CHAPTER II

THEORETICAL BACKGROUND AND PREVIOUS RESEARCH

2.1 Theoretical Background

As a popular investment option, you have probably already heard plenty about mutual funds. Chances are you better own mutual funds in your retirement plan or brokerage account. In fact, according to the Investment Company Institute, more than 92 million individuals in the U.S. (about 45% of U.S. households) owned mutual funds in 2008. But do you know what mutuals fund are and why so many people own them? Mutual funds are an investment that allows a group of investors to pool their money and hire a portfolio manager. The manager invests this money (the fund's assets) in stocks, bonds or other investment securities (or a combination of stocks, bonds and securities). The fund manager then continues to buy and sell stocks and securities according to the style dictated by the fund's .

2.1.1 Mutual Fund Based on its Type

a. Money Market Mutual Fund

Fund the majority of its investment allocation in money market securities, such as Bank Indonesia Certificates (SBI), Term Bonds of the year, deposits, and savings. Usually, the term of the investment in money market funds under one year. Market funds are mutual funds with the lowest risk level. On the other hand, the potential advantage of mutual funds is also limited. The results of a money market fund investment are generally very similar to the deposit interest rate, because most of the portfolio consists of deposit. Money market fund is suitable for short-term investments (less than one year), as a complementary investment or

savings deposits that already exist. Investment objectives of money market funds is to protect capital and to provide high liquidity, so that if necessary we can melt it faithfully when the risk reduction that almost no investment.

b. Fixed Income Mutual Funds

Fixed income mutual funds, mutual funds that invest at least 80% allocation to fixed income securities, like bonds either government bonds or corporate bonds have a maturity of more than one year. Debt securities generally provide income in the form of interest such as deposits, SBI, bonds, and other instrument. Generally, fixed income mutual funds in Indonesia use the instrument as the bulk of the bond portfolio, as fixed-income mutual funds on the bonds is not taxed of the receipt on coupon interest.

Fixed-income mutual fund is suitable for medium-term investment objectives and long term (over 3 years) with moderate risk. In general, fixed income mutual funds provide cash profit sharing (dividends) paid on a regular basis, eg 3 monthly, 6 monthly, or yearly. Profit sharing is similar to the payment of deposits that can be considered as regular income for a particular need.

c. Balanced Mutual Funds

Balanced mutual funds, the mutual funds that invest in securities of shares allocated to bonds and securities, where each effect is not more than 80%. Balance of mutual funds is a mutual fund that invests in equity securities and debt securities that the comparison (allocation) is not included in the category of the three types of mutual funds mentioned above. See flexibility, both in the selection of investments (stocks, bonds, deposits, or other effects) as well as the

composition of its allocation, mutual funds can be oriented to a mixture of stocks, bonds, or even to the money market. In terms of investment management, this flexibility can be utilized to move the portfolio strategy of stocks to bonds or deposits, or vice versa depending on market conditions or trading activity is often also referred to efforts to market timing, which is one effort to improve results investment or reduce the risk.

d. Equity Mutual Funds

Equity mutual fund, the mutual funds that invest at least 80% of the portfolios it manages into the effect of stock. Effect of shares generally provide higher yields in the form of capital gains through the growth of stock prices, and also results in the form of dividends. Investment in shares is a type of long-term investments which very promising. With stock prices are highly volatile, mutual funds can provide the growth potential of the investment value is bigger, so does the risk.

2.1.2 Fees of Mutual Funds

Fund management fees are typically computed as a fixed percentage of the value of assets under management. These fees, together with other operating costs, such as custodian, administration, accounting, registration, and transfer agent fees comprise the fund's expenses, which are deducted on a daily basis from the fund's net assets by the managing company. Expenses are usually expressed as a percentage of assets under management known as the "expense ratio." Fees paid to brokers in the course of the fund's trading activity are detracted from the fund's assets, but are not included in the expense ratio. Funds often charge "loads,"

which are one-time fees that are used to pay distributors. These loads are paid at the time of purchasing ("front-end load") or redeeming ("back-end load" or "deferred sales charge") fund shares and are computed as a fraction of the amount invested. Since 1980, funds may charge so-called "12b-1 fees," which are included in the expense ratio and, like loads, are used to pay for marketing and distribution costs. Since the 1990s, many funds offer multiple share classes with different combinations of loads and 12b-1 fees. Among the most common classes are class A shares, which are characterized by high front-end loads and low annual 12b-1 fees, and class B and C shares, which typically have no or low front-end loads but have higher 12b-1 fees and a contingent deferred sales load. This contingent deferred sales load decreases the longer the shares are held and is eventually eliminated (typically after 1 year for class C shares, and after 6 to 7 years for class B shares).

