsekuennya. Resiko sendiri di bagi menjadi dua yaitu: resiko sistemetik dan resiko yang tidak sistematik.

Dalam penelitian ada atau tidaknya hubungan antara resiko sistematik dan tingkat keuntungan saham pada perusahaan properti dan real estat di Bursa Efek Jakarta digunakanlah metode single indek. Penelitian ini mengunakan data dari harga saham dari lima perusahaan yang paling sering didagangkan.

CHAPTER I

INTRODUCTION

I.1. Background of the Study

The term investment identifies the purchase of securities that offers safety of principal and satisfactory yield equal to the risks. Anyone who commits funds to investments should have some rational reasons for doing so. The necessary prerequisites for investing are (1) a basic knowledge of the various alternative investments that are available, (2) access to sources of financial information, (3) an ability to read and to understand financial quotations, and (4) a familiarity with the widely quoted market indexes and averages. The investor is not expected to have the skills and background of a professional security analyst. Yet, the investor stands to gain by keeping abreast of the basic economic and financial information that is available.

Financial securities are created when a corporation or government body either borrows money or sells stock representing partial ownership. Securities markets can be classified as either primary or secondary markets. In the primary market, the proceeds of the sale of the securities go to the issuing corporation or government body. In the secondary market, securities are bought and sold among investors, with none of the proceeds going directly to the corporation or government body. Stock exchange itself is normally used in the U.S. and it is consists of dozen of large and small securities market. There are some facts worth keeping in mind about buying or selling stock on an exchange: (1) when we buy

stock, we buy from another person through a broker. (2) When we sell stock, we sell to another person through a broker. (3) The exchange provides the marketplace for the sale. (4) The exchange neither buys, sells, nor sets the price of our stock. (5) Through their daily operations, the exchange provides a continuous market with a constant release of market information. The stock exchanges are usually auction markets where traders and investors, through brokers, negotiate that are by "asking" prices and making "bids" on securities.

Two terms that are used to describ investors' attitudes in the stock market are *bulls* and *bear*s (Jackson and Musselman; p.472-473). Bulls are investors who are optimistic about the market and expected it to rise. Since they expect the market to rise, they may be identified as buyers. If a lot of purchase creates an upward market, this is called a *bull market.* Conversely, bears are investors who are pessimistic about the market and expect it to decline. Bears will tend to sell their stock since they expect prices to decline. When there is more selling pressure in the market than buying pressure, stock prices will decline. This declining market is called a *bear market.*

In Indonesia, stock exchange consists of Jakarta Stock Exchange and Surabaya Stock Exchange. Jakarta stock exchange concerns about high-level securities trade while Surabaya stock exchange concerns about middle end securities trade.

The object of the observation is on property and real estate sectors. Property and real estate sectors have huge impact to the condition of economic to the country. In most countries, property and real estate sectors become such reflection

to the national economy. In addition, why is it so, because most the countries measure the nation economic growth from the property and real estate sectors whether it has good or bad impact into the nation economic. It means when the property and real estate sectors had advanced technology and high distribute such high national income, it provide the job opportunities, etc. to the nation, those nations could categorize as advanced and/or had high prosperity. On the other hand, if the property and real estate sectors collapse, the nation could categorize as poor country.

Why the stock exchange market has important role to the firm? Besides mentioned above, the other reason is the market provide all the company needs such high capital in order to diversify and/or increase their products volume. For another reason is the market will see that, the firm's management has capability, reliability, and dependability. In addition, the market will see that they have extra ordinary image during their involvement in the stock market.

That is way the property and real estate sectors become such an important role to the national economic growth. For some particular reasons, the writer discusses these sectors as the objective for writing thesis.

I.2. Problem Identification

The analysis of systematic risk and the expected return of stock in property and real estate sector is the focus of the writer's observation. Systematic risk is the only risks that usually still exist although investor spread out their investment

through portfolio. The relationship between systematic risk and expected return is relevant or not by using single index method.

The researcher put property and real estate sector as investor play stock in Jakarta stock exchange.

The problem that will be analyzed is the relation between the systematic risks with expected return of stock of property and real estate sector in Jakarta Stock Exchange.

Accordingly, the thesis will be focused on "The Analysis of Systematic Risk And Expected Return of Stock of Property and Real Estate Sector in Jakarta Stock Exchange".

I.3. Problem Formulation

Is there the relationship between systematic risk and expected return of stock of property and real estate sector in Jakarta Stock exchange?

I.4. Problem Limitation

The limitations of research area are:

The data gathered from daily price of stock of 5 property and real estate firms at Jakarta Stock Exchange on July 2004 – December 2004.

I.5. Research Objectives

This research is aimed to know the relationship between systematic risks with expected return, whether it has a positive or a negative correlation.

I.6. Research Contributions

In this research, the writer expects either readers or the researcher will simply understand on investing capital through the market exchange which is already available in either Jakarta or Surabaya Stock Exchange. To find out the relation and/or no relation between risk and the expected return means:

1. This research gives benefits to the investor to choose which stocks have the lowest risk or higher risk.
2. The benefit for the researcher is adding the insight of capital market, especially to know the relationship between systematic risk and expected return and how to compute systematic risk and expected return.

I.7. Definition of Terms

Systematic risk is a general risk that results from being involved with the securities market. The expected return of stock is the level of gain where the investors expected during they invest the capital in the stock market. The single index model is also called market model. The market model says that the return on security depends on the market portfolios and extends of the responsiveness.

CHAPTER II

REVIEW OF RELATED LITERATURE

On the review of related literature, the researcher mentions the present state of knowledge on the topic, and it consists of the similarities or differences between the present and previous study. Finally, yet importantly, it is discussing the relevance of the topic to the study of what has been reviewed.

2.1. Theoretical Review

2.1.1. Risks and Diversification

The realistic investor will not invest only in one type of investment, but they diversify their investments that give expectation of higher return and low risk. Strategy of diversification will do with optimal portfolio; it means that diversification of investment with specific amount have higher return. Optimal portfolio can be reached by simulation of efficient securities with specific evaluation procedure. (Sartono & Zulaihati, 1998)

All investments are risky. Investors do not know exactly the result that will arise from their investment. In this situation, investors face risk on investment they have done. At uncertain condition, investor can only expect the level of risk that will appear. They do not know exactly the expected return.

The investor will diversify their investment in order to reduce risk that will exist. They combine their securities on their investment. On this step, they make some identification in which securities will choose and decide how much fund to sustain each security.

As a prelude to examine different models for risk and return, it is worth exploring what ingredients would make a model a good one. A good risk and return model should do the following:

1. Come up with a measure for risk that is universal. A risk measure, to be useful, has to apply to all investments, whether stocks, bond, or real estate, since they all compete for the same investment dollar. A good risk and return model will come up with one measure of risk that applies to all investments, financial or real.
2. Specify what types of risk are rewarded and what types are not. It is an accepted part of investments that not all risks are rewarded, and a good model should be able to distinguish between risk that is rewarded and risk that is not and provide an intuitive rationale for the distinction.
3. Standardize risk measure, to enable analysis and comparison. While risk is always relative, a good risk measure should be standardized in such away that an investor, when looking at the measure or risk for any one investment, should be able to come to a conclusion about the risk of that investment relative to others.
4. Translate the risk measure into an expected return. One of the objectives in measuring risk is to come up with an estimate of an expected return for an investment. This expected return then becomes the benchmark, which determines whether the investment is a good or a bad one. It is not sufficient for a model to say that higher-risk investments should yield higher expected returns, without providing a specific estimate of the risk premium.

5. Work. The ultimate test of a good model is that it works, that is, it provides a measure of risk that at least in the long term and across the cross-section of the investments is positively correlated with returns. A stronger test would be to examine whether the actual returns again the long term, are equal to the expected returns derived from the model. (Aswath Damodaran, p. 20-21).

In manner of portfolio balance, Mayer, Duesenberry, and Aliber (p. 25) divided risk into several types. One type of the risk is **a default risk**, that is, the risk that the *borrower will simply not repay the loans*, either out of dishonesty plain inability to do so. Another type of risk, called **purchasing-power risk**, is the risk that, due to an unexpectedly high inflation rate, the *future interest payments, and the principal of the loan when finally repaid, will have less purchasing power* than the lender anticipated at the time the loan was made. A third type of risk is **interest rate risk** that is the *risk that the market value of a security will fall because interest rates will rise.*

The other writers say investment that contains risk because of several factors such as : interest rate risk, purchasing risk, bull bear market risk, management risk, default risk, liquidity risk, collability risk, convertibility risk, political risk, and industrial risk.

