MARKET OVERREACTION TOWARD COMPANIES STOCK PRICE IN INDONESIA STOCK EXCHANGE

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بسم الله الرحمن الرحيم

In fact about the occurrence of earth and sky and conflict of noon and night become the sign of (the power of Allah) to sensible people (people who) remember Allah when standing, sit and lie down and they think of the occurrence of earth and sky, (at the same time they Say: Dear God, you were not make all of this for nothing (useless), holy the most of You, hence please keep us away from the torture of hell...

(Holy Qur`an, Ali Imran 190-191)

Study for you the science because studying that science giving you to have fear to ALLAH, claim it represents prayer beads, teaching of it to *which not yet known represents approach of yourself*

(Hadist R. Abdil Bair)

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Market Overreaction Toward Companies Stock Price In Indonesia Stock Exchange

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ABSTRACT

Researches about market overreaction toward company's stock price emphasize that there is phenomenon of stock value reversal which have negative return for same period of time and then move toward positive return, at the other hand high-return stocks for while become worse and stock value go down. Hypothesize about this overreact usually use winner portfolio as parameter for stock value which have good performance and loser portfolio for the bad one. The objective of this research is to know the existence of market overreaction toward company's stock price at IDX.

The research determined to know market overreaction toward stock value in year 2005 until 2009 using market adjusted model. Samples divided into two groups; 30 companies of winner portfolios and 30 companies of loser portfolios.

The result show that market overreact signed loser portfolio exceed winner portfolio in March 2005, July 2007 and March 2008, in the year 2006 and 2009 both of groups stock value movement quite stable. Independence analysis sample t-test indicates there is no significant difference between average return group of winner portfolios and loser portfolios.

Skripsi ini telah dipertahankan di depan sidang penguji dan dinyatakan lulus pada tanggal 15 Februari 2010.
Abstrak ini telah disetujui oleh pembimbing dan penguji :

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DIDIK PRIHANTORO, SE

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CHAPTER I

INTRODUCTION

1.1. Research Background

The capital market has important role to improve the country's economic condition. The capital market is the institutions that have task to allocate overall economic resources by bringing the interests of investors as the party who have excess funds to the borrower. The core of capital market activity is investment activity, include direct or indirect capital investment activity, with the hope, the capital owner will get several profits in the future.

From the capital market, investors have a choice to choose the investment objective with the different level of stock return and also the risk level that should be faced. The issuer will get long term fund to extend their activity.

The investor has motivation to get optimal return from their investment in the capital market. The investors have a duty to follow actively the movement of market and have as much as information that related with the stock's price. That's way, the need of relevant information in deciding the decision becoming increase in a row with the capital market development.

The investors have to follow the market development and information development in the market, because the successfulness of investments is making well-informed decision. The information includes public information and private information that will affect the reaction in the stock exchange and the information is useful to get the portfolio that suitable with investor's individual preferences.

The information that used in the capital market is information useful for the investor, the information enable to change the investor's belief and expectation.

The previous information help the investor in predicting the profit and various alternative that caused the investor doing trading in the capital market. Based on Weston and Copelland (1997:141), information was defined as "a set messages or news that could be used to change the information receiver in order to improve their prosperity". It is means that information is needed to state the securities' price related with the risk and the return of the securities.

In the other hand, various studies in the field of capital markets and financial behavior stated that there are some irregularities that could affect the stock prices. The deviations have implications to the phenomenon of overreaction is that market participants do not all consist of people who always think rationally and not emotionally. If some of the market perpetrators overreact to negative information, market participants will act on emotion and quickly assess stocks too low. To avoid losses, investors will behave in an irrational way and quickly sell the stocks that perform poorly.

The dramatic events that are considered by investors may cause overreaction. The investor will do things that may not be rational for the stocks. Excessive reaction is shown by changing in the stock prices by using the return of the securities. This reaction can be measured by abnormal returns of securities that earned by investors. The stock return will be reversed in the overreaction phenomenon. Stocks that typically have a high return in market demand, will become less desirable. Meanwhile, low value 'stocks and less desirable stocks will start to be chosen by market participants. This condition will cause the previous stock that has high return will be low, and low prior return of the stock will be high. This situation will lead to positive and negative abnormal returns.

The results of the research are changing patterns in the stock returns that provide different conclusions. De Bondt and Thaler (1985) stated the previous underperforming stocks to be further improved and vice versa, the previous well perform stocks to be further deteriorated within approximately 36 months. They explainthe phenomenon of the abnormal stock price as evidence that the market overreacts in response to an information. Then the market makes correction in the next period. This means that the market is not totally composed of rational and not emotional investors. This also means that the stock price is predictable based on past performance. The overreaction phenomenon concludes that the market is not efficient, because in an efficient market, the stock price at that time would reflect the knowledge and expectations of all investors, so impossible for investors may not know if investment will be profitable or unprofitable in the next period based on market prices.