2.1.3 Diversification of Mutual Funds

The beauty of mutual funds is that you can invest a few thousand dollars in one fund and obtain instant access to a diversified portfolio. Otherwise, in order to diversify your portfolio, you might have to buy individual securities, which exposes you to more risk and difficulty. Another reason to invest in mutual funds is their adherence to a basic principal of investing: Don't put all your eggs in one basket. In other words, many different types of investments in one portfolio decrease your risk of loss from any one of those investments. For example, if you put all of your money into the stock of one company and that company files for bankruptcy, you lose all of your money. On the other hand, if you invest in a mutual fund that owns many different stocks, it is more likely that you will grow

your money over time. At the very least, one company's bankruptcy will not mean that you lose your entire investment.

2.1.4 Professional Money Management of Mutual Funds

Many investors don't have the resources or the time to buy individual stocks. Investing in individual securities, such as stocks, not only takes resources, but a considerable amount of time. By contrast, managers and analysts of mutual funds wake up each morning dedicating their professional lives to researching and analyzing their holdings and potential holdings for their funds.

2.1.5 Risk of Mutual Fund

Although mutual fund is a promising in return the trader should be aware and ready to face the worst case in mutual fund market. Before deciding to invest in mutual funds, it will be good an investor pay attention to some risks in investing generally, and thus investors would not be surprised, when uncertainty happened in the market. Some investment risks, such are:

a. Interest Rate Risk.

   Risks that faced by investors due to the increase / decrease in interest rates. This risk is often called market risk. Increases and decreases in interest rates depend on the level of inflation prevailing in the country. Usually, if inflation rises, it will be compensated by increases in interest rates, and vice versa.

b. Reinvestment Risk.

   Risks faced by investors from the investment yield (interest) obtained from the reinvestment strategy.

c. Exchange Rates Risk.

   Risks faced by investors due to the increase or decrease in the exchange rate, which usually has a denomination of foreign investment, would be exposed to exchange rate risk.

d. Inflation risk.

   Risks faced by investors from rising inflation, where inflation will reduce the ability of investors to buy (purchasing power) over their money. The higher the rate of inflation, the purchasing ability will also decreases.

e. Default Risk.

   Risks faced by investors as the result of issuer that doesn't have the ability to pay its obligations.

f. Liquidity risk.

   Risks faced by investors when sell or buy investment instruments in the market. The size of the liquidity can be seen from the difference between the buying and selling.

g. Volatility risk.

   Risks faced by investors from the volatility of interest rates. Interest rate volatility can be a real risk of an investment instrument, whether stocks, bonds and money markets. High volatility will be hard to predict.

2.1.6 Benefit of Mutual Funds

Based on Bodie and Kane (2006) the benefits from mutual fund are:

a. Record keeping and administration. Investment companies provide periodic reports to shareholders / unique inclusion that include the status, distribution of capital gains, dividends, investments and redemptions,

dividend reinvestment administration & interest income for the holders of shares / units.

b. Manage by professional manager. Management of portfolio in a mutual fund held by the Investment Manager that specialized and expertise in managing funds. Investment Manager Role is very important because individual investors generally have a limited time, so it can not conduct research directly in analyzing the effects of price and access to capital markets information.

c. Investment Diversification. Diversification or spread the investment portfolio will be realized in reducing the risk (but cannot eliminate it), because the funds or assets invested in mutual funds so that the effects of various types of risks were too scattered. In other words, the risk is not as big a risk when buying one or two kinds of individual stocks or securities.

d. Transparent information. Mutual funds are required to provide information on the development of the portfolio and the cost continuously, so that the inclusion of Unit holders can monitor the benefits, costs, and risks all the time. Mutual fund managers must announce the Net Asset Value (NAV) every day in newspapers and publish semiannual financial statements and annual reports and prospectuses on a regular basis so that investors can monitor the progress of its investments on a regular basis.

e. High Liquidity. To make the Investments succeed, any investment instrument must have a fairly high level of liquidity. Thus, investors can withdraw at any time their unit accordance with the provisions of each

mutual fund investors, so it will make easier to manage its cash. Mutual funds are required to buy back the unit so the character is liquid.

