CHAPTER II

THEORETICAL BACKGROUND

2.1 Reviews on Literature

2.1.1 Mutual Fund

According to the Law of Indonesia Capital Market year 1995, the definition of mutual fund is a form of investment used to collect funds from investors, and henceforward invested to portfolio effect by fund manager. From the definition, at least there are three main elements. The first is the availability of fund by the investors. Second, the fund is invested to portfolio effect. Third, the fund is managed by fund manager. All the funds managed are owned by the investors, while fund manager is the trusted parties to manage the fund.

Gunawan and Almira (2006) stated that mutual fund is a form of service provided to the investors who want to participate on capital market without any direct involvement on procedure, administration, and analysis.

Sharpe (1995) stated that mutual fund provides two facilities that easier for the investors to comply. These facilities also known as the advantage of mutual fund which are: “for an individual, there are two advantages for investing in such companies instead of investing directly in the financial assets those companies own. Specifically the advantage arises from: (1) economic of scale and (2) professional management.”

Harusman (2005) stated that: 1) First, mutual fund create investment reach the economics of scale, which is a micro concept stated that an investment is profitable or reach the minimum expenses if it can be reached by the certain capacity. This is a hard fact for the investors. Mutual fund can manifest it from the side of limited fund. All the limited funds will be combined by the other investor's fund to be used in high scale of investment. 2) Second, mutual fund creates professionalism on investment. If the investors with lack of knowledge involve directly to the capital market, the risk would be too high. On the other side, the high risk in not always followed by high return. Mutual fund has professionals to work on investment.

In mutual fund, the fund collected is invested in portfolio effect. Portfolio effect is the combination of securities. Indonesia has BAPEPAM (Badan Pengawas Pasar Modal) which is a legal institution under the Ministry of Finance that commissioned to manage, regulate, and control the daily capital market activities and also formulate and implement policies and standardize technique in financial field. The activity of mutual fund investment can be placed to several instrument effects in foreign country or also can be bought by the license of BAPEPAM. The investment also can be specialized to several sector such as finance, property, industry, and other. (Widagdo, 2004)

The history of mutual fund shows that it started for the first time in Belgium on 1822 with the form of closed-end fund. It was created for the rich investors who wanted to participate on the government debt that may provide high return. In 1860, mutual fund spread to England and Scotland in the form of Unit Investment Trust, and entered United States in 1920 with the name Mutual Fund. The name of mutual fund refers to the use of fund managed for the mutual interest. United Kingdom and other commonwealth countries call mutual fund as unit trusts. Australia and Malaysia also use the term unit trust for their comprehension of mutual fund. Different term also applied in Japan, mutual fund known as Investment Fund.

The existence of mutual fund in Indonesia started when the Indonesia Capital Market was reactivated. At that time, the establishment of mutual fund is done by the state-owned company that built especially for supporting Indonesia capital market, even at that time there were still no regulation for mutual fund. The term 'Reksa Dana' in Indonesia is well-known in 1990 when the capital market is allowed to publish mutual fund by the Keppres No. 53 year 1990 about capital market. (Victor Purba, 2003).

When buying the mutual fund product, each investor will get the evidence of mutual fund ownership, called units. Unit here means the unit measure that shows the importance part of each investor on collective portfolio investment. The price of unit is changing everyday refer to the changing of Net Asset Value (NAV). By this unit, investors are facilitated to resell the mutual fund or ask for the report of return. The gain or loss of mutual fund comes from the margin between the price of Net Asset Value (NAV) per unit when it is bought and the price of Net Asset Value (NAV) when it is sold. The increase of Net Asset Value (NAV) can be obtained by the investors from dividend sharing or from the resell of units.

Mutual fund is a flexible investment because it gives some alternatives to investors as their needs on investment. High return can be achieved in mutual fund while the risk can be minimized as the effect of the portfolio.

Some benefits provided by mutual fund. The first, investors with lack of fund are able to do diversification investment so it may minimize the risk. Investment on capital market involves higher risk compare to deposits. To minimize the risk, it would be better for investors to do diversification, accordance with a term on capital market stated that 'don't put all your eggs in one basket'. In order to do diversification investment, investors must have huge amount of fund, so it would be better to invest on mutual fund. In mutual fund, the huge amount of fund is collected from many small and big investors, so it would be easier for fund manager to do diversification to manage mutual fund. Second, mutual fund simplifies investors to invest in capital market, especially those who has lack of knowledge about investment. Third, the investors are truly simplified by the role of fund manager.

2.1.2 Dividend Earning

Mutual fund provides dividend as the return to investors. Every interest earning, dividend, and capital gain will increase the net asset value (NAV) of mutual fund. Mutual fund will also share the profit to the unit holder. There are several options on dividend sharing; once in six months, once in a year, or in other length of time.

Especially for equity funds, which is always consider the blue chip and liquid equity on their decision making, the dividend is derived when the issuers share the net profit to pay dividend to shareholders. Professional fund managers usually choose a company which pays the dividend consistently. The other type of dividend is derived from the capital gain which is the difference between selling price and purchasing price of the stock. Capital gain is derived when the fund manager redeem the equity which the sell price is higher than the price when they buy it. The price of stock is very fluctuate so there is a big possibility to get high return even it also provides high risk.