Market participants often behave irrational to the stock price movement. The type of information that available in the capital markets can be divided into two categories such as good information (positive news) and bad information (negative news). Market participants usually charge too high tariff as considered of good news and will charge a low tariff as considered to the bad news.

Lo and Mackinlay (1990) stated that the tendency of loser stocks outperform than winner stock does not depend on excessive reactions, but on the size of the company. The company categories into the loser-stock company have a lower size than winner-stock company. If the research using the same size of the company, may occur no difference in the stocks returns between both stocks. The result

different from the research of Wibhisono (2004). Wibhisono found the company size do not influence on the reaction in the stock market.

The researches about overreaction usually use the data of grouped stocks that divided into two groups, consisting of the winner stocks (winner portfolio) and the loser stocks (loser portfolio). The loser stocks portfolios is the stocks that consistently have a significant declining in the stocks price, while in the winner stocks portfolios has a consistent increasing in the stocks price.

The research on the efficient market hypothesis (EMH) has been done in the Indonesian Capital Market. The study of capital market efficiency related to market reaction and reflected in the stock price adjustment of a new information. The dramatic overreaction phenomenon can be used to assess the efficiency of capital markets, especially for market participants in Indonesia Stock Exchange (IDX).

The previous research was conducted by Rahmawati and Suryani (2005), stated that the dramatic events was considered by the investors, may cause investors to overreact. The investors will do the things that may not be rational. Overreaction indicated by fluctuating return of the securities. The overreaction measured with abnormal return of the securities. The return in this stock will be reversed in the overreaction phenomenon. The stocks or securities traded in the secondary market have a high return will become less desirable. Meanwhile, low value stocks and less desirable stocks will start to be chosen by markets. This condition will cause previous high return stock become

low, and low return stock becomes high. This situation will lead to positive abnormal returns and negative abnormal returns.

This research will test and analyze the existence of market overreaction phenomenon toward company's stock price on the Indonesia Stock Exchange in the year 2005 to 2009. The previous research conducted by Rahmawati and Suryani (2005), "Overreaksi Pasar Terhadap Harga Saham Perusahaan Manufaktur di Bursa Efek Jakarta". Rahmawati and Suryani (2005) concluded indications of market overreaction, marked with loser portfolio outperform than winner portfolios. The effect of overreaction not occurs in a constant period, but occurs in separatist time for long time period. The Research of Rahmawati and Suryani (2005) only focus on manufacturing sector, while in this research does not limited to the manufacturing sector but for all sectors in the capital market. The research follows the previous research and used the monthly closing price data. This research will examine whether there is an overreaction indication, marked with a loser portfolio outperform than winner portfolios during the observation period.

In this research, the researcher will try to test the unexpected information or dramatic news that affects the Indonesian capital market. The research is done by examining data from the companies that are listed in the Indonesia Stock Exchange (IDX) during the period 2005 until 2009.

Based on the research background above, the researcher will do the research with a title "**MARKET OVERREACTION TOWARD COMPANIES STOCK PRICE IN INDONESIA STOCK EXCHANGE**".

1.2. Problem Statements

As have been explained at the problems background above, and the variety of conclusions in the previous studies, this research will be conducted to verify the previous research results and the problem statement in this research:

1. Does the overreaction toward companies stock prices exists in Indonesia Stock Exchange during the period 2005 until 2009, marked by loser portfolio outperformed than the winner portfolio?
2. Is there any significant difference in the average abnormal returns, between loser portfolio and winner portfolio during the period 2005 until 2009?

1.3. Objectives of the Research

The objectives of this research:

1. To find out market overreaction toward companies stock prices in the Indonesia Stock Exchange during the period 2005 until 2009, marked by loser portfolio outperformed than winner portfolio.
2. To find out the significant differences between average abnormal return loser portfolio and winner portfolios during the period 2005 until 2009.

1.4. Contribution of the Research

The expected contributions of this research are:

1. Theoretically, the research is expected to strengthen previous theory about market overreaction, the overreaction indicated by changing position between loser portfolios and winner portfolios.
2. Academically, the research is expected to develop the capital market science, especially for financial management.
3. In practical terms, the research is expected to prove the dynamics conditions of Indonesian capital market, especially to know the behavior of investors when translate the information.
4. For the reader, the research is expected to provide additional references, both for the purposes of research or to add the knowledge about capital market.

1.5. Scope of the Research

The research is done to prove the previous research, to know abundant reaction (overreaction) toward companies stock prices in Indonesia Stock Exchange (IDX), marked by loser portfolios outperform than winner portfolios.

1.6. Structure of the Chapters

In order to make it easier and make moderate the forwarding of content, this research is divided into five chapters:

Chapter I : Introduction

Consist of the research background, problem statements, objectives of the research, expected contribution of the research, scope of the research, and the structure of the chapters.