On the other hand, Jackson and Musselman divided the type of the risk into two. There are **systematic risk** and **non-systematic risk** (1992; p.468-469). They said systematic risk results from being involved with the market and the general political and economic forces to which the market is subjected. An investor in

common stocks must accept, for example, the possibility that the economy may enter a recession that will cause the market to go down. Because most common stocks are affected by what happens to the market as a whole, a market decline will usually cause a drop in the price of an individual security. In another word, *systematic risk is general risk that results from being involved with the securities market. Unsystematic risk, or diversifiable risk, is the risk that is unique to a particular firm and/or industry*. Unsystematic risk can be dealt by diversifying since a portfolio with many different firms and industries will have only market risk. See risk classification on the table below:

Figure 2.1 (Risk classification)

Systematic Risk	Unsystematic Risk
* Risk associated with the economy and security market * Risk due to changes in purchasing power * Risk due to changes in interest rates * Risk due to changes in politics * Risk due to changes in investor psychology	* Individual company or industry risk * Unique risks due to individual firm's financial situation, management practices, susceptibility to fraud, etc

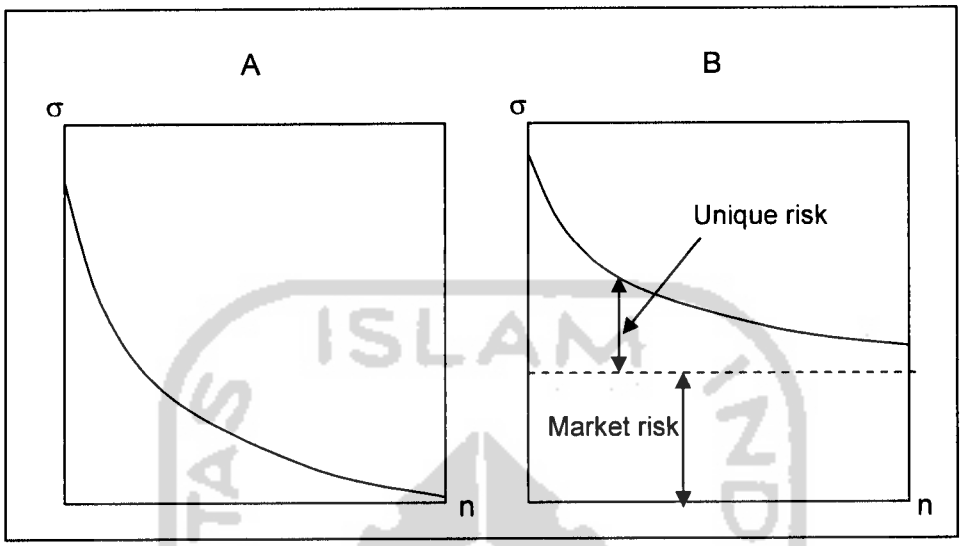
The only risk that is relevant for gaining return is systematic risk, because this risk cannot be diversified, so the investor will have risk burning. The unsystematic risk is not relevant for gaining return, because it can disappeared away trough spreading many investments into portfolio. Therefore, unsystematic risk can be eliminated without canceled the investment, so there is no risk that appears in investment. The only risk that is priced by rational investor is systematic risk, because that risk cannot be eliminated by diversification Because of that, researcher chooses systematic risk in valuing risk and expected return of stock of industrial sectors in Jakarta Stock Exchange.

On the other hand, Williams divided risk into two types: systematic risk and non-systematic risk (1978; p.65). Systematic risk is a risk that is attributable to broad macro factors affecting all securities. For instance: war, inflation, recessions, higher interest rate, etc. Non-systematic risk is risk attributable to factors unique to securities. Spreading the investment can eliminate this risk. For instance: lawsuit, strikes, and successful and unsuccessful marketing program, winning or losing a major contract.

Diversification can reduce risk to arbitrarily low level. The reason is that with all risk sources independent, the exposure to any particular source of risk is reduced to a negligible level. (Zvi Bodie, Alex Kane, Alan J. Marcus, 2002; p.208). When common sources of risk affect all firms, however, even extensive diversification cannot eliminate risk.

In figure 2.2, portfolio standard deviation falls as the number of securities increases, but it cannot be reduced to zero. The risk that remains even after extensive diversification is called market risk, the risk that is attributable to market wide risk sources. Such those risk is also called systematic risk, or non-diversifiable risk. In contrast, the risk that can be eliminated by diversification is called unique risk, firm-specific risk, nonsystematic risk, or diversifiable risk. (Zvie Bodie, Alex Kane, Alan J. Marcus, 2002; p.208)

FIGURE 2.2 (Portfolio risk as a function of the number of stocks in the portfolio)



Investor usually expects the higher return with the lower risk. They do not like the risk in all investment, consequently they are faithful with their activities. The value that they expect from return called mean while risk can be drawn as standard deviation. The higher the risks of securities indicate the higher expected return while the lower the risks reflect to the smaller standard deviation.

In the manner of diversification, the investors usually spreading their investment in order to reduce risks that might be come up in the future. In another word, the investors make portfolio.

That is why, the investors need to understand to calculate the expected return and standard deviation if the investors combine several investments, or hold portfolio. The calculation of the expected return from certain portfolio is quiet easy, because it is the average of the expected return from each security. On the other hand, the standard deviation calculation is quite complicated because there

will be a correlation element between the expected return from each security. Securities diversification enforces risk to be lower. The good strategy of portfolio diversification is pertaining in different return with diverse movement of securities.

Diversification can be divided into two:

1. Random diversification

   Random or naïve diversification refers to the act of randomly diversifying without regard to relevant investment characteristics such as expected return and industry classification. (Charles P. Jones, 1998; p.181).

2. Efficient diversification.

   Efficient diversification is a mathematical procedure, which searches through a set data provided by security analyst to find that combination of securities, which will minimize portfolio risk for a desired level of portfolio return. (Robert C. Radcliffe, 1982; p.160)

In random diversification, investors do not consider the investment attribute, such as negative correlation of expected return and also industry segmentation. Unfortunately, the advantage of random diversification does not pass, although we add the number of securities. In the first diversification, the risk drop as higher as we add more securities, but at one point the risk reduction is small. The expected standard deviation of portfolio returns does not depart as large as we add more securities. Efficient diversification is the efficient way to reach minimum level of risk at any level of desired return.

2.1.2 Portfolio Theory

The investment process consists of two broad tasks. One task is security and market analysis, by which we assess the risk and expected return attributes of the entire set of possible investment vehicles. The second task is the formation of an optimal portfolio of asset. This task involves the determination of the best risk-return opportunities available from feasible investment portfolios and the choice of the best portfolio from a feasible set. (Zvie Bodie, 2002, p. 154). The last explanation called as portfolio theory.

Portfolio is emphasized on the spreading investment on different sectors or areas. It means, investor do their work by doing investment into many segment of business. The use of portfolio theory on investment will reduce the risk followed by higher expected return.

To take the full information set into account, we used alternative approach based on portfolio theory as developed by Markowitz. Portfolio theory is normative, meaning that it tells investors how they should act to diversify optimally. It is based on a small set assumptions, including:

1. A single investment period; for example, for one year.
2. Liquidity of positions; for example, when there are no transaction costs.
3. Investor preferences based only on a portfolio's expected return and risk, as measured by variance or standard deviation. (Charles P. Jones, 1998; p 205)

Efficient portfolio will be identified as portfolio, which gives higher expected return with certain risk or gives low risk with specific expected return.

Efficient portfolio can be determined by selecting expected return and reducing the risk or determine the level of risk and than enlarge the level of expected return. Rational investor will choose efficient portfolio because it is designed by optimization of two dimensions. The dimensions are expected return and portfolio risk. The first step in order to optimize portfolio is to determine the efficiency of portfolio. The efficient portfolio can be identified as optimal portfolio. (Jogiyanto, 1998)

The risk investment will be selected by unique investor to gain optimal portfolio. Designing investment can be divided into two parts: (Sartono & Zulaihati, 1998)

1. Maximize portfolio ratio by comparing other risky free assets with expected value and standard deviation at excess return to beta.
2. Decide investment allocation in risky portfolio.

Portfolio risk is determined by standard deviation. The higher standard deviation, the higher the risk that will be faced. As explained in chapter one, the risk that is realistic to the analysis of investment of stock is a systematic risk. Systematic risk cannot be hidden anyway through diversification of stock investment.

Combining stock in portfolios will reduce risk but it cannot reduce systematic risk. Therefore, in analyzing portfolio standard deviation can not be used for measuring but use systematic risk analyzing can. If we use standard deviation, it means we measure the total risk or systematic risk plus non-systematic risk.

2.1.3. The Expected Return and Risk Definition

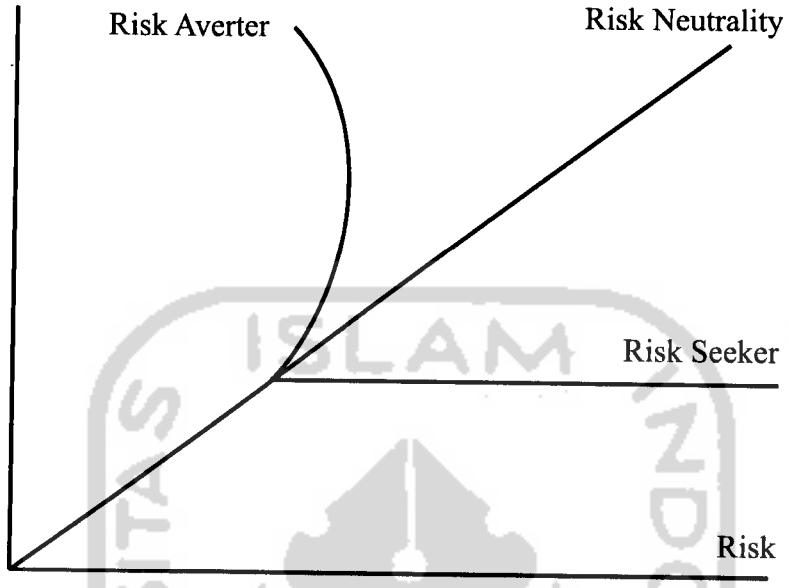
In every investment decision, it will follow the elation between risk and the rate of expected return. An investment risk is the rate of the expected return that is not achieved at a given period or there is the rate of the expected return is less than what it should be. Meanwhile, the rate of expected return is the level of profit or gain where the investors expected. It means the higher of return will follow by higher risk.