f. Low cost. Because mutual fund is a collection of funds from many investors and then managed in a professional, then in line with the magnitude of the ability to make these investments will also generate transaction cost efficiency.

g. Total funds aren't too large. Limited amount of funds can be an obstacle for small investors to invest directly in the stock individually. This can be overcome through mutual funds, because the mutual funds allow small investors to participate in the investment portfolio (Achsien, 2003:79)

h. Access for various investments. Individual investors may not be able to have access to a particular investment. The difficulty could be due to lack of resources and geoFigureical boundaries. Through collective funds in mutual funds, investing in large cap stocks and blue chips can still be made. In foreign securities also possible to be purchased through this fund (Achsien, 2003:79)

i. Return competitive. Several studies have shown that the average mutual fund historically had a better performance (outperform) as compared with deposits. There are even some that outperform against the market portfolio. Certainly an attractive return is in line with the additional risk. In principle also applies to mutual fund high risk high return (Achsien, 2003:79)

2.2 Bond Index

Bond index is an indicator to measure the movement and the development of bond price or yield. Bond index can also describe trends in general bond market movements on certain conditions. Index can also be a barometer of the investment of investors in the benchmark the bonds relative to bonds as a whole. Index bonds in general can be said to represent the condition of the bond market if the structure is a bond index constituent elements are categorized as representing the bond markets. The movement index becomes an important measure for investors and portfolio managers or investment of investments. If an investment or portfolio investment falls below the moving average market index, it can be said that the investor or investment manager failed to allocate funds in the bond market relative to the market. In development index bonds can be classified into 5 kinds:

1. Total Return Index

   A type of equity index that tracks both the capital gains of a group of bond over time, and assumes that any cash distributions, such as dividends, are reinvested back into the index. Looking at an index's total return displays a more accurate representation of the index's performance. By assuming dividends are reinvested, you effectively have accounted for bond in an index that do not issue dividends and instead, reinvest their earnings within the underlying company.

2. Clean Price Index

   The price of a coupon bond not including any accrued interest. A clean price is the discounted future cash flows, not including any interest

accruing on the next coupon payment date. Immediately following each coupon payment, the clean price will equal the dirty price.

3. Gross Price Index

   Describe the gross overall price movements of bonds taken into the calculation of the index is calculated based on the price movements of bonds and the sum total of net interest earned each period.

4. Effective Yield Index

   The yield of a bond, assuming that you reinvest the coupon (interest payments) once you have received payment.

5. Gross Redemption Yield

   Describe the movement of bond yields are calculated from the bond yield and has accounted for the value of the interest earned as well as take into account the duration of bonds.

2.2.1 Index Criteria

The whole bonds that meet the requirements will be included in the formation of the government bond index. Issuer is acting as a responsible party of the bonds (issuer). IBPA bond index will only include the series of bonds issued and traded by the government of Indonesia.

2.2.2 Bond Type

A bond is an instrument in which the issuer (debt or borrower) promises to repay to the lender/investor the amount borrowed (principal) plus interest (coupon) over some specified period of time. The issuer may be a corporation or government. The interest is usually paid at specified intervals, such as semi-

annually or quarterly. When the bond matures, the investor receives the entire amount invested, or the principal plus coupon. Once issued, bonds can be traded like any other security before its mature without paying penalty which is unlike in average time deposit (ATD). Type of bond are :

a) Denominated rupiah
b) Bullet bond is a bond call option has no features
c) Not zero coupon bond
d) Callable bonds are bonds that features a call option
e) Capital trust bond
f) Exchangeable bonds, bonds which can be exchanged for bonds only
g) Extendible bond
h) Fixed floater bond (fixed portion of term only)

The bonds included are:

- Government Securities (SUN): Fixed Rate Bond (including ORI), the State variable rate bonds.
- State Sharia Securities (Sukuk, including Retail Fixed Rate Bonds)

2.2.3 Frequency of Coupon Payments

Bonds are included in the index of government bonds should have a payment coupon bonds periodically. Coupon bonds periods include: (1) Annually, (2) Semi-annual, (3) Quarterly and (4) Monthly.

2.2.4 Bonds Outstanding Value

The value of bonds outstanding is set above Rp100 billion. If the value of outstanding bonds fall under Rp100 billion, then the process of adjustment or rebalancing will be the beginning of each period the next month.