Chapter II : Review of the Literature

Consist of the evaluation of literatures, capital market, market overreaction, abnormal return and the previous research.

Chapter III : Research Methods

Consist of the research objectives, sample and population, type and source of the data, data collecting method, identify of research variables, operational definition of the research variables and the data analysis technique.

Chapter IV : Results and Discussion

Consist of variables and hypothesis testing, the results of the testing and the research discussion.

Chapter V : Conclusion

Consist of conclusion of the research, limitation, implication of the research and recommendation for the future research.

CHAPTER II

REVIEW OF THE LITERATURE

2.1. Capital Market

2.1.1. Definition of Capital Market

Capital markets are defined as activities related to public offering and trading securities, public companies that related to the securities, as well as institutions and professions that related to the effect. (Departemen Keuangan RI-Badan Pengawas Pasar Modal). According to the Law of the Republic of Indonesia No. 8 of 1995 about the Capital Market, "Capital Market is an activity concerned with the public offering and trading securities, public companies related to the issuance of securities as well as institutions and professions that related to the effect". Capital Market according to Dictionary of money and capital markets is a concrete market or abstract markets that bring to the offering and demand of each market participant that need long-term funds. Meanwhile, According to Siamat (2001: 365), capital market is the "a financial market to fund in the long-term period, while in the narrow sense, capital market is an organized of physical place, called by stock exchange". Husnan (2005:3) defined the capital market as a market for long-term trading. The instruments can be traded either in the form of debt and own capital, the instruments issued by governments and also private companies. According to Sunariyah, capital market is a market for stocks trading, include bonds and another similar securities use the services from

securities companies, broker dealers either government or private Sunariyah (1997:3). Capital market is an alternative way of financing. The capital from capital markets may come from domestic or abroad. In the capital market, the things that traded include company ownership and a statement of a company's debt. This ownership includes stock, other debt statement with a long-term period. Sartono (1996). Capital market has an important role in macro economic activity. The capital market can serve as an optimal tool for allocating economic resources. The company needs funds from capital market to obtain funds more profitable than borrow funds from the banking sector. Capital or fund is gained from here, in addition to acquire capital, cost is also cheaper (Sartono, 1996).

According to Presidential Decree No. 60 In 1980, the stock market is the place that gives opportunity to the bidders and peasants as market participants for long-term funds in the form of securities. Generally, capital market listed in the Decree of the Minister of Finance No. 1548/KMK/1990: The capital market is an organized financial system, including commercial banks and all the intermediary institutions and the overall financial of securities sector. Based on the definitions of the capital markets above, it can be concluded as follows:

1. The capital market could be a market in terms of abstract or concrete (real). In the abstract sense, the trade security does not have to happen at a certain place. Meanwhile, the capital market in the concrete form known as the stock exchange.
2. The traded commodities in the capital market are securities (financial assets).

3. The securities that traded in the capital market are securities that issued by a legal entity form of Limited Company, the securities can be owned by private institution or by government.
4. The stock exchange was concreted from capital market. Stock exchange is an organized market (highly organized market), stock exchange has rules to regulate market participants in the stock exchange.

2.1.2. Types of Capital Market

There are several ways to sell the stocks according to the securities that are traded. They consist of:

1. Primary Market

Primary Market is the first time stock offering that was issued by company to the investor during the time, before the stocks were traded in the secondary market. The primary market is the market for the shares or other securities that was firstly published and offered in the capital markets. The primary market price was determined by the issuers and underwriters based on the fundamental analysis of the companies. The funds from the stocks sales become company's capital.

2. Secondary market

The secondary market is defined as stocks trading after the offering period in the primary market end. The secondary market is markets for the stocks and securities that have already exists and have been traded on the stock exchange.

The secondary market is determined by demand and supply. The secondary market influenced by two factors: First, the company's internal factors, factors those are associated with the company's internal policies and its performance, such as the dividend announcement, the performance of corporate management, the company's prospects. Second, the external factors of the company, it is about the thing beyond the company's ability such as political upheaval, changes in monetary policy, inflation rate. The trading volume in the secondary market has a much volume. However, the sales of common stock is no longer in its working capital, but has entered into the cash to shareholders.

3. Third Market

The third market is the trading place for stocks and other securities in the stock exchange (Outside of the Counter Market).The securities are traded when the secondary market was closed. In Indonesia, the third market is called as parallel market. The parallel market is a system of organized trading securities outside of the official stock exchanges. The third market has no central trading location, that's why it is called as trading floor. The operation in the third market is about centralization of information. The information includes stock price, the number of transaction, and other relevant information about the securities. The broker in the trading system could act as his capacity as a securities dealer or a broker dealer. The framework of parallel market operations consist of:

a. Admission at the Parallel Market.
b. Trade Trading Rules in the Parallel Market.
c. Quotation rules in the parallel market.