The important assumption within expected return and risk is every individual will face there will be choices of investment and they prefer to lower risk with provide the same level of expected return (Sartono, Agus, 1996).

In this case the investors can be classified into three types:

1. *Risk seeker* is an individual or investors that have gut to face all the risk that come up during their activities. If an individual or the investor faces two options of investment that have different degree level of risk in the same level of expected return, he/she would choose the investment that has higher risk.
2. *Risk averter* is a person or investors that tends to avoid risk that might come up during the investment activities. This kind of risk averter would choose the lower risk with the same level of expected return.
3. *Risk neutrality* is a group of investor or individual that has neutral attitude to risk. It means the investor will ask for more return of the investment for every single risk that rises during their investment.

Figure 2.3 Risk Taker Categories



2.1.4. The Expected Return of Stock

All investors have huge wish to get higher expected return in their investment, but they also face with uncertain condition to estimate the expected return. Thus, it needs a formula to analyze and measure the expected return. The formula in single index method can be written:

$$E(Ri) = \alpha i + \beta i\, E(Rm)$$

E (Ri) : Expected return of stock

$\forall i$: a term that represents the non market component of the return on asset.

$\exists I$: a term that relates the change in asset return to the change in the market portfolio

Rm : return on the market portfolio

2.1.5. The Single Index Model

Stock market activities give many benefits. However there are only few people know about its existence. Consequently, they could not enjoy the benefits offered by the stock market. A lot of them involve in stocks trading uses their gambling ability; in other word, they choose stock randomly, without paying attention to the character of investment. A rational investor is the one who success in choosing a stock, which gives optimal gain in a certain risk. In addition, it depends on the investor's preference of different return and risks. In order to gain optimal portfolio, an investor should have a tool of analyses. One of the portfolio analysis tools is Single Index Model.

In a single index method, the market impact has huge influence in investment. When the market is in a good condition, the investment is also favorable to do so. Immediately, when market changes to a bad condition, the investment also drops sequently. These case market fluctuations impress the price of stock in stock exchange to drop or increase.

The step-by-step formula that arrange the single index method: (Zvie Bodie, Alex Kane, Alan J Marcus, 2002)

$$r_i = E(r_i) + m_i + e_i \qquad \textbf{(1.1)}$$

Where $E(r_i)$ is the expected return on the security as of the beginning of the holding period, mi is the impact of unanticipated macro events on the security's return during the period, and e_i is the impact of unanticipated firm-specific

events. Both m_i and e_i have zero expected values because each represents the impact of unanticipated events, which by definition must average out to zero.

We can gain further insight by recognizing that different firms have different sensitivities to macroeconomic events. Thus if we denote the unanticipated components of the macro factor by F, and denote the responsiveness of the security i to macro events by beta. β_i then the macro component of security i is mi = $\beta_i F$ and then equation 1.1 becomes

$$R_i = E(r_i) + \beta_i F + e_i \qquad \textbf{(1.2)}$$

Equation 1.2 is known as a single- factor model for stock returns.

According to the index model, we can separate the actual or realized rate of return on a security into macro (systematic) and micro (firm-specific) components in a manner similar to that in equation 1.2. We write the rate of return on each security as a sum of three components :

1. The stocks expected return if the market is neutral that is if the market's excess return, $r_m - r_f$, is zero. ($\forall i$)
2. The component of return due to movements in the overall market; $\exists I$ is the security's responsiveness to market movements. ($\exists I + r_m - r_f$,)
3. The unexpected component due to unexpected events that is relevant only to this security (firm specific). (e_i)

The holding period excess return on the stock can stated as:

$$r_i - r_f = \alpha_i + \beta_i(r_m - r_f) + e_i$$

To denote excess returns over the risk-free rate by capital R can be seen in the following:

$$R_i = \alpha_i + \beta_i R_m + e_i \qquad \textbf{(1.3)}$$

Equation 1.3 says that each security has two sources of risk: market or systematic risk, that is attributable to its sensitivity to macroeconomic factors as reflected in R_M and firm-specific risk, as reflected in *e*. If we denote the variance of the excess return on the market, R_M, as σ^2_M, then we can break the variance of the rate of return on each stock into two components:

	Symbol
1. The variance attributable to the uncertainty of the common Macroeconomic factor	$\beta_i^2 \sigma_M^2$
2. The variance attributable to firm-specific uncertainty	$\sigma^2(e_i)$

The covariance between R_M and e_i is zero because e_i is defined as firm specific, that is, independent of movements in the market. Hence the variance of the rate of return on security *i* equals with the sum of the variances due to the common and the firm-specific components:

$$\sigma_i^2 = \beta_i^2 \sigma_M^2 + \sigma^2(e_i)$$

What about the covariance between the rates of return on two stocks? This may be written:

$$\textbf{Cov } (R_i, R_j) = \textbf{Cov } (\alpha_i + \beta_i R_m + e_i \alpha_j + \beta_j R_m + e_j)$$

But since $\forall_i$ and $\forall_j$ are constants, their covariance with any variable is zero. Further, the firm-specific terms (e_i, e_j) are assumed uncorrelated with the market and with each other. Therefore, the only source of variance in the returns between the two stocks derives from their common dependence on the common factor, R_M. In other words, the covariance between stocks is due to the fact that the returns on each depend in part on economy wide conditions. Thus,

$$\mathrm{Cov}(R_i, R_j) = \mathrm{Cov}(\beta_i R_M, \beta_j R_M) = \beta_i \beta_j \sigma_M^2 \quad \textbf{(1.4)}$$

These calculations show that if we have

n estimates of the expected excess returns $E(R_i)$

n estimates of the sensitivity coefficients, $\exists_i$

n estimates of the firm-specific variances, $\Phi^2(e_i)$

1 estimates for the variance of the (common) macroeconomic factor, Φ^2_M

It is easy to see why the index model is such a useful abstraction. For large universes of the securities, the number of estimates required for the Markowitz procedure using the index model is only a small fraction of what otherwise would he needed. In contrast, the index model suggests a simple way to compute covariances. Covariance's among securities are due to the influence of the single common factor, represented by the market index return, and can easily estimated using equation 1.4.

The index model offers insight into portfolio diversification. Suppose that we choose an equally weighted portfolio of *n* securities. The excess rate of return on each security is given by

$$R_i = \alpha_i + \beta_i R_M + e_i$$

Similarly, we can write the excess return on the portfolio of stocks as

$$R_p = \alpha_p + \beta_p R_M + e_p \qquad \textbf{(1.5)}$$

As the number of stocks included in this portfolio increases; the part of the portfolio risk is attributable to the non-market factors becomes ever smaller. This part of the risk is diversified away. In contrast, the market risk remains, regardless of the number of firms combined into portfolio.

To understand these results, the excess rate of return on this equally weighted portfolio, for which each portfolio weight $w_i = 1/n$, is

$$R_P = \sum_{i=1}^{n} w_i R_i = \frac{1}{n}\sum_{i=1}^{n} R_i = \frac{1}{n}\sum_{i=1}^{n} (\alpha_i + \beta_i R_M + e_i) \qquad \textbf{(1.6)}$$

$$= \frac{1}{n}\sum_{i=1}^{n} \alpha_i + (\frac{1}{n}\sum_{i=1}^{n} \beta_i) R_M + \frac{1}{n}\sum_{i=1}^{n} e_i$$

Comparing equations 1.5 and 1.6, we see that the portfolio has sensitivity to the market given by

$$\beta_P = \frac{1}{n}\sum_{i=1}^{n} \beta_i$$

Which is the average of the individual $\exists_i$ s. It has a non-market return component of a constant (intercept)

$$\alpha_P = \frac{1}{n}\sum_{i=1}^{n} \alpha_i$$

This is the average of the individual alphas, plus the zero mean variables

$$e_P = \frac{1}{n}\sum_{i=1}^{n} e_i$$

Which is the average of the firm-specific components. Hence the portfolio's variance is

$$\sigma_P^2 = \beta_P^2\sigma_M^2 + \sigma^2(e_P) \qquad (1.7)$$

The systematic risk component of the portfolio variance, which we defined as the component that depends on market wide movements, is $\beta_P^2\sigma_M^2$ and depends on the sensitivity coefficients of the individual securities. This part of this risk depends on portfolio beta and σ_M^2 and will persist regardless of the extent of portfolio diversification. No matter how many stocks are held, their common exposure to the market will be reflected in portfolio systematic risk.

In contrast, the nonsystematic component of the portfolio variance is $\Phi^2(e_p)$ and is attributable to firm-specific components, e_i. Since these e_is are independent, and all have zero expected value, the law of averages can be applied to conclude that as more and more stocks are added to the portfolio, the firm-specific component tend to cancel out, resulting in ever-smaller non market risk. Such risk thus termed as diversifiable. To see this more rigorously, examine the formula for the variance of the equally weighted portfolio of firm specific components. Since the e_is are uncorrelated, therefore the formula is:

$$\sigma^2(e_P) = \sum_{i=1}^{n} (\frac{1}{2})^2 \sigma^2(e_i) = \frac{1}{2}\sigma^{-2}(e)$$

$\sigma^{-2}(e)$ is the average of the firm specific variances. Considering this average is independent of n, when n gets large, $\sigma^2(e_p)$ becomes negligible.