The dividend also can be shared in the form of cash. If the investors want to be reinvested on mutual fund, than fund manager will do that step. In this case, the investors free to choose which way to take, whether they want to get it on cash or to be reinvested. For the investors who require cash, the bank will transfer the dividend through investor's bank account. If the investor has no bank account then the dividend will be given in the form of cheque. For the investors who required reinvesting the dividend, it would be added to amount of units. Investors still able to get cash even when they choose to reinvest the dividend. They way to get the cash is by reselling some of the units owned. The increase of capital gain will increase net asset value (NAV) per unit. The advantage of mutual fund is derived from interest, dividend, and capital gain. Those elements will increase the net asset value (NAV) of mutual fund which is directly involved to the net asset value (NAV) per unit.

2.1.3 Net Asset Value (NAV)

There are several kinds of mutual fund assets, such as cash, deposits, debt market securities, SBI, commercial securities, bonds, right, and other instruments. On the other side, there are some obligations need to be covered by mutual fund such as fund manager fee, bank fee, tax, and broker fee. Net asset value is derived from investment plus cash hold, after all expenses. Net asset value per unit derived from the amount of net asset value divided by the amount of units (outstanding). In net asset value, there are some stock instruments such as bonds and money market securities which are very fluctuate on price depend on demand and supply of market and stock exchange.

2.1.4 Fund Manager

UU No.8 year 1995 stated that fund manager is the one who manage portfolio to investors or manage collective investment from investors, except insurance company, pension fund, and banks that do their own activities based on prevailing regulation. The fund manager fee is derived from the investors. Every single company who do management on investors' fund is called fund manager and it must be legalized by BAPEPAM.

2.1.5 Mutual Fund Classification

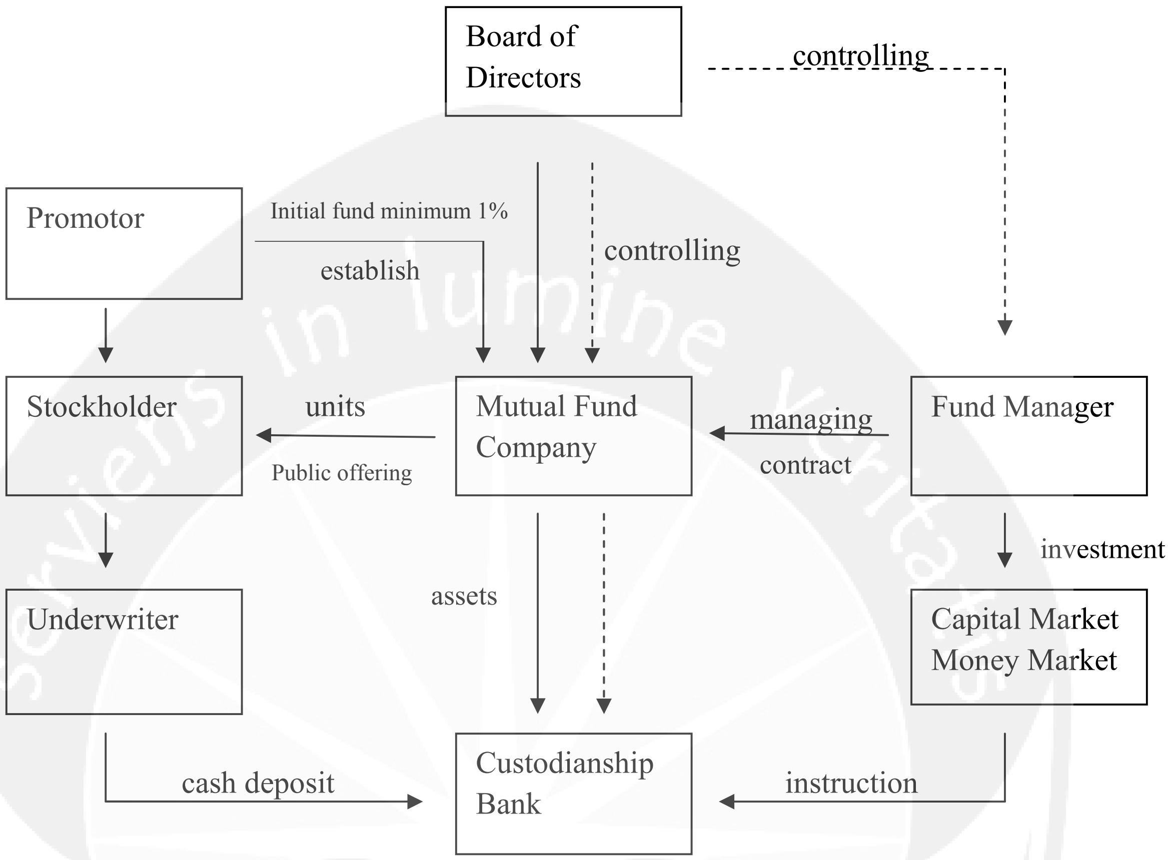
a. Based on legal entity

Based on legal entity, mutual fund can be classified as follows:

1) Company

Mutual fund in the form of company generally has no different than the other limited company except for the business field. This kind of mutual fund is a specific legal entity. Mutual fund in the form of limited company works on managing portfolio investment by doing investment on securities in order to get the return. There are some important parties who take important role in limited company mutual fund such as the board of directors, fund manager, and custodianship bank. The establishment of mutual fund in the form of limited company begins with the promoter who provides capital and creates limited company and in turn decides the board of directors. The saving of all administrations and properties are saved in the custodianship bank.