4. Fourth Market

The fourth Market is a form of market trading between the investors and securities that can be interpreted by the transfer of shares from one stockholder to the other stockholder without passing through intermediary traders to avoid the commission. Generally, the fourth market uses communication networks to conduct the transactions that are usually done in large numbers of trading (Block Sale). Although the transaction occurs directly between the investors, block sale transaction must be reported and recorded on the stock exchange.

The capital markets distinguished according to the process of organizing transaction between market participants:

1. Spot Market

Spot market is directly delivery of the securities in the capital market. It means that if someone buys securities, so at that time he will receive the purchased securities.

2. The futures market or forward market

The futures market is the markets where traded securities will be resolved according to the agreement. The transaction process includes the opportunity of the date of transaction and the time of delivery that must be done. The purchased securities will be delivered in the future. Because of the difference between the transfer date and transaction date, it may cause increasing or decreasing risk, these risks should be considered by both parties who are doing the transaction.

3. Option market

The option market is the market that focused on determining the choice of stocks or bonds. That option is an agreement of stockholder rights to buy or to sell within a certain time. The rights only used within a certain time period. Thus, if there is no right execution during the period, right agreement will be cancelled.

2.1.3 Capital Market Functions

Capital markets have two main functions (Husnan, 2005: 4):

a. Economic Functions

Capital markets provide the facilities and let two parties that have excess funds (lenders) and the required funds (borrowers) get together. By investing surplus funds, lenders expect to obtain reward (return). From the side of borrowers, the availability of funds from outside parties allows them to invest without having to wait for the availability of funds from the company's operating results.

b. Financial Functions.

Capital markets provide an opportunity to gain return for fund's owner. The capital market's activity is expected to increase the economic activities. The capital market has a meaning of being an alternative of financing for the companies, so the companies can operate with a larger scale and it will increase the company's earnings and prosperity at large society.

According to Presidential Decree No. 52 of 1976, the existence of capital markets in Indonesia has the following objectives:

1. Accelerate the process of expansion to increase public participation in the ownership of stocks of private companies.
2. Increase the community participation and association in the direction of funds collection to increase national financing more productive.

Capital market functions include:

1. For the government, capital market is an instrument of capital markets to mobilize public funds, in which the fund has no inflation effect.
2. For business, capital market is an alternative to obtain fresh funds by going public.
3. For investors, the capital market is the place of channeling funds (investments) besides deposits and savings.

From the macro point of view, the functions of capital markets are:

1. Capital market as an alternative source of financing for national development includes government and private sectors.
2. Capital market as one of monetary form instrument through open market policy implementation.
3. Capital market as one way to make small investors participated in the development activities beside government or private sector.

From the micro viewpoint, the function of capital markets includes the following areas:

1. Capital market makes the capital structure more effective.
2. In the certain situations, going public as one way to increase corporate value.

2.1.4. A Brief History of Capital Market in Indonesia

Indonesian era of capital market can be divided into 6 periods: The first period is the Dutch period that started in 1912, when the first capital market in Indonesia was established. The second period is "orde lama" period which began in 1952. The third period is the "orde baru" period which began in 1977. The fourth period began in 1988 when a period of capital markets was wakening up from a long sleep. The fifth period is the period in which the capital market use automation system and began in 1995. The sixth period is the period of monetary crisis that began in August 1997 (Jogiyanto, 2003). The first period of capital markets in Indonesia began on 14 December 1912. The association of 13 brokers formed in Indonesia. The association was given name by Dutch government " *Vereniging Voor Effecten Handel* " which is the origin of the first capital market in Indonesia. In addition to the capital market in Indonesia, another one was also established in Surabaya on January 1, 1925, after the end of World War I, later followed in Semarang where the new capital market was established on August 1, 1925. The capital market was operated until the arrival of the Japanese in Indonesia in 1942. After the Japanese left Indonesia, on 1 September 1951, based on the Emergency Law No.12 was issued which made by the Law No.15/1952 for the capital markets as well as the Decree of the Minister of Finance No.28973/Undang-Undang 1 November 1951. Indonesia Stock Exchange was finally reopened on June 3, 1952. And it is the second period of the historical

development of capital markets in Indonesia, or better known as the Order Lama period.

The purpose of this exchange reopening is to accommodate the government bond that was issued in the previous years. Another goal is to prevent the flight of foreign shares of Dutch companies that formerly traded on the stock market in Indonesia. The Stock exchange was developed quite well even though the securities were generally traded by the Dutch, company bonds and government bonds in Indonesia through the development of Bank Indonesia. But with the dispute about West Irian between the government of Indonesia and the Dutch, the Dutch business was dismissed from Indonesia through Nationalization based on Act No.86, 1958, resulted in flight of Dutch capital from Indonesia. As a result, beginning in 1960, Dutch Securities Company has not traded again on the Indonesia Stock Exchange. The third period was marked by the rebirth of JSX in 1977. This period is more familiar with the Order Baru period, based on Presidential Decree No. 52 In 1976 the contents of this decree showed up as a determination in the establishment of capital markets.