2.2.5 Term to Maturity

The remaining time until the bonds that will mature at least 1 year fixed or 365 days. If the remaining time to maturity of bonds to fall below 1 year or below 365 days, then the adjustment process will be conducted at the beginning of next monthly.

2.2.6 Total Bond Index IBPA

A wide range of bond index from government to corporate bonds with maturity bond sub-indices. IBPA calculate capital index and clean price return index. in addition we have a range of additional calculation such as:

1. Composite, IBPA Indonesia Composite Bond Index (ICBX)

   Consists of the entire government and corporate bonds that meet the criteria for indexing.

2. Government, IBPA Government Bond Indonesia Index (GBIX)

   Consists of all bonds including state securities (SBN) and the Islamic state securities (SBSN) that meet the

   criteria for indexing.

3. Corporate, IBPA Corporate Bond Indonesia Index (CBIX)

   Consists of all corporate bonds both in the form of Islamic bonds (sukuk) and conventional bonds that meet the criteria for indexing.

4. Conventional, IBPA Conventional Bond Indonesia Index (VBIX)

   Consisting entirely of conventional bonds (rather than Islamic bonds), which consists of government bonds and corporate bonds that meet the criteria for indexing.

5. Sukuk, IBPA Sukuk Bond Indonesia Index (SBIX)

   Consists of the total Islamic bonds (sukuk), which consists of government bonds and corporate bonds SBSN who meets the criteria for indexing.

2.3 Risk And Return

Jogiyanto (2008) in his portfolio theory that introduced by Markowitz (1952) based on the expected return and risk from the portfolio, implicitly assumed that the investor have a same utility function. Whereas every investor have a different utility function. If investor preference to a portfolio different because investor have a different utility, so an optimal portfolio for the each investor is different. In the Markowitz (1952) model this thing not be considered because the focus situated in the portfolio value with the smallest risk to the certain expected return. But investor preference is different one and the other. Preference is an option and the decision making that have rational essence with the attitude or behavior of the investor.

Sharpe (1997), said that in the portfolio theory there are three kind of investor behavior when confronted with the risk. Risk seeking, mean that an investor tend to find the risk, this kind of investor find a highest return without thinking about the risk. Risk aversion, investor that more likely to avoid the risk, this kind of investor not so concerned with the rate of return find the smallest risk

for their investment safety. Risk neutral, investor that not thinking about the risk, they are neutral they just invest without thinking about the risk.

The main desire of the investor is minimize the risk and maximize return. General assumption that a rational individual investor is someone that doesn't like the risk (risk aversion), so that the risk investment should offer a high return, therefore investor very need an information about the risk and the rate of return. Investment risk that faced by the investor (Rose, 2006) :

1. Market Risk, often referred to interest rate risk, the value of the investment will dropped when the interest rate increases, resulted in the investor that face capital loss.
2. Reinvestment risk, risk due to an asset that will have a less yield at some time in the future.
3. Default risk, risk if the issuer fails to pay interest or even the main assets.
4. Inflation risk, risk of decline in the real value of assets due to inflation.
5. Currency risk, risk of declining asset values due to decreased exchange rate that used by asset.
6. Political risk, risk of decline in value of assets due to changes in laws or regulations because of changes in government policies or changes of authority.

Capital Asset Pricing Model (CAPM) tries to explain the relationship between risk and return. In the assessment of the risks, typically common stock classified as a risky investment. Risk itself means the possible deviations from the

actual acquisition of the expected gains (possibility), while the degree of risk is amount of potential Fluctuation.

Risk stocks can be combined in a portfolio to an investment that have a lower risk than a single common stock. Diversification will reduce systematic risk, but it can't reduce unsystematic risk. Unsystematic risk is part of the common risks in a company that can be separated. Systematic risks are inseparable part that related with the whole movement of the stock market and can't be avoided.

Financial information about the company can help in determining investment decisions. Usually Investors tend to avoided the risk (risk aversion), investors want additional returns to bear the additional risks. Therefore, high risk securities must have a price that produce higher return than the expected return gains from lower risk stocks.

2.4 Return Evaluation

Research on the evaluation of return usually done by using CAPM, APT multifactor model, Fama and French three factor model, and also Carhart four factor model. Each of the model have a different measurement and different variable used.

2.4.1 Capital Asset Pricing Model (CAPM)

CAPM is a model that describes the relationship between risk and expected return and that is used in the pricing of risky securities (http://www.investopedia.com/terms/c/capm.asp).