To summarize, as diversification increases, the total variance of a portfolio approaches the systematic variance, and defined as the variance of the market factor multiplied by the square of the portfolio sensitivity coefficient, β_P^2. This shown in figure 2.3

FIGURE 2.4 (The variance of a portfolio with risk coefficient b in the single-factor economy)

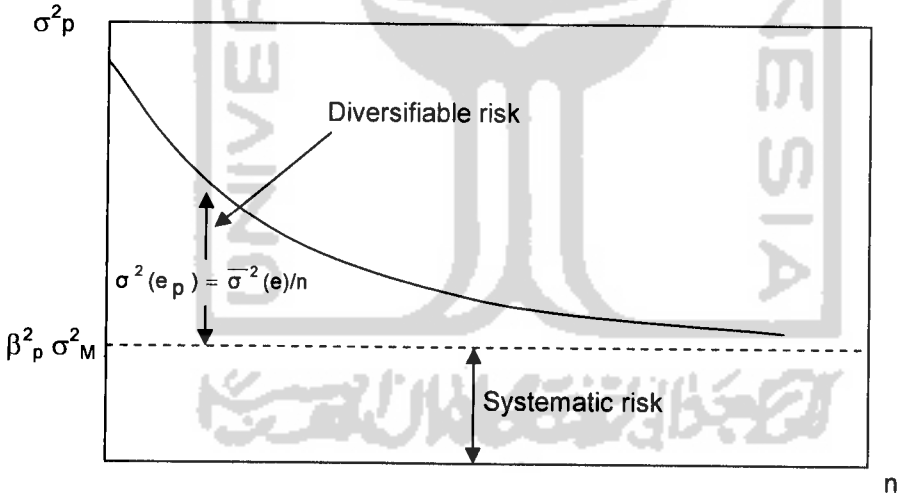


Figure 2.2 shows that as more and more securities are combined into a portfolio, the portfolio variance decreases because of the diversification of firm specific risk. However, the power of diversification is limited. Even for every large n, part of the risk remains because of the exposure of virtually all assets to the common, or market factor. Therefore, this systematic risk is said to be non diversifiable.

2.2. Theoretical Framework

Investors usually hope that their investment get higher expected return with lower risk. The higher of beta will be accompanied by higher expected return. Portfolio will be categorized as efficient, if in the same level of risk can give higher expected return or same expected return with the lower risk. (Sharpe, Alexander and Bailey, 1995).

2.3. Previous Study

The analysis by Black, Jensen and Scholes (1972), showed that there was higher correlation between beta and excess return.

Base on the analysis by Praningsih (1991), on the banking sector during January – December 1990, there was no relationship between risk and expected return.

The analysis by Ardiyanti (1991), on the medical firms during 1989 until 1990, showed that when regression analysis occurred there was no relationship between expected return and risk.

The analysis by Rina Milyati (1998), on snack factories, there was a relationship between systematic risk and expected return.

The analysis by Daud Al Wadud (2002), on the LQ 45 shares analysis in diversification to return and risk during January 2001 – January 2002, showed that there was positive relation between the return and the risk. It means the relation between those two factors have a significant relation.

The analysis by Eni Rahma Zaenah (1997), on an analysis return and risk of the top 20 gainers share. It took sample for 25 shares which were included in the LQ 45 during July 1996 until December 1997 by using the single index of Eiton and Grober. The coefficient correlation among return and risk were significant.

The analysis by Gita Danupraja (1998), which took for 70 shares of the firms that listed in the Jakarta Stock Exchange, showed that there was a significant relation between return and risk.

In the previous research, that researcher replicated applied Capital Asset Pricing Model (CAPM) and the hypothesis formulation was there a relationship between systematic risk and expected return. The result of analysis stated as the hypothesis formulation. The analysis was bearing with good market index.

In the current analysis, the researcher used single index method accompanied by bad market index that was caused by economic fluctuation. Market index has an impact on CAPM and single index model, because when market index rising, the price of stock tended to rise. Considering the statement being analyzed by previous research stated in above, and the market fluctuation bearing in this current analysis accompanied by bad market index, the hypothesis is:

Ho = *There is no significant relationship between risk and expected return.*

CHAPTER III

RESEARCH METHOD

On this chapter, focusing on the research outlines the procedures used to gather and analyze the data. Therefore the researcher try to translate the conceptual scope and methodology into application of course this is coming from the problem statements or hypotheses will ultimately be tracked back to the research methodology.

3.1. Research Method

The empirical study in this research is single index model. Method to gather the samples is based on the most active stock by trading frequency according to Jakarta Statistic Exchange 2003.

3.2. Research Subject

The research subject is property and real estate sector. The data needed is secondary data of daily price of stock.

The population that researcher take is property and real estate sector. It is consists of 33 property and real estate firms on the period of July 2004-December 2004.

The data gathered from The Jakarta Stock Exchange Statistics 2004, Kompas and Pojok Bursa Efek Jakarta in UII.

The method to gather sample is most active stocks by trading frequency sampling. Researcher founds 5 property and real estate firms that suitable to this condition. The amount of 5 organizations can represent the amount of population, because the amount of sample that takes is the most active trading frequency stocks run in the Jakarta Stock Exchange. So, variability of data that contain important information has equal chance in analyzing. The samples of research are:

1. Ciputra Development Tbk.
2. Ciputra Surya Tbk.
3. Summarecon Agung Tbk.
4. Jaka Artha Graha Tbk.
5. Suryainti Permata Tbk.

3.3. Research Variable

a. Dependent variable

The dependent variable is expected return

b. Independent variable

The independent variable is systematic risk

3.4. Technique of Data Analysis

a. Correlation analysis

The formula to measure the strength of the association between systematic risk and expected return is: (Suad Husnan, 1998)

$$r = \frac{n \Xi xy - \Xi x . \Xi y}{\sqrt{[n\Xi x - (\Xi x)] [n\Xi y - (\Xi y)]}}$$

n: number of data

x: systimatic risk (β)

y: expected return (α)

r: coefficient of correlation

b). Regression analysis

The formula to define the relationship between systematic risk and expected return is: (Suad Husnan, 1998)

$$Ri = \alpha i + \beta i \, Rm$$

Ri : return on asset

αi : a term that represents the non market component of the return on asset.

βi : a term that relates the change in asset return to the change in the market portfolio.

Rm : return on the market portfolio.

β here also represent as risk. β could represent by:

$\beta > 0$ = stock has influenced by market index (it means if the market index at a good level, the stock price also have good condition).

$\beta < 0$ = stock has negative influenced by market index (reversing above).

To obtain Ri, Rm, β, α, and ΞRi are:

$$Ri = \frac{Pt - Pt - 1}{Pt - 1}$$

$$Rm_t = \frac{P_{mt} - P_{mt-1}}{P_{mt-1}}$$

$$\beta i = \frac{n\Xi RiRm - \Xi Ri\Xi Rm}{n\Xi Rm^2 - (\Xi Rm)^2}$$

$$\alpha i = Ri - \beta Rm$$

$$\Xi Ri = \alpha + \beta(Rm - \alpha i)$$

Pt = Price of stock at t period

Pt-1 = Price of stock at t-1 period

Ri = Return on security i

P_{mt-1} = Stock price indexes at t-1 period

P_{mt} = Stock price indexes at t period

Rm_t = Expected return market portfolio

$\exists i$ = Systematic risk of stock i

αi = Independent of market expected return

r can be classified as:

r = 1 variable has strong relationship

r = 0 variable do not have relationship

β here also represent as risk. β could represent by:

β > 0 = stock has influenced by market index (it means if the market index at a good level, the stock price also have good condition).

β < 0 = stock has negative influenced by market index (reversing above).

CHAPTER IV

DATA ANALYSIS

As one of the economic instruments, the capital market can not stand by itself because it will be influenced by the environments whether in micro economics such as annual report, dividend payment, the company strategic changing in share holder meeting, and it will be observed by the capital marketers. Another factor is the macro economics such as monetary policies, fiscal policies and/or government regulation in finance sector. The capital market sensitivity level will grow not only based on two factors mentioned above. Political issues also give positive and negative impacts to the sensitivity of the capital market. In another word, if a country has good political condition, the investors will see it as a chance to invest their capital with the high expectation return and the opposite.

Jakarta Stock Exchange to investors is like an institution which has strategic values, not only an economically but politically as well. Because the Jakarta Stock Exchange can be an aspect as a measurement of the national political stabilities (country risk). The investors will see the country is appropriate or not from the IHSG in Jakarta Stock Exchange.

When the IHSG high fluctuate with trend decreasing therefore the foreign strategic values will decrease too. We can see it in the year 1998 when the IHSG from 750 point fell into 250 point. It indicates that the national stabilities did not support the economics development and made the investors neglected and run away from Indonesia.

4.1. Risk Definition

Risk is possible to happen in the unexpected event (Brigham and Gapenski, 1996). Within investment decision, risk is one of the essential factor which has to remain high or low risk during investment term and will impact the expected return itself. According to Jones (1996) risk is possibly actual return in investment with a different expected return. Higher expected return will follow higher risk as well.

In order to calculate the total risk we can use the deviation standard, because the risk can be eliminated by diversification which is known as unsystematic risk. Therefore we can use the risk that can not be eliminated by diversification known as systematic risk or market risk.

Every single firm has different systematic risks on their own. According to Jones (Jogiyanto, 1998) beta is a relative measurement from a systematic risk in individual share in terms of the market as a whole which is measured from the fluctuate return.

4.2. Instruments

On this analysis, the researcher analyses systematic risk (β) and expected return E (Ri) using excel, T table and SPSS program because of huge amount of data and for the accuracy data in order to give the finest and accurate result the researcher uses the computer program mentioned above.