President Suharto re-inaugurated the Jakarta Stock Exchange (JSX) on August 10, 1977. PT Semen Cibinong was the first company listed on the JSX. It is the period after long sleep period. Until the year 1988, only a few companies were listed on the JSX, which consisted just 24 companies. The stock market in this period was not very attractive for investors, it may be caused by not wearing the tax on deposit interest and dividend income was subject to income tax by 5%.

The fourth period started from 1988 until 1995 or better known as the period waking up from a long sleep. Before the year 1988 there were only 64 companies listed in the JSX. After the year 1988, for three years, until the year 1990, the number of companies listed on the JSX increased up to 127. In this period, initial public offering (IPO) became a national event.

The increasing was caused by:

1. Demand from foreign investors.

Foreign investors saw that the capital markets in Indonesia had developed rapidly in this period and had a good prospect. Foreign investors interested in Indonesian market because it was considered as a profitable market for the international diversification. Ownership of foreign investors was limited to 49% of the registered securities in the stock market.

2. Pact 88

Pact 88 is a reform Pact, October 27, 1988. The pact 88 issued to stimulate non-oil exports, improve the efficiency of commercial banks, making monetary policy more effective, increasing domestic savings and improves the capital market reform and one result of Pact 88 is to reduce the requirement bank's deposits. As a result on this reform is the release of funds amounting to 4 trillion rupiah from Bank of Indonesia to the financial sector and public sector, which have sufficient funds to play in the company.

3. Change Generation

The changing in the business culture in the generation of this period, from the closed family business culture to open business professionals culture, allows professionals from outside to sit in the corporate leadership. This period was recorded as a period of revival of the stock exchange. Surabaya Stock Exchange (SSX) was born again on 6 June 1989. Ail securities that were listed on the Indonesia Stock Exchange automatically listed on the SSX. The fifth period was called the automation period which began in 1995. Because the increasing in the perceived transaction activity exceeds the capacity of the manual, the JSX decided to use automation system that applied at the Jakarta Stock Exchange (JSX). It was given the name of Jakarta Automated Trading System (JATS) and began operation on Monday May 22, 1995. JATS is the automation system using the computer networks that used by the broker or dealer to trade the securities on the Jakarta Stock Exchange. JATS able to handle 50,000 transactions per day, whereas with the manual system is only capable of handling 3800 transactions per day only. This also increases the average daily trading volume. At the manual system, the trading volume only 14.8 million shares in 1606 transactions with a value of USD 46 billion for regular transactions, now can reach 18 million pieces in 2268 transactions with a value of USD 58 Billion. Whereas for non-regular transactions that used only for 19.3 million shares in 174 transactions with a value of USD 61 Billion. After using JATS reach of 24.7 million shares in 222 transactions with a value of USD 82 Billion. While in SSX also applied automation systems a like JATS, with the name of Surabaya Market Information and Remote Automated Trading (S-MART). S-MART was inaugurated on 19

September 1996, the system is S-MART integrated with JATS system in JSX KDEI system (Clearing Deposit Securities Indonesia). The sixth period is the period of monetary crisis that began in August 1997. Monetary crisis marked by rising prices sharply of basic commodities and the declining of Asian currency values against the U.S. dollar. Currency devaluation was caused by speculation from currency traders, lack of public trust to the currency value and the lack of strong economic foundation to prevent the demand for U.S. dollar which resulted in excessive increases and lowered the value of the rupiah, Bank Indonesia raised interest rates by Bank Indonesia Certificates (SBI). Another way was taken by the government in tackling financial crisis to eliminate foreign investors ownership rules which at first only by 49% to 100% this means that foreign investors may buy shares of an infinite number, but the policy was also unable to overcome the decreasing of domestic currency against the U.S. Dollar. Later on November 1, 1997, the government announced the liquidation of 16 national private banks. The announcement was surprising and could not improve the sluggish of the stock market. The crisis continued until the falling down of President Soeharto in May 1998 and resulted in decreasing of Indonesian economics. The direction of market development in Indonesia has poured future blueprint in Indonesian capital market. In this blueprint the government was determined to make the Indonesian capital market became the largest capital markets in Southeast Asia in the year 2020. There are several issues that require immediate handling of problems of efficiency and dissemination of information to the principal exchange. The results of the research conducted by several researchers of our capital market efficiency states that the level of our capital efficiency is still low. Market reaction depends