CAPM is introduced by Sharpe (1964), CAPM is the development of the portfolio theory that proposed by Markowitz (1952) with introduce new term that

were systematic risk, and specific risk or unsystematic risk. In 1990, William Sharpe get the economy noble at the theory of financial price asset formation and then known as Capital Asset Pricing Model.

Bodie (2005) explained that CAPM is the main result from the modern financial economy. Capital Asset Pricing Model (CAPM) provides a precise prediction of the relationship between the risk of an asset and the level of expected return. Although the CAPM can't be proven empirically, CAPM has been widely used because it's easy and accurate enough in some important application.

Capital Asset Pricing Model assumes that the investor is a planner on a single period that have the same perception about the condition of the market and find the mean variance from the optimal portfolio. Capital Asset Pricing Model also assumes that the ideal stock market is a big stock markets, and the investors as the price takers, there are no taxes or transaction costs, all assets can be publicly traded, and investors can borrow and lend in unlimited amount in the fixed risk free rate. With this assumption, all investors have a portfolio with identical risk.

Capital Asset Pricing Model states that in equilibrium, the market portfolio is the tangency of the average variance of the portfolio. So that an efficient strategy is passive strategy. Capital Asset Pricing Model implies that the risk premium of any individual asset or portfolio is the multiply from the risk premium on the market portfolio and the beta coefficient. The change of equation risk and return with including β factor could be seen on the formula below (Sharpe, 1964).

$$Rs = Rf + \beta s\,(Rm - Rf) \qquad (2.1)$$

Rs = Expected Return

Rf = Risk-free rate

Rm = Expected return on the stock market

βs = Stock's beta, that calculated in the time period.

CAPM proves that stock price is not influenced by unsystematic risk and the stock that offer higher risk (high βs) will be valued higher than the stock that offer the lower risk (lower βs). Empirical research support the argument about βs as the good predictor to predict the stock prices in the future.

2.4.2 Arbitrage Pricing Theory (APT) Multifactor Model

In finance, Arbitrage Pricing Theory (APT) is a general theory of asset pricing that holds the expected return of a financial asset can be modeled as a linear function of various macro economic factors or theoretical market indices, where sensitivity to changes in each factor is represented by a factor-specific beta coefficient. The model derived rate of return will then be used to price the asset correctly the asset price should equal the expected end of period price discounted at the rate implied by the model. If the price diverges, arbitrage should bring it back into line (Ross, 1976).

$E(r_i) = r_1 + \beta_1 R_1 + \beta_2 R_2 + \beta_3 R_3 + \beta_4 R_4 + ... + \beta_n R_n$.....(2.2)

where:

$E(r_i)$ = the asset's expected rate of return

r_1 = the risk-free rate

β = the sensitivity of the asset's return to the particular factor

R = the risk premium associated with the particular factor

The APT along with the capital asset pricing model (CAPM) is one of two influential theories on asset pricing. The APT differs from the CAPM that is less restrictive in its assumptions. It allows for an explanatory (as opposed to statistical) model of asset returns. It assumes that each investor will hold a unique portfolio with its own particular array of betas, as opposed to the identical "market portfolio". In some ways, the CAPM can be considered a "special case" of the APT in that the securities market line represents a single-factor model of the asset price, where beta is exposed to changes in value of the market. Additionally, the APT can be seen as a "supply-side" model, since its beta coefficients reflect the sensitivity of the underlying asset to economic factors. Thus, factor shocks would cause structural changes in assets' expected returns, or in the case of stocks, in firms' profitabilities. On the other side, the capital asset pricing model is considered a "demand side" model. Its results, although similar to those of the APT, arise from a maximization problem of each investor's utility function, and from the resulting market equilibrium (Burmeister, 1986).

APT may be more customizable than CAPM, but it is also more difficult to apply because determining which factors influence a stock or portfolio takes a considerable amount of research. It can be virtually impossible to detect every influential factor much less determine how sensitive the security is to a particular factor.

2.4.3 Fama and French Three Factor Model

In asset pricing and portfolio management the Fama-French three factor model is a model designed by Eugene Fama and Kenneth French to describe stock

returns. Fama and French were professors at the University of Chicago Booth School of Business. The traditional asset pricing model, known formally as the Capital Asset Pricing Model, CAPM, uses only one variable, beta, to describe the returns of a portfolio or stock with the returns of the market as a whole. The Arbitrarge Pricing Theory (APT) could explain better than the assumption of CAPM. But the weakness of Arbitrage Pricing Theory (APT) multifactor is this theory not give a guidance to determine the risk factor nor the risk premium. In contrast, the Fama French model uses three variables that explain the return factor. Fama and French started with the observation that two classes of stocks have tended to do better than the market as a whole: (i) small caps and (ii) stocks with a high book-to-market ratio (BtM, customarily called value stocks, contrasted with growth stocks). They then added two factors to CAPM to reflect a portfolio's exposure to these two classes (Fama French, 1993).