The board of directors must list the limited company mutual fund to BAPEPAM and after stated effectively, the company could sell the stocks by public offering to public investors. The operational of the fund management is done by fund manager and custodianship bank is controlled by the company.



Graph 2.1 Mechanism of Mutual Fund Company (Manurung, 1997)

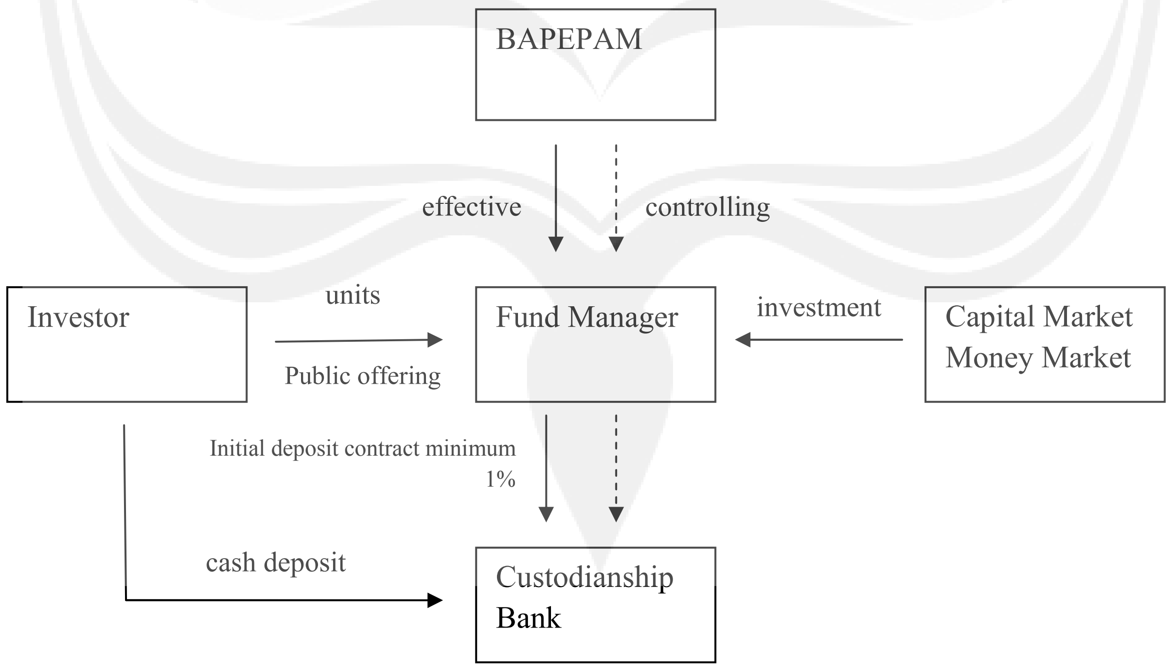
2) Collective Investment Contract

Collective investment contract fund is not a form of legal entity. The mutual fund operates based on the contract made by fund manager and custodianship bank. The investors trust their funds to be managed by fund manager. Mutual fund in the form of collective investment contract binds three roles which are fund manager, custodianship bank, and investors. By this contract, fund manager has the authority to manage collective portfolio and custodianship bank has the authority to save the collective investment administration (Pratomo and Nugraha, 2002).

The establishment of collective investment contract can only be run if it passes the signing contract process between fund manager and custodianship bank. Vice versa, the contract procedure of limited company mutual fund is done between fund manager and board of directors (Raharjo, 2004).

Some characteristic of collective investment contract mutual fund are stated as follows (Pratomo and Nugraha, 2002):

a) Sell units continuously as long as the investors are willing to buy.
b) Units are not listed in stock exchange.
c) Investors may redeem the units to fund manager.
d) The income of units' sales or the payment of units repurchase would be levied on mutual fund.
e) The price of units buy/sell based on Net Asset Value (NAV) per unit which is daily calculated by custodianship bank.



Graph 2.2 Mechanism of Collective Investment Contract Mutual Fund (Manurung, 1997)

b. Based on the nature

1) Open-end Fund

Open-end fund means mutual fund gives investor the opportunity to buy stock or unit of mutual fund and able to resell it without the limitation of amount of unit issued. The price of transaction based on the current value or net asset value (NAV) with daily calculation. The net asset value (NAV) shows the value of every unit in mutual fund. The amount of unit issued in mutual fund can change every time. It happens because the open-end mutual fund company is required to buy stocks or issue more stocks if stocks sales or purchase occur. The same thing happen to Colective Investment Contract mutual fund, they also required to buy stocks or issue more stocks if stocks sales or purchase occur. As the effect of this action, open-end fund can always sell stocks as long as there are investors who are willing to buy. This type of mutual fund is open to accept new investors every time. On the other side, investors may resell the units to the fund manager, as we call it as redeem.