In the first analysis on this case, the researcher measures the expected return of each real estate and property and market index of stock in Jakarta Stock

Exchange (JSX). Secondly, the researcher uses regression analyses in order to measure expected return and market index, to get α (a term that represents the non market component of the return on asset) and β (systematic risk). After that, the researcher measures expected return of stock E(Ri). The final analysis is to measure regression and correlation of expected return as dependent variable (Y) and systematic risk as independent variable (X). Correlation analysis is to measure the strength of the relation between systematic risk and expected return. On the other hand, to define the relationship between the systematic risk and expected return the researcher uses regression analyses.

4.3. Expected Return of Stock

The formula to get expected return of stock is:

$$Ri = \frac{Pt - Pt - 1}{Pt - 1}$$

Pt = Price of stock at t period

Pt-1 = Price of stock at t-1 period

Ri = Return on security i

4.4. Expected Return of Market Portfolio

The formula to get expected return of market portfolio is:

$$R_{mt} = \frac{P_{mt} - P_{mt} - 1}{P_{mt} - 1}$$

R_{mt} = expected return of market portfolio.

P_{mt} = market index at t period.

P_{mt-1} = market index at t-1 period.

The Table 4.1 (Expected Return of Portfolio during July -December 2003)

OBS	RM	OBS	RM	OBS	RM	OBS	RM	OBS	RM
1	0.0140	28	-0.0052	55	0.0019	82	0.0093	109	-0.0193
2	-0.0035	29	0.0032	56	0.0113	83	0.0152	110	-0.0100
3	0.0209	30	0.0153	57	-0.0068	84	-0.0019	111	-0.0147
4	0.0312	31	-0.0076	58	-0.0018	85	0.0036	112	0.0185
5	0.0044	32	-0.0030	59	0.0037	86	0.0206	113	0.0192
6	-0.0154	33	-0.0053	60	-0.0052	87	0.0102	114	0.0169
7	0.0018	34	0.0031	61	-0.0042	88	-0.0023	115	-0.0067
8	-0.0047	35	-0.0007	62	0.0009	89	0.0060	116	0.0098
9	-0.0013	36	-0.0043	63	0.0089	90	-0.0055	117	0.0091
10	-0.0162	37	-0.0015	64	0.0192	91	0.0142	118	0.0013
11	0.0014	38	-0.0140	65	0.0246	92	0.0192	119	0.0112
12	0.0144	39	-0.0097	66	0.0057	93	0.0070	120	0.0064
13	-0.0024	40	0.0048	67	-0.0061	94	0.0096	121	0.0005
14	0.0032	41	0.0156	68	-0.0073	95	0.0064	122	-0.0042
15	0.0060	42	0.0084	69	0.0069	96	0.0202	□ RM	0.3323
16	0.0004	43	0.0022	70	0.0052	97	0.0024		
17	0.0064	44	0.0270	71	-0.0127	98	-0.0059		
18	-0.0060	45	0.0067	72	0.0165	99	0.0100		
19	-0.0033	46	0.0080	73	-0.0041	100	-0.0012		
20	0.0012	47	-0.0022	74	-0.0024	101	0.0142		
21	0.0010	48	0.0024	75	-0.0037	102	0.0086		
22	-0.0052	49	0.0031	76	-0.0012	103	0.0117		
23	-0.0099	50	-0.0082	77	-0.0148	104	-0.0163		
24	0.0105	51	0.0193	78	-0.0079	105	0.0018		
25	0.0013	52	0.0141	79	0.0199	106	0.0033		
26	0.0049	53	0.0080	80	-0.0049	107	-0.0073		
27	-0.0106	54	-0.0030	81	-0.0062	108	-0.0158		

4.5. Systematic Risk and Expected Return

Systematic risk (β) and a term that represents the non-market component of the return on asset (α) can be obtained by regression analyses. After that we measure expected return of stock E (Ri). The table of systematic risk and expected return of stock is outlined below:

Table 4.2 Systematic Risk and Expected Return of Stock

NO	FIRMS NAME	α	β	Σ(Rm)	E(Ri)=αi+βΣ(Rm)
1	CIPUTRA DEVELOPMENT Tbk. (CTRA)	0.011	0.593	0.3323	0.20805
2	CIPUTRA SURYA Tbk. (CTRS)	0.021	-1.479	0.3323	-0.47047
3	SUMMAECON AGUNG Tbk. (SMRA)	0.013	-0.256	0.3323	-0.07207
4	JAKA ARTHA GRAHA Tbk. (JAKA)	0.006	0.240	0.3323	0.08575
5	SURYAINTI PERMATA Tbk. (SIIP)	0.013	-0.589	0.3323	-0.18272

From the table above, we can see the highest systematic risk of stock is Ciputra Development Tbk. (0.539). It means the expected return of Ciputra Development Tbk. will be changed following the market index fluctuation. The coefficient changed is higher than 0.539. The stock of Ciputra Development Tbk. is aggressive following market index fluctuation. It is indicated by β which is nearly to 1.

The expected return of Ciputra Development Tbk. that is not influenced by market (α) is 0.011. While the expected return of stock that is influenced by market E (Ri) is 0.3323. In this regard, we get lower expected return for stocks that have higher risk. This reality is caused by bad market index (0.3323). The stocks of Real Estate and property that have lower risk get higher expected return of stock. The example is Ciputra Surya Tbk. The stock of Ciputra Surya Tbk. is defensive stock. This stock is not aggressive to follow market index. In the case of bad market index, investments that have higher risk will get lower expected return of stock. But, investments that have lower risk will get higher expected return.

Table 4.3 Comparisons Systematic Risk and Expected return of Stock

NO	FIRMS NAME	α	β	Σ(Rm)	E(Ri)=αi+βΣ(Rm)
1	CIPUTRA DEVELOPMENT Tbk. (CTRA)	0.011	0.593	0.3323	0.20805
2	JAKA ARTHA GRAHA Tbk. (JAKA)	0.006	0.240	0.3323	0.08575
3	SUMMARECON AGUNG Tbk.	0.013	-0.256	0.3323	-0.07207
4	SURYAINTI PERMATA Tbk. (SIIP)	0.013	-0.589	0.3323	-0.18272
5	CIPUTRA SURYA Tbk. (CTRS)	0.021	-1.479	0.3323	-0.47047

From the table above among five firms the most active stock in the Jakarta Stock Exchange, we can sure that Ciputra Development Tbk. is better than other four firms stock. It shows by Ciputra Development's beta 0.593 is higher than the other. Even though 0.593 less than 1 and it means the Ciputra Development share is defensive share and less sensitivity to the market but it shows better than others.

On the other hand, Ciputra Surya Tbk. is the worst among four active stocks in the Jakarta Stock Exchange. -1.479 shows that the Ciputra Surya Share is lowest than other and investors will not invest their capital in the firm that has such a calculation. Among systematic risk and expected return is not step a side.

4.6. Regression and Coefficient of Correlation Analysis

To measure the strength of the association between systematic risk and expected return of stock, we use coefficient of correlation. While to define the relationship of systematic risk variable and expected returns of stock variable, we use regression analysis. Systematic risk variable is defined as independent variable (x) and expected return of stock variable is defined as dependent variable (y).

The regression equation from SPSS program is

Y = 0,011 + (-0,003)X

t = -1.550

Probability = 0.219

β is –0,003 indicates that the change of independent variable is called as systematic risk at one unit and will be followed by the change of dependent variable which is called as expected return as –0,003. Because β is negative, so every addition of one unit of systematic risk will be followed by the decreasing of expected return as –0,003.

4.7. Hypothesis Analysis

Ho = 0 There is no relationship between systematic risk and expected return of stock.

Ho # 0 There is a relationship between systematic risk and expected return of stock.

Ho will be accepted if $t_{analysis} < t_{table}$

Ho will be rejected if $t_{analysis} > t_{table}$

$t_{analysis}$ is –1,550, while t_{table} with confidence coefficient is 95% or 5%. The degree of freedom is (n-2) or 5-2=3. From the degree of freedom, we find t_{table} is 2.3534. We accept Ho and reject Ha, because $t_{analysis}$ (-1.550) < (1,771) t_{table}.

It indicates that there is no relationship between systematic risk and expected return of stock. The other reasons to accept Ho are:

1. β is –0,003, it indicates that every additional of one unit of systematic risk will be followed by the decreasing of expected return as –0,003. So there is no relationship between systematic risk and expected return.
2. Coefficient correlation is –0,667, it indicates that it is perfectly related in negative linear way.

In this regard, we can make some conclusion that there is no relationship between systematic risk and expected return. Usually in theory, higher risk will be followed by higher expected return. But in this sector we do not get any relationship between risk and expected return. This result is caused by the bad characteristic of stock. It can been from the negative market index.

Some statistically reasons or explanations are from the data quantities and from the correlation instruments. First reason is the data quantities. The amount of the sample is too small which are only five firms that have the most trading stock in the market. Therefore, to reach a significant value is quite difficult, considering the *n* critical value (sample) is big.

Second reason is the correlation instruments. The number -0.667 is including in the strong correlation, in another word, it has a good correlation between the systematic risk and the expected return, but in this case there is no evidence or prove significantly.

4.8. Implication and Analysis the Research

Based on the simple linear regression analysis and correlation analysis, there is a significant implication and relation on the systematic risk (beta) to

manufacture companies which are listed in the Jakarta Stock Exchange (JSX). The result of the correlation test shows that there is no significant relation between the systematic risk and the expected return on 5% significant level. Therefore, research hypothesis that are not supported by the expected return comparing with the diametrical share beta. It means that the higher risk that companies apply to the certain investment will be followed by the higher expected return to the companies.

The final result of this research is the same with research that has been done *Ardiyanti* on medical firms during 1989 until 1990 and *Praningsih* on banking sector during January until December 1990, stated there was no significant relation between the systematic risk and the expected return.