$E(r_A) = r(_f) + \beta_A(E(r_m) - r_f) + s_A SMB + h_A HML$……(2.3)

$r(_f)$ = the risk free rate

$E(r_m)$ = the expected excess return of the market portfolio beyond the risk free rate, often called the equity risk premium.

SMB = the "Small Minus Big" firm size risk factor

HML = High Minus Low" book to market risk factor.

Moreover, once SMB and HML are defined, the corresponding coefficients are determined by linear regressions and can take negative values as well as positive values. The Fama-French three factor model explains over 90% of the diversified portfolios returns, compared with the average 70% given by the CAPM. The signs of the coefficients suggested that small cap and value portfolios

have higher expected returns, and arguably higher expected risk than those of large cap and growth portfolios (Fama French, 1992).

2.4.4 Carhart Four Factor Model

Carhart four factor models is the extension from the Fama-French three factor model plus the momentum factor UMD (Carhart, 1997).

$$EXR_t = \alpha^C + \beta_{mkt} EXMKT_t + \beta_{HML} HML_t + \beta_{SMB} SMB_t + \beta_{UMD} UMD_t + \varepsilon \text{.....(2.4)}$$

The monthly return of the value weighted index less the risk free rate (EXMKT). Monthly premium of the book-to-market factor (HML) the monthly premium of the size factor (SMB), and the monthly premium on winners minus losers (UMD).

2.5 Previous Research

The CAPM, developed by Sharpe (1964), Lintner (1965) and Black (1972), is widely used by portfolio managers, institutional investors, financial managers, and individual investors to predict asset returns. Beta is used to measure the systematic risk in the CAPM model and is assumed to be positively related to asset returns. However, several researchers have demonstrated that other variables exist that could significantly explain the expected asset returns and the beta showed either no relationship or a weak relationship with the expected asset returns. CAPM beta in the models has been investigated by Black, Jensen and Scholes (1972) by testing the CAPM model of the time series and cross sectional study in 10 portfolios that generates a positive relationship between the excess return betas. While Fama and French (1973) test the CAPM beta also find a

positive and significant effect to the excess return (Mamduh M. Hanafi, 2004). But the results differ from studies conducted Eduardo Sandoval A and Rodrigo Saens N (2004) examine in Latin America, like Argentina, Brazil, Chile, and Mexico from January 1995 to December 2002, proving that there is no positive relationship between beta with return stock. They said the beta with stock returns. According to both, the CAPM beta as a variable in the model is not enough to explain the relationship between risk and return. There should be other variables that need to be added to clarify the relationship of risk and return.

Roll (1977) argued that the CAPM is not testable because the test involved a joint hypothesis on the model and the choice of the market portfolio. According to Roll, the real proxies would be highly correlated with each other. The linear relationship between assets return and beta is based solely on the mean-variance-efficient hypothesis of market portfolio, but the real market portfolio did not support the mean-variance-efficient hypothesis.

Further studies in the era of the 1990s claimed to have discovered the phenomenon of the consistency of the performance of mutual funds in the U.S. Researchers have identified several factors that could affect asset returns, such as firm size (Banz, 1981; Reinganum, 1981, 1982; Keim, 1983; Fama and French, 1992, 1993, 1995, 1996), and book-to-market equity (BTM) ratio (Stattman 1980 and Chan, Hamao and Lakonishok 1991). For example, Banz (1981) discovered that small firms' average returns were higher than large firms' average returns on the New York Stock Exchange from 1926 to 1975. The author's results showed that firm size affected the stock return but the earning price (EP) ratio could not explain the stock returns. Keim (1983) reported that the relationship between size

and stock returns was significantly negative and that small firms which earned high returns could be caused by the January effect.