Open-end fund is not listed to stock exchange because investors do the transaction directly to the mutual fund company. The transaction is done by the investor to Mutual Fund Company and there is no transaction among investors. Net asset value (NAV) is used as the base of transaction. The net asset value (NAV) is daily calculated by custodianship bank and announced to society.

2) Close-end Fund

Close-end fund, unlike mutual fund, sell a fix number of shares at one time (in initial public offering) that later trade on the secondary market. A Guide to Understanding Mutual Fund stated that a closed-fund is an investment company whose shares are publicly traded like stocks. As the result, price of close-end fund shares fluctuates based on supply and demand. If the share price is more than the value of its assets, then the fund is trading at a premium; if the share price is less, then it is trading at a discount. The assets of close-end mutual fund are managed by a professional or a group of professionals choosing investment such as stocks and bonds to match the funds objectives.

This kind of mutual fund is only discovered on Mutual Fund Company. In close-end mutual fund, the operation is done with fix amount of shares and do not regulate the issue of new shares. The shares is not only determined with net asset value but also securities demand and supply. From the explanation, we can say that actually close-end fund is mutual fund with fix outstanding shares. Close-end fund do not redeem the shares that already sold to investors. In other words, the investors cannot resell the shares bought to the mutual fund. The transaction of close-end fund is done in stock exchange like ordinary stocks. This close-end mutual fund is listed in Jakarta Composite Index.

3) Unit Investment Trusts

A Guide to Understanding Mutual Fund stated that Unit Investment Trust is an investment company that buys a fixed portfolio of stocks and bonds. A Unit Investment Trust holds its securities until the trust's termination date. When a trust is dissolved, proceeds from the securities are paid to shareholders. Unit investment Trusts have a fixed number of shares or units that are sold to investors in an initial public offering. If more shareholders redeem units, the unit investment trust or its sponsor may purchase them and re-offer them to the public.

Investment Company Act 0f 1940 as Amended stated that Unit Investment Trust means an investment company which: (A) is organized under a Trust Indenture, contract of Custodianship or agency, or similar instrument; (B) does not have a board of directors; and (C) issues only redeemable securities, each of which represent an undivided interest in a unit of specified securities; but does not include a voting Trust. Unit Investment Trust is not traded and only for redeem. The redeem Unit Investment Trust sold by trustee to investors who are willing to buy.

c. Based on the type

Mutual fund is an investment portfolio which means that as the approval of fund manager issued letter of possession I the form of units for investors who are willing to do transaction in mutual fund. Based on Regulation number IV decree of Head of BAPEPAM No: Kep-08/PM/1997 about the guidelines for the announcement of Net Value Asset of open-end mutual fund, there are several type of mutual fund such as:

1) Money Market Funds

This kind of mutual fund invest on money market instrument with less than one year maturity date. The form of investments is time deposits, certificate of deposits, Certificate of Bank of Indonesia (SBI), and debt market securities (SBPU). The interesting part of this investment instruments is the lower risk offered compare to other investment instruments. On the other side, the return given by this instrument is also limited. Investment result of money market fund generally very similar to deposit interest rate, most all of the portfolio consists of deposits. The purpose of money market fund is to protect the capital and to provide high liquidity, so we can withdraw the money when needed with very low investment decline risk.

2) Equity Funds

An equity fund is a form of mutual fund which the instrument is invested in the form of equity at least 80% of total asset investment. Equity fund is a form of promising long term investment. Fund manager always consider the blue chip and liquid equity on their decision making. The analysis of equity fund is done very tight and careful, so the equity fund is conservative. Investors of equity fund will get dividend and capital gain as the return. Dividend is derived when the issuers share the net profit to pay dividend to shareholders. Professional fund managers usually choose a company which pays the dividend consistently. Capital gain is derived when the fund manager redeem the equity which the sell price is higher than the price when they buy it. The price of stock is very fluctuating so there is a big possibility to get high return even it also provides high risk.

3) Balanced Funds

Balanced fun allocates the investment in a form of varies portfolio. The instrument of balanced fund could be in the form of stocks combined with bonds instrument. The combination of balanced fund may varieties different from the fixed regulation. Balanced funds allocates the investment in stock and bonds which each of the effect is not more than 80%. From the flexibility and allocation composition, balanced fund is oriented to stock, bonds, and even money market. From the side of investment management, the flexibility can be used to do some movements in order to apply portfolio strategy based on the market condition and market timing to maximize the return and minimize the risk.

4) Fixed-Income Funds

Fixed-income fund is a form of mutual fund that allocates minimum 80% of the investment to fixed income instrument such as IOU. The instrument generally gives return in the form of interest such as deposits, SBI, bonds, and other instruments. This type of mutual fund relies on the stable coupon rate for the return. The instrument of fixed income fund such as bonds gives relatively interesting coupon compare to deposits investment. In Indonesia, most of the fund managers are interested in Government Bond issued by Indonesian government. Fund managers not only buy government bond but also buy corporate bond with good interest rate (coupon) and high rating. In secondary market, the great performance of bond may indicates by the premium as in turn will benefit the investors.