on the relevant information and public knowledge about the market is still quite low. At present the number of investors who play in the Indonesia Stock Exchange about 400,000 while the number of domestic investors is approximately 0.2% of the total population and relatively low, compared to Malaysia (35%), Japan (20%), and the United States (32 %). The dominance of foreign investors is one of the causes of turbulent markets. Based on the value of transactions, foreign investors controlled 69.5% in 1993; 64.2% in 1994; 61.3% in 1995; 63.2% in late December 1996. Sales of shares by foreign parties in a very large number would affect stock prices significantly. Foreign investors are also very sensitive to political issues. These factors can increase the market stock price fluctuation, marked by a shallow low trading liquidity until March 1997; of 258 listed companies only 50 listed companies whose shares are totally liquid. Illiquid stocks can be said if the average transaction is 15 times per day. In addition to liquidity, market capitalization is also uneven superficial cause of our capital markets. The end of November 1996 data showed that 40 types of shares or 16% of the total capitalization value nearly 80% of the total market capitalization value. More than 85 types of stocks have a capitalization less than equal, 0.5% of the total. The low stocks released to the public, also connects the issue of efficiency of our capital markets. From 158 issuers in the study was that the average public ownership of shares by 26.3% and only seven of the issuer or about 4% a truly public company. The challenges are the homework that must be handled by government to make Indonesian capital market become largest capital markets in Southeast Asia

2.1.5. Capital Market Efficiency

2.1.5.1. Understanding of Capital Market Efficiency

Generally, market efficiency was defined by (Beaver, 1968, in Jogiyanto 2003) as the relationship between the prices of securities with the information. The capital markets are efficient if the market reacts quickly and accurately to achieve a new equilibrium price that fully reflects the available information, the efficient capital market is a market where the prices reflect to all known and relevant information. (Sartono, 2000: 141). The efficient capital market is efficient informational market as opposed to the efficient operation of markets or securities prices in this market that quickly reflect all relevant information (Husnan, 2000), because not all information is valuable information .

2.1.5.2. Efficient Capital Market Form

Efficient markets in terms if only the information referred to the market efficiency information. Markets are efficient in terms of sophistication of market participants when making decisions (sophisticated investors) based on available information referred to the decision of market efficiency (divisionally efficient market). Fama (1970) presents 3 main forms of market efficiency based on three different forms of information, including past information, the information now being published and private information as follows:

1. Weak Form Market Efficiency

In the weak form market efficiency, market prices of securities are fully reflecting the information of the past time. The past information will not help to get abnormal return. For example, the stock price increases at the beginning of each month, and decrease at end of the month. So the capital markets efficiency in the weak form, because the stock price follows the trend. Investors and companies will realize the effects of these trends and tend to use it to determine the stock price in the future.

2. Semi Strong Form Market Efficiency

In the semi-strong form market efficiency, market prices of securities fully reflect to all of the published information. In this form, investors can not earn abnormal return by using public information. Information can be published, who published information that only affects the price of securities of the companies that publish such information, or affect the prices of all companies' securities that listed on the stock market. The rate of return becomes abnormal return. Researchers have tested this situation by looking at certain events such as the issuance of new shares, profit and dividend announcement about the company's earnings estimates, changes in accounting practices, mergers, etc. Most of this information was quickly and precisely reflected in the stock prices.

3. Strong Form Market Efficiency

In the strong form market efficiency, market prices of securities are fully reflected to all information, include private information. This concept means that

all information both general information and private information reflected in the same time, so none investor will enjoy the benefits of abnormal return from that condition. Private information is the secret information that would not be published, and only for certain persons a like companies management, this information will be used as a strategy for the companies. This strong form market efficiency will be difficult to achieved, even though in the developed countries. The strong form of market means that the market has reached a perfect efficiency (Sunariyah, 1997).

2.1.6. Stocks

2.1.6.1. Definition and Types of Stocks

The stock according to Siamat (2001) is a letter or a sign of proof of ownership of capital in a Limited Liability Company. Meanwhile, according to Sartono (1996), the stock is a type of long-term securities to meet the needs of long-term funds. The stock simply defined as a sign of inclusion or possession of a person or entity within a company. Furthermore, the form of stock is a piece of paper explaining that the owner of the paper is the owner of the company who published the paper (Ministry of Finance - Capital Market Supervisory Agency). The fourth opinion on the definition of these stocks can be concluded that the stock are securities that issued by the issuer company called the issuer, which states that the shareholders have property rights in accordance with the company issuing the participation in the value of shares. Generally, the kinds of stocks include:

1. Common Stocks

Common Stock demonstrates ownership of common stock in the company. Common Stock is ordinary stock that has no maturity period, shareholders are owners of the company during the company's standing. In the event of bankruptcy, holders of common stock as the company owner cannot claim to assets before liabilities to creditors, including bondholders and shareholders.