Some studies also indicated that the asset returns might be affected by the book-to-market equity ratio and argued that the BTM ratio is positively related to stock returns. For example, Stattman (1980) reported a positive relationship between expected stock returns and the BTM ratio in the U.S. stock market. Chan (1991) study showed a significant positive relationship between the BTM ratio and expected asset returns from 1971 to 1988 in the Japanese stock market. However, Chen and Zhang (1998) pointed out that the spread of risk is small between the high and low BTM ratio stocks in high growth markets such as Taiwan and Thailand. Lakonishok, Shleifer and Vishny (1994) advocated that the BTM ratio effect was due to market overreaction to the firm's prospects. Other researchers such as Keim (1990) reported that there is a positive relationship between the expected returns and EP ratio, and Bhandari's (1988) study revealed a positive relationship between debt to equity (DE) ratio and stock returns.

Drew, Naughton and Veeraghavan (2003) a test of three factors model in the Shanghai Stock Exchange. With observations from the 1993-2001 periods revealed that the beta does not have a significant factor to stock return. Precisely firm size and book-to-market ratio significantly influence stock returns. Then Naughton and Veeraghavan (2005) returned to study three-factor model in the Indonesia, Taiwan, and Singapore with period from 1975-1996, found the results were not much different from previous studies. It finds that the market beta factor in these countries have a very strong influence on expected stock returns. Firm size and book-to-market has the same pattern in all three countries, but differ in

the level of significance. In addition, Naughton and Veeraghavan (2005) suggesting that the benchmark measurement is only based on the CAPM, it is not enough to evaluate the performance of equity managers that invest in a broad option in asset in addition to investing in companies using large and therefore multifactor model is a model that is more accurate than the one-factor CAPM. Wang and Iorio (2007) conducted a similar test using the Fama and French (1992) model on the Chinese A-share stock market and confirmed the presence of firm size and BTM ratio effects. This study follows the Drew et al. (2003) framework to re-examine the size and book to- market effect on the Chinese A-share stock market.

Several studies have investigated the Chinese stock markets using the Fama and French three-factor model. They include Drew (2003) ,Wong, Tan and Liu (2006). These studies found that there was a size effect in the Chinese stock markets, but the BTM ratio had weak explanatory power in the cross-sectional stock returns. Wang and Xu (2004) tested the stock returns in the Chinese A-share stock market including the Shanghai and Shenzhen A-share stock markets. Their results showed the BTM ratio had no effect in the Chinese stock markets. On the other hand, Wang and Iorio (2007) and Chen, Kan and Anderson (2007) used different methods to examine the risk factors related to stock returns in China and found that the firm size and BTM ratio could be risk factors for stock returns in the Chinese stock markets. In summary, some empirical studies showed a BTM ratio effect in the Chinese stock markets, but there is no direct evidence to support the Fama and French three-factor in the Chinese stock markets.

Fama and French (1992), Hossein Asgharian and Bjorn Hansson (1998), Hodoshima, Gomez, and Kunimura (2000), Grigoris Michailidis, Stavros Tsopoglou and Demetrios Papanastasiou (2007), who also found that there is no significant influence between the market beta and stock returns need for other variables to clarify the relationship between risk and return. According to Fama and French (1992) proved that the book-to-market ratio has a strong influence on the stock return, the average was even stronger than the influence of firm size. It was also found that the effect of leverage on stock return average can be captured by the effect of book-to-market ratio and the relationship between price earnings ratio of the average stock return, seemed to be replaced by a combination of firm size and book-to-market ratio. Since the two variables firm size and book-to-market ratio is a variable outside the model CAPM. So by Fama and French (1996) to address the limitations of the model they introduced CAPM models that were three factors model. Later in 2000, Davis, Fama and French re-tested the three factor model of the Unites Stated Stock Portfolios for 816 months with the 1926-1997 periods with the results of beta, firm size, and book-to-market ratio has a significant relationship to stock returns (Bodie Z Kane and AJ Marcus, 2005)

To strengthen the research into the mutual fund context, the following will clarify a number of general studies in Indonesia variations associated with mutual funds. Yuningsih (2006) in her research that title "Pengaruh Model Tiga Faktor Terhadap Return Saham" that used the sample of twenty six companies engaged in property and real estate activities which are listen in Indonesia Stock Exchange during the period of 2002-2006. Her secondary data was analyzed using three factor model of Fama and French (1996). In the study she uses return as the

dependent variable and beta, firm size, and book to market as the independent. In the result Beta, firm size, and book to market simultaneously have a significant effect to return share with contribution of beta variable, SMB, and HML reach 55.5 percent in explaining the level of return share. Beta and HML have a positive and significant effect to return share. On the other hand, SMB has negative effect and insignificant to return share. The three factor model of research conducted by Bambang Ongki (2006), the financial and industrial sector of the JSE investment firms showed that only the market beta and firm size are significant effect on stock returns. While the book to market ratio is partially not significantly affect stock returns.