Fixed-income funds are suitable for mid to long term of investment with medium risk. Fixed-income funds give return to investors in the form of dividend and paid regularly for every three months, six months, or every year.

d. Special mutual fund

There is several kind of mutual fund which considered as special mutual fund as the effect of the growing of mutual fund. Special mutual fund is used to manage the investment with special purposes (Pratomo and Nugraha, 2009):

1) Structured mutual fund

   Structured mutual fund begin on year 2005 when the mutual fund industry especially fixed-income mutual fund recently hit by massive withdrawal. Seen from the regulation point of view this kind of mutual fund is divided into three kinds which are protected mutual fund, mutual fund with guarantee, and index funds.

2) Protected mutual fund

   This kind of mutual fund is the most common mutual fund compare to structured mutual fund and index fund. This investment is suitable for investors who try to minimize the risk and loss of principal investment. This mutual fund offers the protection for the value of initial investment principle.

3) Guarantee mutual fund

   This kind of mutual fund generally similar to protected mutual fund and offers the protection for the value of initial investment principle. Until now, still there is no guarantee mutual fund available in Indonesia.

4) Index fund

   Index fund is the kind of mutual fund with index analogy such as IHSG, LQ45 index, Jakarta Islamic Index for stocks, and HSBC bond index for bond. Index mutual fund is intended to duplicate the performance of an index. In turn, the strategy done by fund manager in managing the index mutual fund load the instrument or effects that becomes the main contributor from the index movement.

5) Sharia fund

Sharia fund is one of the investment product based on the sector election and company with certain criteria. Sharia fund covers the comfort in investment based on the sharia principle while in fact; actually this kind of mutual fund is not an exclusive investment for Muslim investors.

6) Foreign exchange fund

Foreign exchange fund is the kind of mutual fund from the category stated above but uses the denomination of foreign currency. This kind of mutual fund occur as the effect of the higher demand on foreign currency to do the financial planning in order to finance the education or travelling plans.

7) Sectoral fund

Sectoral fund generally include in equity fund, balanced fund, or structured mutual fund. The portfolio investment focuses on certain kind of sector such as infrastructure.

8) Social Fund

Fund manager may do some cooperation with an entity which has a consideration for some social issues, such as environment, education, and religion which in turn connect it with the investment purpose and the issue of mutual fund purpose. This kind of mutual fund allocate some of the earning to help the society welfare, and educational scholarship.

9) ETF (Exchange Trade Fund)

Exchange trade fund is a kind of mutual fund based on certain index and traded as well as stock exchange where the fluctuation is observed. Outperform market return is the main purpose of exchange trade fund. Exchange trade fund may invest in all indexes. Some of exchange trade fund which develop rapidly is ETF based on certain exchange index, ETF based on sectoral and industry, ETF based on global exchange, and ETF based on bond index.

10) Insurance Fund (Unit link)

The products of insurance are developing rapidly and start to give several options on investment to the insurance policy's holder which is called unit link. Unit link is the combination between protection and investment. There are many kind of unit link product which the investment portion use mutual fund product. This kind of protection and investment combination is very popular nowadays.

2.1.6 The Benefit of Mutual Fund

The existence of mutual fund becomes more interesting since there are some benefits derived from the mutual fund to investors. Some of the benefits are stated as follows (Gunawan & Almira, 2006: 19 – 21):

a) Investment diversification and risk spreading

Mutual fund manages funds with considerable numbers with huge amount of it so it gives opportunity for fund managers to diversify the investment to several type of investment. This kind of action, in turn will lower the investment risk.

With their expertise and experience, fund manager will see the chance of investment, and analyze it based on data and it also in turn will lower the risk. Besides that, fund managers will se some industry sectors which predicted to give higher return. If the capital market is not in a good condition, fund managers may shift the investment to another type of market such as money market. So, in this investment activity, the fund manager will learn about investment sectors continuously.

b) Low cost

Mutual fund is managed professionally so in turn will create efficiency on management. The cost is relatively lower than if investors manage their own fund, such as relatively higher transaction commissions, and cost of getting information.

c) Price

The price on stocks and units is not really affected by the stock market price. If the stock market price decline drastically, so the fund managers will shift to another investment media such as money market. Fund managers are flexibly able to shift the fund to more favourable sectors.

d) Routinely monitoring

Stock holder of mutual fund units may routinely monitor the development of stock price. The net asset value of mutual fund is daily announced on newspaper. The price of net asset value is calculated based on daily closing price for every securities on portfolio added by other assets such as cash, and reduced by debt and other obligations. The value of net asset value per stock of units calculated from total net asset value divided by the amount of outstanding stock.

e) Guaranteed liquidity

Open-end mutual fund is very liquid. If the investors are willing to sell the stock so the mutual fund company is compulsory to buy it on the net asset value price. This kind of activity could not be found on the common company where the sales and purchase is uncertain and rely on market demand and supply.