2. Preferred stock.

Preferred stock referred to hybrid securities. Preferred stock has good characteristics. Preferred stock is equal with common stock because it has no "jatuh tempo" date, unpaid dividends will not lead to bankruptcy for the company, and dividends cannot reduce tax payments. On the other hand, preferred stock is equal to the bonds because the amount of the dividend has a certain limit. Because of this, the preferred shareholders do not get the rest of the company's revenue, but only limited annual dividend.

2.1.6.2. Stock Price

The stock price is an important aspect of financial movement that always observed by investors. The stock price is one of the factors that influence investors to invest in the capital market.

2.1.7. Portfolio Definition

The portfolio is a set of investment securities. Hadi and Kiryanto (2008), one of the characteristics of securities investment is the ease form to create investment portfolio. The investors can easily to spread the investment in various

investments. The diversify in the investment portfolios useful to reduce investment risks. The portfolio is also a representation or manifestation of the principle that known in the business world that is "Do not put all your eggs into one basket".

2.1.7.1. Winner Portfolio

Based on Hadi and Kiryanto (2008), Winner Portfolio is:

1. Group of stocks or securities that consistently has large increasing in price (Rahmawati and Suryani, 2005).
2. Group of stocks or securities which have consistent earnings. (De Bondt and Thaler, 1985)

2.1.7.2. Loser Portfolio

Based on Hadi and Kiryanto (2008), Loser Portfolio is:

1. Group of stocks or securities that consistently have decreasing in prices. (Rahmawati and Suryani, 2005).
2. Group of stocks or securities do not have consistent earnings. (De Bondt and Thaler, 1985)

2.2 Market Overreaction

Hypothesis of overreaction basically says that the market reaction has been exaggerated to information. Market participants tend to set prices too high on good information and vice versa, market players tend to set prices too low on bad information.

Psychologically, market participants tend to give dramatic reactions to bad news, Thaler divided portfolio into the group which has consistent earnings (winner) and the portfolio which does not have consistent earnings (loser). Corrections to the information take place in the next period, the correction is excessive, significant and recurring. This is called overreaction.

Some general theory states that the behavior of investors over-reacts to the news of dramatic information, both financial and non-financial event of unexpected and dramatic events that is not anticipated before. Some events that cannot be anticipated can affect the entire economy and also affect to the stock price significantly, whether the appreciation or depreciation of the stock exists.

Overreaction is principal behavior of market player that will affect many contexts. When market participants over-react to information that previously unexpected, then the loser stock will be outperform than group winner. Symptoms of overreaction include:

1. Stocks that have high return would be less attractive and low-value stocks would be searched by the markets.
2. Return of the previous high stock became low and the low stock returns became high.
3. Stocks that categories into underperforming stocks will be further improve and conversely, that previously well performing stocks (winner) will be deteriorated.

Overreaction becomes important issue to discuss, because the excessive reaction to the behavior of the principal market makers will influence many

contexts. When market participants over-react to information that previously unexpected, then the stock of the loser portfolios group will outperform than winner. The Result of this excessive reaction can encourage people to buy loser stocks and sell winner stocks. This strategy tested by Sukmawati and Hermawan (2003) use Sharpe CAPM Litner and follows the procedures that have been used by De Bondt and Thaler, constructed every three years, 1932 to 1983 and found the ratio of winner and loser are not constant over time. It is means that the estimated return on this strategy is very sensitive to the method that used.

2.3 Abnormal return

2.3.1 Definition of Abnormal return

Abnormal return is the difference between the expected return and the actual return. Sometimes, abnormal returns are triggered by "events." The events might include mergers, dividend announcements, company earnings announcements, interest rate increases, etc that can give contribution to abnormal return. Typically, finance events can be classified as occurrences or information that has not already been priced into the market.

2.3.2 Abnormal return in the Stock market

In the stock market trading, abnormal returns are the differences between a single stock and portfolio's performance in regard to the average market performance. Usually like a broad index, such as the S&P 500 or a national index like the Nikkei 225 is used as a reference for the average market performance. For example if a stock increased by 5% as a result of some news which affected the

stock price, however the average market only increased by 3%, then the abnormal return was 2% (5% - 3% = 2%). If the market average performs better than the individual stock then the abnormal return will be negative.

According to Jogiyanto (2003), Abnormal returns is the excess of the (actual return on the normal return (expected return) or the meaning of the expected return that expected by investors. Thus Abnormal Return is the difference between the real return and expected return. The formula is as follows:

$$\mathbf{AR_t = R_{it} - R_{mt}}$$

Description:

ARi, t = Abnormal Stock Return in the period t i

Ri,t = Return indeed occurred during the period of the stock i t

Rm,t = Market return in the period t is the fact return that occurred in the period t.

The formula is:

$$\mathbf{R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}}$$

Description:

R_{it} = Actual Return

Pi, t = closing price that day.