However, the correlation coefficient shows *negative* relation. In other word, it is against with the relevance theory. Theoretically, the relation between the systematic risk and the expected return is positive. It means if the investors face the investment with higher risk, they will pursue higher return as the consequences of their risky investment.

If there are differences on the research with the relevance concept, it may be caused by the most of the companies have a different risk level valued negatively. It means the return will be earn by the companies is contra with the market profitability. A negative risk number does not mean that the companies have lower risk, but those companies still have higher risk, because the movement of the companies profitability is contrast with the portfolio profitability, therefore it is negative. It may caused the price of the stock decreasing, meanwhile the price in the stock market increasing. That is why the relation between the systematic risk and the expected return is not significant.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Based on the analysis resulted from the single index method, the researcher can draw several conclusions as follow :

1. The analysis in the equation regression indicates negative value. It means that in every addition of one unit of systematic risk will be followed by the decreasing of expected return of stock. The coefficient correlation has a negative correlation. It indicates that there is a perfect relation in a negative linear way.
2. Based on the simple linear regression analysis and correlation analysis, there is a significant implication and relation on the systematic risk (beta) to companies. On the other hand, the result of the correlation test shows there is no significant relation between the systematic risk and the expected return on 5% significant level. Therefore, hypothesis that is supported by the expected return is in line with diametrical stock beta. It means that the higher risk that companies applied in the certain investment will be followed by the higher expected return to the companies.
3. The researcher found that the result is against the relevant theory. As mentioned in the previous chapter, the correlation coefficient shows *negative* relation. In another word, it is against with the relevant theory.

Theoretically, the relation between the risk and return is in positive way. It means if the investors faced risky investment, they will ask high return as the consequences for those investments. If there are differences on the research with the relevant concept, it may be caused by the most of the companies that have a different risk level that is negatively valued. It means the return that will earn by the companies is contrary with the market profitability. Since the company's advantage rate is contra dictionary to the portfolio advantage rate, it will negative. It will cause the decreasing of the companies price of stock. Meanwhile in the market the price is increasing. It indicates that there is no significance between risks and the return of the stock.

5.2. Research Studies Limitations

Considering the limitation of the research studies, there are several limitations associated with this research. Those limitations can be formulated as follows :

1. The research only examines the small of data, which consist of five firms, and the data gathered from daily stock price and taken during six months. The impact is the *n* value as critical value is b big enough to influence the final result.
2. Researcher assumes that if the amount of the sample is over than ten firms, similar to previous research most of them are over than ten firms and the majority of the research found there was a significant relation between risk and return of the stock.

3. Out of factors mentioned above, the external environment factors can be the main factor that made some changes in the stock market. The factors are; political decision by the government, law enforcement, internal affair of the firms, etc.

5.3. Recommendations

As the implication of this research, the researcher gives several recommendations to the parties that are related to the research topic.

Since the research only apply one method, which is index method, it will be better if other parties apply two or more methods in analyzing stock investment. The analyzing period only when the condition of the market is bad. It will be better if the market condition is good.

In order to reach the significant relation between the systematic risk and the expected return. There has to be positive value in the coefficient and correlation. It means that the company's advantage rate should be in parallel with the market advantage rate. In other word, the movement of the company's rate should be in parallel to the portfolio advantage rate, because it indicates the companies price of stock is increasing so do in the market.

REFERENCES

Nugroho Budi Yuwono,1993, ***"Pengantar Statistik Ekonomi dan Perusahaan"***, ILD II UPP, AMP YKPN, Jogjakarta.

Charles P. Jones, 1998.

Sharpe, Alexander, and Bailey, 1995.

Zvie Bodie, Alex Kane, Alam J. Marcus, 2002.

Sartono and Zulaihati, 1998.

Thomas Mayer, James S. Duesnbery, Robert Z. Ahber, ***"Money, Banking, and The Economy"***, Norton Company, New York.

John H. Jackson, Vernon A Musselman, ***"Business"***, *Contemporary, Cocept, and Practices*, Prentice Hall.

Tjiptono Darmaji, Hendi M. Fachruddin, 2001, ***"Pasar Modal di Indonesia"***, Salemba 4, Jakarta.

Suad Husnan, 1999, ***"Dasar Teori Portfolio dan Analisis Sekuritas"***, UPP, AMP YKPN, Jogjakarta.

Jogianto, 2003, ***"Teori Portfolio dan Analisis Investasi"***, BPFE, Jogjakarta.

Jakarta Stock Exhange Index 2005.

APPENDICES

Summarecon Agung's Tbk. Return on Security

OBS	Pt	Pt - 1	Pt - (Pt - 1)	Ri
1	185	180	5	0,0278
2	180	185	-5	-0,0270
3	185	180	5	0,0278
4	185	185	0	0,0000
5	230	185	45	0,2432
6	295	230	65	0,2826
7	295	295	0	0,0000
8	285	295	-10	-0,0339
9	280	285	-5	-0,0175
10	290	280	10	0,0357
11	275	290	-15	-0,0517
12	285	275	10	0,0364
13	360	285	75	0,2632
14	370	360	10	0,0278
15	375	370	5	0,0135
16	345	375	-30	-0,0800
17	320	345	-25	-0,0725
18	325	320	5	0,0156
19	320	325	-5	-0,0154
20	315	320	-5	-0,0156
21	335	315	20	0,0635
22	380	335	45	0,1343
23	380	380	0	0,0000
24	385	380	5	0,0132
25	430	385	45	0,1169
26	380	430	-50	-0,1163
27	370	380	-10	-0,0263
28	420	370	50	0,1351
29	435	420	15	0,0357
30	625	435	190	0,4368
31	415	625	-210	-0,3360
32	420	415	5	0,0120
33	425	420	5	0,0119
34	415	425	-10	-0,0235
35	415	415	0	0,0000
36	420	415	5	0,0120
37	420	420	0	0,0000
38	415	420	-5	-0,0119
39	430	415	15	0,0361
40	440	430	10	0,0233
41	440	440	0	0,0000
42	460	440	20	0,0455
43	450	460	-10	-0,0217
44	440	450	-10	-0,0222
45	440	440	0	0,0000
46	455	440	15	0,0341
47	505	455	50	0,1099
48	550	505	45	0,0891
49	600	550	50	0,0909
50	625	600	25	0,0417
51	650	625	25	0,0400
52	550	650	-100	-0,1538
53	600	550	50	0,0909
54	575	600	-25	-0,0417
55	550	575	-25	-0,0435
56	575	550	25	0,0455
57	575	575	0	0,0000
58	575	575	0	0,0000
59	600	575	25	0,0435
60	600	600	0	0,0000

61	625	600	25	0,0417
62	600	625	-25	-0,0400
63	625	600	25	0,0417
64	600	625	-25	-0,0400
65	625	600	25	0,0417
66	600	625	-25	-0,0400
67	625	600	25	0,0417
68	700	625	75	0,1200
69	700	700	0	0,0000
70	675	700	-25	-0,0357
71	700	675	25	0,0370
72	775	700	75	0,1071
73	750	775	-25	-0,0323
74	725	750	-25	-0,0333
75	725	725	0	0,0000
76	725	725	0	0,0000
77	700	725	-25	-0,0345
78	700	700	0	0,0000
79	675	700	-25	-0,0357
80	650	675	-25	-0,0370
81	650	650	0	0,0000
82	625	650	-25	-0,0385
83	625	625	0	0,0000
84	625	625	0	0,0000
85	550	625	-75	-0,1200
86	525	550	-25	-0,0455
87	500	525	-25	-0,0476
88	475	500	-25	-0,0500
89	495	475	20	0,0421
90	525	495	30	0,0606
91	600	525	75	0,1429
92	575	600	-25	-0,0417
93	575	575	0	0,0000
94	525	575	-50	-0,0870
95	525	525	0	0,0000
96	500	525	-25	-0,0476
97	525	500	25	0,0500
98	525	525	0	0,0000
99	500	525	-25	-0,0476
100	500	500	0	0,0000
101	500	500	0	0,0000
102	500	500	0	0,0000
103	525	500	25	0,0500
104	525	525	0	0,0000
105	600	525	75	0,1429
106	600	600	0	0,0000
107	600	600	0	0,0000
108	600	600	0	0,0000
109	625	600	25	0,0417
110	600	625	-25	-0,0400
111	600	600	0	0,0000
112	600	600	0	0,0000
113	550	600	-50	-0,0833
114	550	550	0	0,0000
115	550	550	0	0,0000
116	550	550	0	0,0000
117	575	550	25	0,0455
118	575	575	0	0,0000
119	575	575	0	0,0000
120	575	575	0	0,0000
121	575	575	0	0,0000
122	575	575	0	0,0000
Average				**0,012736815**