Other benefits are also stated by Bodie and Kane (2006) as follows:

a) Registration and administration

Investment companies gives periodic report to shareholders and unit holders which stated about status, capital gain distribution, dividend, investment and redemption, reinvestment dividend administration and interest revenue of shareholders.

b) Managed by professional management

The management of portfolio of a mutual fund is done by fund manager with professionalism of managing fund. The role of fund manager is very important remembering the individual investor generally has limited time and unable to do direct research in analyzing stock price and information access to stock market.

c) Investment diversification

Diversification or investment spreading in the form of portfolio will decrease the risk because the fund is invested to several type of investment and in turn will spread the risk as well. In other words, the risk is not as big as the risk when an investor buys one or two type of stock as individual.

d) Transparency information

Mutual fund is compulsory to provide information of portfolio condition and development continually so the investors are able to monitor the dividend, cost, and risk. Mutual fund manager is compulsory to announce the daily net asset value on newspaper and publish semi-annually and annually financial statement report so the investors are able to monitor their investment routinely.

e) High liquidity

In order to make the investment success, every investment instrument must have a quite high liquidity level. The investors may withdraw the units anytime based on the statutes made by mutual fund. Open-end mutual fund is compulsory to redeem the units so it is very liquid.

f) Low cost

Mutual fund is the combination of many investors' fund and managed professionally, so in turn will make the cost more efficient.

g) Lower amount of fund

The limited amount of fund may be the distraction for small investors to do some direct individual investment. This kind of case can be minimized by the existence of mutual fund, because mutual fund gives opportunities for small investors to participate on portfolio investment.

h) Access to several investment

Investors as individual may not have access for certain investment. The difficulties are existing as the effect of lack of resource and geographical boundaries. By using collective fund of mutual fund, investment on huge capitalized stock, investment on huge capitalisation and blue chip are still exist, as well as foreign securities are possible to be bought by this mutual fund.

i) Competitive return

Some research shows that historically in average mutual fund shows outperform compared to deposits. Even there are some cases where mutual fund shows outperform compare to market portfolio. The attractive return is in line with the risk.

2.1.7 The Risk of Mutual Fund

All investment has their own risk besides giving return to investors, as well as mutual fund. The risk of mutual fund tends to be lower if it is compared to direct investment of stocks. It occur as the effect of proportional portfolio owned by some investors, invested and diversified by fund manager to several instruments whether in capital market or money market. The risk is getting lower as the effect of regulation stated that mutual fund cannot buy a stock exceed five percent of an issue. On the other side, the regulation also stated that mutual fund cannot allocate the wealth exceed ten percent into a company. If mutual fund buys some effect issued by a company, then all of the value cannot exceed ten percent of Net Asset Value when the transaction happens.

Besides some benefits that investors may get, there are several risks on mutual fund investment. Even portfolio and diversification is done, still there are some possibilities for risks to occur. Some of the risks are stated as follows (Gunawan and Almira, 2006: 21 – 24):

a) The decline of units net asset value

The decline of units' net asset value may occur when the market price of investment instrument less than the beginning purchase price. The growing performance of mutual fund net asset value not always guarantees that the price would not become any lower in the following days. There are several causes lead to the declining of portfolio investment market price such as the weaker performance of stock market, the loss of issuers, unstable political and economical condition, and other fundamental causes.

b) Liquidity risk

Liquidity is one of important requirement of investment so it may achieve maximum performance. Without the existence of liquidity, investors may find difficulties in the form of cash loss because they cannot sell the investment portfolio.

Mutual fund owner will redeem the units and hope to get the cash as fast as possible. The liquidity risk may happen if units' holders of a fund manager withdraw in the huge amount of money in a same time. On the other words, fund manager face a rush of mutual fund units, where the withdrawal is done in huge amount and in the same time.

Postpone of payment or liquidity difficulties may suffered by fund manager and bank if there is not enough money on withdrawal date. This moment may happen if units' holder does the redemption to a fund manager in huge amount. This situation may happen if there is an extremely negative sentiment factor so it affects the unit holders to do the redemption immediately. Those factors are stated such as weaker political and economical condition, issuers' bankruptcy, and liquidated fund manager.

c) Market risk

Market risk is the situation when the investment instrument faces a decline as the cause of stock market and bond market performance extreme declining. This circumstance is also called by bearish, when the price of stocks and investment instruments face an extreme decline. Market risk in turn will make the net asset value lower.

d) Default risk

Default risk is considered as the most fatally risk in the risk category. It happen because the fund manager buys bonds from an issuers who face difficulties and unable to pay the bond dividend. To avoid the default risk, fund manager usually do some rating selection of bonds which are feasible to become investment portfolio. This kind of selection will create investment grade.

2.1.8 Jakarta Composite Index (JCI)

Jakarta Composite Index (JCI) is one of the stock market indexes which is used by Bursa Efek Indonesia or Indonesia Stock Exchange. The calculation of Jakarta Composite Index shows the movement of stock market prices. It also a representative of the whole stock price in average based on the amount of stock listed in Indonesia stock exchange.