While Andres Charitou Research and Eleni Constantinidis (2007) which also tested the three factor model of the beta, firm size, book-to-market ratio in Japan, proving that there is a significant relationship between market beta, firm size, and book-to-market ratio with stock returns in stock exchanges in Japan 1992-2001 period.

As in Carhart (1997), follows two-stage estimation procedure to obtain a panel of monthly fund risk adjusted performance estimates. In the first stage, for every month *t* in years 1967 to 2005, regress funds' before-fee excess returns on the risk factors over the previous 5 years. If less than 5 years of previous data are available for a specific fund-month, requiring the fund to be in the sample for at least 48 months in the previous 5 years, and then run the regression with the available data. In the second stage, Carhart estimate a fund's risk-adjusted performance in month *t* as the difference between the fund's before-expense excess return and the realized risk premium, defined as the vector of betas times

the vector of factor realizations in month *t*. Rolling regressions yield a total of 232,386 monthly risk-adjusted before-fee returns corresponding to 3,109 different actively managed retail funds over 468 months. Although the average annualized monthly return before expenses in our sample equals 10.52%, subtracting the risk-free rate and the part of fund returns explained by the portfolio's exposure to the Fama–French three factors yields an average annualized monthly alpha of −21 basis points (bp), which is further reduced to −70.6 bp when Carhart take momentum into account. The corresponding annualized standard deviations are 18.13%, 7.33%, and 7.15%, respectively.

Martin C Lozano (2006) evaluates the mutual funds using Fama and French Three Factor Model, and also using Carhart Four Factor Model. He describes the tests portfolios that were used for estimating and evaluating both models. He uses the monthly returns on the 25 Fama and French (1992) portfolios and construct excess returns as these return on a three-month Treasury bill. He study these returns because the Fama-French portfolios have a large dispersion in average returns that is relatively stable in subsamples, see Julliard and Parker (2005), and because they have been used extensively to evaluate asset pricing models. These portfolios are designed to focus on two features of average returns: the size effect, firms with small market value have, on average, higher returns; and the value premium, firms with high book values relative to market equity have, on average, higher returns. The 25 Fama-French portfolios are the intersections of five portfolios formed on size (market equity) and five portfolios formed on the ratio of book equity to market equity. Denote a portfolio by the rank of its market equity and then the rank of its book-to-market ratio so that

portfolio 15 is the smallest quintile of stocks by market equity and the largest quintile of stocks by book-to-market. We will also call portfolio "small-high", small for size and high for book-to-market ratio. The factors used in Fama-French model are: rmrf, smb, hml; and in Carhart are rmrf, smb, hml, umd. The smb monthly factor is computed as the average return for the smallest 50% of stocks minus the average return of the largest 50% of stocks in that month. A positive smb in a month indicates that small cap stocks out-performed large cap stocks in that month. A negative smb in a given month indicates the large caps outperformed. Constructed in a fashion similar to that of smb, hml is computed as the average return for the 50% of stocks with the highest book-to-market ratio minus the average return of the 50% of stocks with the lowest book-to-market ratio each month. A positive hml in a month indicates that value stocks outperformed growth stocks in that month. A negative hml in a given month indicates the growth stocks outperformed. Momentum factor umd (up minus down) is the average return on the two high prior return portfolios minus the average return on the two low prior return portfolios. The size, value and momentum effects are said to be anomalies in the sense that these cross-sectional patterns of portfolios.returns are not explained by beta risk as the covariance between market return and portfolio return (divided by market variance).

2.6 Hypothesis

Referring to the problem statement, theoretical background, and previous research, so the hypotheses of this research were :

a. Beta gives an impact to the return. Based on Fama and French (1993) and Carhart (1997) study beta gives a positive impact to the return.
b. Firm size gives an impact to the return. Based on Fama and French (1993) and Carhart (1997) found that firm size influence the return. Firm size tend to gives positive impact to the return.
c. Book to market gives an impact to the return. Based on Fama and French (1993) and Carhart (1997) found that firm size influence the return. Book to market tend to gives positive impact to the return,
d. Momentum factor gives an impact to the return. Carhart (1997) in his research found that momentum factor have a negative impact that give influence to the return.