Jaka Artha Graha's Tbk. Return on Security

OBS	Pt	Pt - 1	Pt - (Pt - 1)	Ri
1	25	20	5	0,2500
2	30	25	5	0,2000
3	30	30	0	0,0000
4	30	30	0	0,0000
5	25	30	-5	-0,1667
6	20	25	-5	-0,2000
7	20	20	0	0,0000
8	20	20	0	0,0000
9	20	20	0	0,0000
10	20	20	0	0,0000
11	25	20	5	0,2500
12	20	25	-5	-0,2000
13	15	20	-5	-0,2500
14	10	15	-5	-0,3333
15	15	10	5	0,5000
16	15	15	0	0,0000
17	15	15	0	0,0000
18	15	15	0	0,0000
19	15	15	0	0,0000
20	15	15	0	0,0000
21	15	15	0	0,0000
22	15	15	0	0,0000
23	15	15	0	0,0000
24	15	15	0	0,0000
25	15	15	0	0,0000
26	10	15	-5	-0,3333
27	15	10	5	0,5000
28	15	15	0	0,0000
29	15	15	0	0,0000
30	10	15	-5	-0,3333
31	15	10	5	0,5000
32	10	15	-5	-0,3333
33	10	10	0	0,0000
34	10	10	0	0,0000
35	10	10	0	0,0000
36	10	10	0	0,0000
37	10	10	0	0,0000
38	15	10	5	0,5000
39	15	15	0	0,0000
40	15	15	0	0,0000
41	15	15	0	0,0000
42	15	15	0	0,0000
43	15	15	0	0,0000
44	10	15	-5	-0,3333
45	15	10	5	0,5000
46	10	15	-5	-0,3333
47	15	10	5	0,5000
48	15	15	0	0,0000
49	10	15	-5	-0,3333
50	10	10	0	0,0000
51	10	10	0	0,0000
52	15	10	5	0,5000
53	15	15	0	0,0000
54	15	15	0	0,0000
55	10	15	-5	-0,3333
56	10	10	0	0,0000
57	10	10	0	0,0000
58	10	10	0	0,0000
59	15	10	5	0,5000
60	15	15	0	0,0000

61	10	15	-5	-0,3333
62	15	10	5	0,5000
63	10	15	-5	-0,3333
64	15	10	5	0,5000
65	15	15	0	0,0000
66	15	15	0	0,0000
67	15	15	0	0,0000
68	15	15	0	0,0000
69	15	15	0	0,0000
70	15	15	0	0,0000
71	15	15	0	0,0000
72	15	15	0	0,0000
73	10	15	-5	-0,3333
74	15	10	5	0,5000
75	15	15	0	0,0000
76	15	15	0	0,0000
77	15	15	0	0,0000
78	15	15	0	0,0000
79	15	15	0	0,0000
80	15	15	0	0,0000
81	15	15	0	0,0000
82	15	15	0	0,0000
83	15	15	0	0,0000
84	15	15	0	0,0000
85	10	15	-5	-0,3333
86	10	10	0	0,0000
87	10	10	0	0,0000
88	10	10	0	0,0000
89	10	10	0	0,0000
90	10	10	0	0,0000
91	10	10	0	0,0000
92	10	10	0	0,0000
93	10	10	0	0,0000
94	10	10	0	0,0000
95	10	10	0	0,0000
96	10	10	0	0,0000
97	10	10	0	0,0000
98	10	10	0	0,0000
99	10	10	0	0,0000
100	10	10	0	0,0000
101	10	10	0	0,0000
102	10	10	0	0,0000
103	10	10	0	0,0000
104	10	10	0	0,0000
105	15	10	5	0,5000
106	10	15	-5	-0,3333
107	10	10	0	0,0000
108	10	10	0	0,0000
109	10	10	0	0,0000
110	10	10	0	0,0000
111	10	10	0	0,0000
112	10	10	0	0,0000
113	10	10	0	0,0000
114	10	10	0	0,0000
115	15	10	5	0,5000
116	10	15	-5	-0,3333
117	10	10	0	0,0000
118	10	10	0	0,0000
119	15	10	5	0,5000
120	10	15	-5	-0,3333
121	15	10	5	0,5000
122	10	15	-5	-0,3333
Average				**0,016803279**

Ciputra Development 's Tbk. Return on Security

OBS	Pt	Pt - 1	Pt - (Pt - 1)	Ri
1	150	145	5	0,03448
2	145	150	-5	-0,03333
3	160	145	15	0,10345
4	165	160	5	0,03125
5	165	165	0	0,00000
6	185	165	20	0,12121
7	190	185	5	0,02703
8	185	190	-5	-0,02632
9	185	185	0	0,00000
10	200	185	15	0,08108
11	205	200	5	0,02500
12	195	205	-10	-0,04878
13	215	195	20	0,10256
14	230	215	15	0,06977
15	215	230	-15	-0,06522
16	195	215	-20	-0,09302
17	185	195	-10	-0,05128
18	185	185	0	0,00000
19	185	185	0	0,00000
20	190	185	5	0,02703
21	190	190	0	0,00000
22	205	190	15	0,07895
23	205	205	0	0,00000
24	225	205	20	0,09756
25	300	225	75	0,33333
26	285	300	-15	-0,05000
27	305	285	20	0,07018
28	320	305	15	0,04918
29	395	320	75	0,23438
30	600	395	205	0,51899
31	350	600	-250	-0,41667
32	335	350	-15	-0,04286
33	355	335	0	0,05970
34	340	355	-5	-0,04225
35	340	340	0	0,00000
36	335	340	-5	-0,01471
37	335	335	0	0,00000
38	340	335	5	0,01493
39	350	340	10	0,02941
40	380	350	30	0,08857
41	420	380	40	0,10526
42	480	420	60	0,14286
43	460	480	-20	-0,04167
44	460	460	0	0,00000
45	470	460	10	0,02174
46	475	470	5	0,01064
47	500	475	25	0,05263
48	500	500	0	0,00000
49	525	500	25	0,05000
50	600	525	75	0,14286
51	625	600	25	0,04167
52	550	625	-75	-0,12000
53	550	550	0	0,00000
54	550	550	0	0,00000
55	500	550	-50	-0,09091
56	500	500	0	0,00000
57	475	500	-25	-0,05000
58	485	475	10	0,02105
59	500	485	15	0,03093
60	500	500	0	0,00000

61	500	500	0	0,00000
62	475	500	-25	-0,05000
63	480	475	5	0,01053
64	470	480	-10	-0,02083
65	480	470	10	0,02128
66	500	480	20	0,04167
67	550	500	50	0,10000
68	600	550	50	0,09091
69	525	600	-75	-0,12500
70	525	525	0	0,00000
71	550	525	25	0,04762
72	600	550	50	0,09091
73	550	600	-50	-0,08333
74	550	550	0	0,00000
75	575	550	25	0,04546
76	550	575	-25	-0,04348
77	550	550	0	0,00000
78	550	550	0	0,00000
79	525	550	-25	-0,04546
80	500	525	-25	-0,04762
81	500	500	0	0,00000
82	500	500	0	0,00000
83	500	500	0	0,00000
84	475	500	-25	-0,05000
85	465	475	-10	-0,02105
86	465	465	0	0,00000
87	450	465	-15	-0,03226
88	400	450	-50	-0,11111
89	365	400	-35	-0,08750
90	390	365	25	0,06849
91	465	390	75	0,19231
92	435	465	-30	-0,06452
93	420	435	-15	-0,03448
94	400	420	-20	-0,04762
95	410	400	10	0,02500
96	415	410	5	0,01220
97	410	415	-5	-0,01205
98	395	410	-15	-0,03659
99	380	395	-15	-0,03798
100	365	380	-15	-0,03947
101	365	365	0	0,00000
102	375	365	10	0,02740
103	395	375	20	0,05333
104	405	395	10	0,02532
105	470	405	65	0,16049
106	460	470	-10	-0,02128
107	445	460	-15	-0,03261
108	455	445	10	0,02247
109	455	455	0	0,00000
110	450	455	-5	-0,01099
111	445	450	-5	-0,01111
112	445	445	0	0,00000
113	445	445	0	0,00000
114	430	445	-15	-0,03371
115	410	430	-20	-0,04651
116	415	410	5	0,01220
117	435	415	20	0,04819
118	425	435	-10	-0,02299
119	420	425	-5	-0,01191
120	415	420	-5	-0,01191
121	420	415	5	0,01205
122	410	420	-10	-0,02381
Average				**0,01247**

Suryainti Permata's Tbk. Return on Security

OBS	Pt	Pt - 1	Pt - (Pt - 1)	Ri
1	85	80	5	0,0625
2	80	85	-5	-0,0588
3	85	80	5	0,0625
4	90	85	5	0,0588
5	95	90	5	0,0556
6	110	95	15	0,1579
7	115	110	5	0,0455
8	105	115	-10	-0,0870
9	110	105	5	0,0476
10	105	110	-5	-0,0455
11	105	105	0	0,0000
12	10	105	-5	-0,0476
13	110	100	10	0,1000
14	140	110	30	0,2727
15	135	140	-5	-0,0357
16	125	135	-10	-0,0741
17	125	125	0	0,0000
18	125	125	0	0,0000
19	125	125	0	0,0000
20	120	125	-5	-0,0400
21	130	120	10	0,0833
22	140	130	10	0,0769
23	150	140	10	0,0714
24	155	150	5	0,0333
25	195	155	40	0,2581
26	160	195	-35	-0,1795
27	180	160	20	0,1250
28	185	180	5	0,0278
29	190	185	5	0,0270
30	220	190	30	0,1579
31	175	220	-45	-0,2045
32	175	175	0	0,0000
33	180	175	5	0,0286
34	175	180	-5	-0,0278
35	170	175	-5	-0,2857
36	165	170	-5	-0,0294
37	165	165	0	0,0000
38	170	165	5	0,0303
39	170	170	0	0,0000
40	185	170	5	0,0882
41	190	185	5	0,0270
42	200	190	10	0,0526
43	210	200	10	0,0500
44	210	210	0	0,0000
45	200	210	-10	-0,0476
46	205	200	5	0,0250
47	220	205	15	0,0732
48	215	220	-5	-0,0227
49	205	215	10	-0,0465
50	220	205	15	0,0732
51	265	220	45	0,2045
52	250	265	-15	-0,0566
53	255	250	5	0,0200
54	260	255	5	0,0196
55	245	260	-15	-0,0577
56	240	245	-5	-0,0204
57	235	240	-5	-0,0208
58	235	235	0	0,0000
59	255	235	20	0,0851
60	255	255	0	0,0000