Jakarta Composite Index is a series of historical composite stock prices which reflect a value that useful for the movement price measurement (Sunariyah, 2003). Jakarta Composite Index is an index which generally shows stock price movement and used as the stock market development activities reference. This index can be used to assess the whole condition of stock market generally and measure whether it is increase or decrease. Jakarta Composite Index also involve all stocks listed in Indonesia stock exchange (Anoraga and Pakarti, 2001).

2.1.9 The Measurement of Mutual Fund Performance

In order to get the best performance of mutual fund, it is necessary to consider the risk. The performance itself cannot only be stated from the return but also the risk. To evaluate investment performance, there are several ways that we can use as stated as follows (Brigham and Daves, 2003):

1. Expected Rates of Return

$$Rp = \frac{\mathrm{MV1} - \mathrm{MV0} + \mathrm{D}}{MV0}$$

Where:

Rp : Portfolio Return

MV1 : Market Value of portfolio in the end of period

MV2 : Market Value of Portfolio in the beginning of period

D : Cash distribution during period

2. Sub period Rate of Return

In order to calculate the return with a certain period is also called with sub period rate of return. There are three methods that we can use to calculate the sub period rate of return (Brigham and Daves, 2003):

a) Arithmetic Method

$$RA = \frac{\mathrm{Rp,1 + Rp,2 + \ldots + Rp,N}}{N}$$

Where:

RA : Average return of arithmetic rate

Rp,K : Return rate during sub period k

N : Amount of sub-period during the evaluation period

b) Internal Rate of Return

Internal Rate of return method is calculated by searching the return which creates present value from all sub-period cash flow added by ending value of portfolio. The formula is stated as follows (Brigham and Daves, 2003):

$$\text{Vo} = \frac{C1}{(1+Rd)} + \frac{C2}{(1+Rd)} + \cdots + \frac{Cn+Vn}{(1+Rd)}$$

Where:

RP : IRR

Ck : cash flow

Vn : ending value of portfolio

Vo : beginning value of portfolio

c) Time Scale Method

This method calculate the compound return rate during the period with assumption that whole cash distribution is invested and also called with geometric average return rate. The formula is stated as follows (Brigham and Daves, 2003):

$$RG = [(1+Rp1)(1+Rp2)(1+Rp3)\ldots..(1+Rpn)]^{1/2} - 1$$

3. Annual Rate of Return

a) Sharpe Performance Index

This method measure the performance of a portfolio by using standard deviation as the risk measurement. The calculation based on the margin between average performance of mutual fund and risk free asset. It is also called as premium risk. This method is stated by William Sharpe and use the capital market line concept. If the Sharpe Index is higher than the Capital Market Line, it indicates that portfolio shows a good performance. The equation is stated as follows (Brigham and Daves, 2003):

$$Sp = \frac{(\text{Rp} - \text{Rf})}{\sigma TR}$$

Where:

Sp : Sharpe ratio value

Rp : mutual fund return of certain period

Rf : risk free asset return of certain period

σtr : total risk

b) Treynor's Performance Index

The calculation of Treynor's method is generally the same as Sharpe method. The difference lies on the determinate. Treynor use β (beta) which is the fluctuate relative risk to the market risk as the determinate. The greater Treynor risk ratio indicates better performance of a portfolio (Brigham and Daves, 2003).

$$Tp = \frac{(\mathrm{Rp} - \mathrm{Rf})}{\beta p}$$

Where:

Tp : Treynor average value

Rp : mutual fund return in certain period

Rf : average of risk free investment in certain period

βp : total risk

c) Jensen Index

Jensen is an absolute measurement which estimates the constant return rate during the investment period where it gets the return rate above or below the buy-hold strategy with the same systematic risk. This model use Security Market Line to determine how much the return own by a mutual fund with certain risk (Jensen, 1968). Jensen Index may show the difference between actual return rate of a portfolio and expected return of a portfolio if the portfolio is on the line of capital market. The higher index means that the portfolio shows a better performance (Brigham and Daves, 2003).

$$\acute{\alpha}p = rp - [rf + \beta p\ (rm-rf)]$$

Where:

$\acute{\alpha}p$: risk value Jensen Alpha

rp : average of portfolio return rate

rf : average of risk free investment in certain period

βp : mutual fund equation as the result of linier regression

rm : market return

4. Snail Trail

A high return is not the only measurement that an investor needs to consider. Another thing that needed to be considered is the historical data as in turn show us the volatility of an investment return rate. So the trade-off between return and risk is needed to be learnt. A traditional risk-return diagram form is a more advanced appraisal and stated explicitly about how the trade-off formed between risk and return (Keng, 2000). The diagram shows a single period or statistical description from risk and return and in turn shows the performance of fund manager that always change from time to time. Snail Trail method is formed because of the needs.

a) Advantage

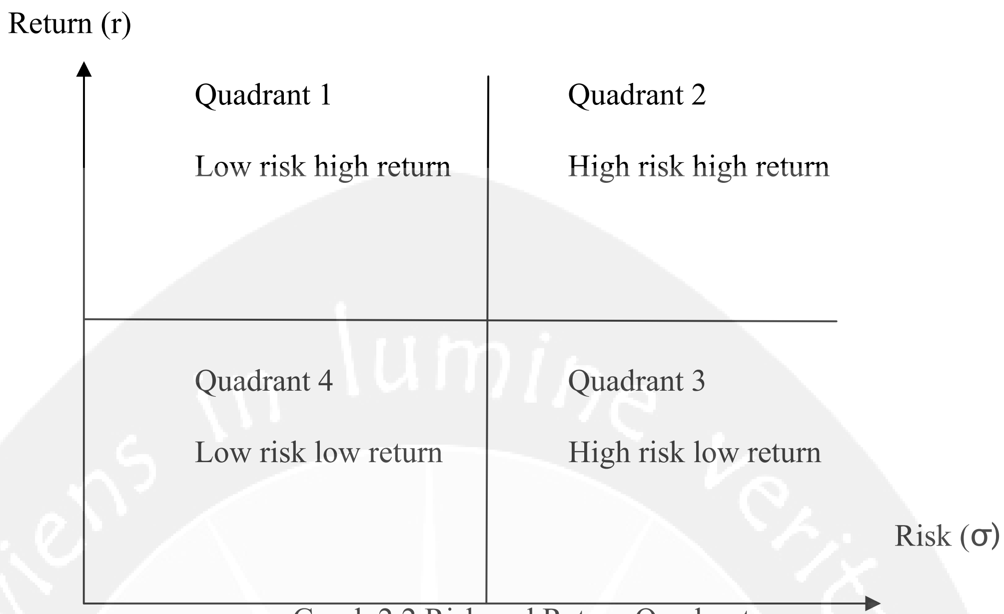
Snail trail method is not only shows the relative average of a mutual fund but also a robust tool to compare fund manager performance of mutual fund. Snail trail method is very suitable to measure and evaluate the performance of long term investment.

b) Quadrant

Snail Trail is the application of an investment's risk and return, and plotted into four quadrants. The horizontal of quadrant states about the risk while the vertical of quadrant states about the return. The risk and return of a portfolio is plotted into quadrants from time to time so it shows the portfolio movement.

The Snail Trail risk return graph is divided into four quadrants where each quadrant has its own characteristic, and stated as follows (Keng, 2010):

1) Quadrant 1 shows low risk and high return, this condition is wanted by the investors.
2) Quadrant 2 shows high risk and high return, this condition is wanted by risk taker investors.
3) Quadrant 3 shows low return and high risk, this condition is avoided by the investors.
4) Quadrant 4 shows low risk and low return.



Graph 2.2 Risk and Return Quadrant
(Source : Unit Trust Performance : the Snail Trail Approach Journal, Tan Yen Keng, 2010)

To create barrier of low high return and risk, the portfolio risk and return is reduced by the benchmark. If the return rate is below zero so the portfolio return rate is under the benchmark return rate. If the risk is below zero, so the portfolio risk is lower than the benchmark risk as expected by the investors. To create risk return quadrant we need to calculate return and standard deviation is used as the description of total risk of an investment.

2.2 Reviews on Related Study

There are some researches that about the analysis of mutual fund performance compared to market performance. The first research is written by Manurung (2006). The research use Risk Adjusted Return ratio method and snail trail. The mutual fund used by the researcher is 13 stock mutual funds, 14 fixed income mutual funds, and 18 mix mutual funds for period January 2002 until January 2005. The result of this research is there is only one fixed income mutual fund gives positive number of return. It means that the fund manager still unable to do adjustment to get higher return for the investors. The result of snail trail analysis is most of the mutual fund show movements in the third quadrant which means that it gives low risk and low return. The third quadrant is the quadrant that should be avoided by the investors. A different result comes from the analysis of the mix mutual fund, where there is only one mutual fund shows negative result. For the snail trail analysis, most of the mutual fund movement is on the first quadrant. The first quadrant shows low risk and high return, which means that this is the best quadrant and most needed by the investors. For the stock mutual fund, there is only one mutual fund that shows negative result. The snail trail analysis shows most of the mutual fund movement is on the first quadrant (low risk and high return) and third quadrant (low risk and low return).

The other research is written by Bandono (2002) and uses 20 stock mutual funds for period year 2001. The research uses Sharpe, Treynor, and Jansen method with IHSG as the benchmark. The result of this research shows that there is no different between the stock mutual fund performance and market performance analysed by Sharpe, Treynor, and Jansen method.

The research done by Novianti (2008) uses 6 sharia mutual funds and analyzes it with Risk Adjusted Return, Sharpe, Treynor, Jansen, Risk Ratio, and Snail Trail. All of the samples are outperform compared to the market performance.

The research done by Raharjo (2010), compare the stock mutual fund performance to market performance using snail trail method. The period taken is from January 2005 – April 2010. That research period is almost the same period with the sub prime mortgage crisis from United States that affect almost the whole world economic aspect. The result of this research is that most of the stock mutual funds still show high performance on their return and risk. The stable condition shows that the crisis is not highly affect the stock mutual fund.

The last research is done by Hotniati Simamora (2011) that analyse the fixed income mutual fund using Risk Adjusted Return, Risk Ratio, and Snail Trail. The research use IHSG as the benchmark for period January 2005 – June 2010. The research result shows that most of the fixed income mutual fund shows outperform compared to market performance.