61	250	255	-5	-0,0196
62	250	250	0	0,0000
63	245	250	-5	-0,0200
64	240	245	-5	-0,0204
65	240	240	0	0,0000
66	240	240	0	0,0000
67	250	240	10	0,0417
68	245	250	-5	-0,0200
69	240	245	-5	-0,0204
70	235	240	-5	-0,0208
71	235	235	0	0,0000
72	240	235	5	0,0213
73	245	240	5	0,0208
74	235	245	-10	-0,0408
75	235	235	0	0,0000
76	235	235	0	0,0000
77	230	235	-5	-0,0213
78	230	230	0	0,0000
79	235	230	5	0,0217
80	230	235	-5	-0,0213
81	230	230	0	0,0000
82	210	230	-20	-0,0870
83	205	210	-5	-0,0238
84	200	205	-5	-0,0244
85	190	200	-10	-0,0500
86	195	190	5	0,0263
87	185	195	-10	-0,0513
88	190	185	5	0,0270
89	180	190	-10	-0,0526
90	195	180	15	0,0833
91	210	195	15	0,0769
92	205	210	-5	-0,0238
93	195	205	-10	-0,0488
94	195	195	0	0,0000
95	200	195	5	0,0256
96	195	200	-5	-0,0250
97	195	195	0	0,0000
98	185	195	-10	-0,0513
99	180	185	-5	-0,0270
100	180	180	0	0,0000
101	180	180	0	0,0000
102	180	180	0	0,0000
103	185	180	5	0,0278
104	190	185	5	0,0270
105	205	190	15	0,0789
106	200	205	-5	-0,0244
107	200	200	0	0,0000
108	205	200	5	0,0250
109	205	205	0	0,0000
110	200	205	-5	-0,0244
111	195	200	-5	-0,0250
112	200	195	5	0,0256
113	200	200	0	0,0000
114	190	200	-10	-0,0500
115	190	190	0	0,0000
116	190	190	0	0,0000
117	195	190	5	0,0263
118	200	195	5	0,0256
119	190	200	-10	-0,0500
120	185	190	-5	-0,0263
121	190	185	5	0,0270
122	185	190	-5	-0,0263
Average				**0,0068**

Ciputra Surya's Tbk. Return on Security

OBS	Pt	Pt - 1	Pt - (Pt - 1)	Ri
1	220	220	0	0,0000
2	220	220	0	0,0000
3	235	220	15	0,0682
4	235	235	0	0,0000
5	235	235	0	0,0000
6	265	235	30	0,1277
7	265	265	0	0,0000
8	270	265	15	0,0189
9	275	270	5	0,0185
10	330	275	55	0,2000
11	315	330	-15	-0,0455
12	315	315	0	0,0000
13	345	315	30	0,0952
14	375	345	30	0,0870
15	385	375	10	0,0267
16	355	385	-30	-0,0779
17	340	355	-15	-0,0423
18	340	340	0	0,0000
19	345	340	5	0,0147
20	340	345	-5	-0,0145
21	340	340	0	0,0000
22	400	340	60	0,1765
23	435	400	35	0,0875
24	500	435	65	0,0149
25	475	500	-25	-0,0500
26	410	475	-65	-0,1368
27	410	410	0	0,0000
28	440	410	30	0,0732
29	465	440	25	0,0568
30	625	465	160	0,3441
31	455	625	-170	-0,2720
32	460	455	5	0,0110
33	475	460	15	0,0326
34	465	475	-10	-0,0211
35	465	465	0	0,0000
36	465	465	0	0,0000
37	470	465	15	0,0108
38	480	470	10	0,0213
39	485	480	5	0,0104
40	520	485	35	0,0722
41	500	520	-20	-0,0384
42	525	500	25	0,0500
43	550	525	25	0,0476
44	500	550	-50	-0,0909
45	500	500	0	0,0000
46	525	500	25	0,0500
47	575	525	50	0,0952
48	575	575	0	0,0000
49	600	575	25	0,0500
50	625	600	25	0,0417
51	575	625	-50	-0,0800
52	575	575	0	0,0000
53	575	575	0	0,0000
54	575	575	0	0,0000
55	575	575	0	0,0000
56	550	575	-25	-0,0435
57	550	550	0	0,0000
58	550	550	0	0,0000
59	600	550	50	0,0909
60	600	600	0	0,0000

61	625	600	25	0,0417
62	600	625	-25	-0,0400
63	575	600	-25	-0,0417
64	575	575	0	0,0000
65	575	575	0	0,0000
66	650	575	75	0,1304
67	825	650	175	0,2692
68	850	825	25	0,0303
69	825	850	-25	-0,0294
70	750	825	-75	-0,0909
71	750	750	0	0,0000
72	850	750	100	0,1333
73	850	850	0	0,0000
74	850	850	0	0,0000
75	850	850	0	0,0000
76	850	850	0	0,0000
77	825	850	-25	-0,0294
78	825	825	0	0,0000
79	825	825	0	0,0000
80	775	825	-50	-0,0606
81	725	775	-50	-0,0645
82	700	725	-25	-0,0345
83	675	700	-75	-0,0357
84	675	675	0	0,0000
85	700	675	25	0,0370
86	750	700	500	0,0714
87	725	750	-25	-0,0333
88	700	725	-25	-0,0345
89	675	700	-75	-0,0357
90	675	675	0	0,0000
91	725	675	50	0,0741
92	675	725	-50	-0,0690
93	700	675	25	0,0370
94	625	700	-75	-0,1071
95	650	625	25	0,0400
96	675	650	25	0,0385
97	700	675	25	0,0370
98	650	700	-50	-0,0714
99	675	650	25	0,0385
100	675	675	0	0,0000
101	650	675	-25	-0,0370
102	675	650	25	0,0385
103	650	675	-25	-0,0370
104	675	650	25	0,0385
105	725	675	50	0,0741
106	725	725	0	0,0000
107	725	725	0	0,0000
108	750	725	25	0,0345
109	750	750	0	0,0000
110	725	750	-25	-0,0333
111	725	725	0	0,0000
112	700	725	-25	-0,0345
113	700	700	0	0,0000
114	675	700	-25	-0,0357
115	700	675	25	0,0370
116	700	700	0	0,0000
117	775	700	75	0,1071
118	750	775	-25	-0,0323
119	750	750	0	0,0000
120	725	750	-25	-0,0333
121	725	725	0	0,0000
122	700	725	-25	-0,0345
	Average			**0,0109**

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	RM[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: RI_SIIP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.035[a]	.001	-.007	.0698467

a. Predictors: (Constant), RM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	.149	.700[a]
	Residual	.585	120	.005		
	Total	.586	121			

a. Predictors: (Constant), RM

b. Dependent Variable: RI_SIIP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.006	.007		.934	.352
	RM	.240	.622	.035	.386	.700

a. Dependent Variable: RI_SIIP

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	RM[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: RI_CTRA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.068[a]	.005	-.004	.0898895

a. Predictors: (Constant), RM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	1	.004	.550	.460[a]
	Residual	.970	120	.008		
	Total	.974	121			

a. Predictors: (Constant), RM

b. Dependent Variable: RI_CTRA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.011	.008		1.288	.200
	RM	.593	.800	.068	.741	.460

a. Dependent Variable: RI_CTRA

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	RM[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: RI_JAKA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.069[a]	.005	-.004	.2198678

a. Predictors: (Constant), RM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.028	1	.028	.571	.451[a]
	Residual	5.801	120	.048		
	Total	5.829	121			

a. Predictors: (Constant), RM

b. Dependent Variable: RI_JAKA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.021	.021		1.011	.314
	RM	-1.479	1.958	-.069	-.755	.451

a. Dependent Variable: RI_JAKA

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	RM[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: RI_SMRA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.032[a]	.001	-.007	.0820596

a. Predictors: (Constant), RM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	1	.001	.123	.727[a]
	Residual	.808	120	.007		
	Total	.809	121			

a. Predictors: (Constant), RM

b. Dependent Variable: RI_SMRA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.013	.008		1.747	.083
	RM	-.256	.731	-.032	-.350	.727

a. Dependent Variable: RI_SMRA

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	RM[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: RI_CPRS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.085[a]	.007	-.001	.0704666

a. Predictors: (Constant), RM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.004	1	.004	.882	.350[a]
	Residual	.596	120	.005		
	Total	.600	121			

a. Predictors: (Constant), RM

b. Dependent Variable: RI_CPRS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.013	.007		1.898	.060
	RM	-.589	.627	-.085	-.939	.350

a. Dependent Variable: RI_CPRS

Correlations

Correlations

		Expected Return	Systematic Risk
Expected Return	Pearson Correlation	1	-.667
	Sig. (2-tailed)	.	.219
	N	5	5
Systematic Risk	Pearson Correlation	-.667	1
	Sig. (2-tailed)	.219	.
	N	5	5

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Systematic Risk[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Expected Return

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667[a]	.445	.260	.00311345

a. Predictors: (Constant), Systematic Risk

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	1	.000	2.402	.219[a]
	Residual	.000	3	.000		
	Total	.000	4			

a. Predictors: (Constant), Systematic Risk

b. Dependent Variable: Expected Return

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.011	.002		7.321	.005
	Systematic Risk	-.003	.002	-.667	-1.550	.219

a. Dependent Variable: Expected Return