Pi, t-1 = previous stock price

2.3.4. Market Adjusted Model

Market adjusted model is the best predictor for estimating the stock return in market index. By using this model, it is not necessary to use estimation periods to form the model estimation, because the estimated stock return is equal to the market index return.

For the example, on the day of the announcement, the return of the market index by 18%, with market adjusted method, then expected return of all securities of that day is equal to its market index return, ie 18%. If the return of securities on the day of the announcement event is 35%, then the amount of abnormal return is 17% (35% -18%). So by using this method a formula for abnormal return is:

$$E\mathbf{Ri,t} = \mathbf{Rm,t}$$

Expected Return = Market Return

$$\mathbf{So,\ ARi,t = Ri,t - Rm,t}$$

ARi,t = *Abnormal Return* Stock in the period t i

Ri,t = Return that occurred during the period of the stock i t

Rm,t = Market return in the period t

$$R_{mt} = \frac{\mathbf{IHSG_t - IHSG_{t-1}}}{\mathbf{IHSG_{t-1}}}$$

R_{mt} = Market Return

$IHSG_t$ = IHSG (closing price) at t

$IHSG_{t-1}$ = IHSG (closing price) at t-1

2.3.5. Composite Stock Price Index

Composite Stock Price Index use all of the stocks listed in the market index. This index was first introduced on 1 April 1983 as an indicator of price movements of all stocks listed on both the Indonesia Stock Exchange's common stock and preferred stock. Day basis is dated August 10, 1982 with a value of 100 and the number of shares recorded at the time as many as 13 shares. This index calculation formula is:

$$\textbf{Composite Stock Price Index} = \frac{\textbf{\textit{Market Value}}}{\textbf{\textit{Basic Value}}} X\ \mathbf{100\%}$$

2.3.6 Average Abnormal Return

A test of Abnormal Return is done by examining the aggregate of average abnormal returns in cross-section for each month in the event period. Average abnormal return for day t can be calculated based on the arithmetic average as follows:

$$\mathbf{AAR_{i,t}} = \frac{\sum_{i}^{n} \mathbf{AR_{i,t}}}{\mathbf{n}}$$

Description:

Aart = Average Abnormal Return during the period t

ARI, t = Abnormal Return stock i in period t

k = number of shares

2.3.7 Cumulative abnormal return

Cumulative abnormal return is the sum of all abnormal returns up to time t in the period of the previous month for each event:

$$\mathbf{CAR_{i,t} = \sum_{i}^{n} AR_{it}}$$

CAR_{it} ,= Cumulative Abnormal Return stock i at t time

AR_{it} , = Abnormal Return I at t time

2.4 The Previous Research

Several studies related to the overreaction, Rahmawati and Suryani (2005) conducted research entitled "Over Reaksi Pasar Terhadap Harga Saham Perusahaan Manufaktur Di Bursa Efek Indonesia" concluded that there were indications of excessive reaction which is characterized by loser portfolio outperformed than winner portfolio. The effect of this excessive reaction occurs not in a constant period of long time, but it occurs in isolation or separatist. This research may also provide an explanation that the capital markets in Indonesia, particularly the manufacturing sector are under conditions of market efficiency in the weak form. The results of this study support the research that conducted by De Bondt and Thaler (1985) , Sukmawati and Hermawan (2003) and also Hadi and Kiryanto (2008).

Wibhisono (2004) examine the overreaction by looking at the size of the company. Wibhisono conduced daily testing of the stock during the year 2000 at the Indonesia Stock Exchange. The results of these studies did not find excessive reactions associated with the size of companies, both small firms and large

companies. In his research, he also found that the loser stocks have a tendency to be a winner, but the winner does not have a tendency to be a loser.

Sukmawati and Hermawan (2003) conducted the research on the overreaction by the formation hypothesis made of six portfolios, where portfolios are comprised of three groups as loser portfolio and winner portfolio. The purpose of the researched was to test the existence of overreaction that used to predict the pattern of the loser portfolio that outperformed than winner portfolio. They found that the loser portfolio outperformed than winner portfolios, and proven in separatist for some time.

The phenomenon of short-term price reversals by Iswandari (2001) using daily stock price data for 1998 and found that excessive reactions occur only in loser stocks rather than winner stocks using market models and mean adjusted models. Overreaction that occurred on loser stocks presumably because beginning of the period of the data used in the study was the year 1998 where in Indonesia was going through in economic crisis, so that market participants felt doubt with the information. Some researchers suspect that the price reversal is not due to excessive reaction but because of the influence of bid-ask spread.

Daniel and Subramanyan (1998) said that there was information provided to investors or referred to public information, and also there was information not provided to the investors, called private information. It can be said that stock prices are influenced by information provided to investors. This information could cause two bias psychologies, market overreaction and market under reaction. This bias happened, because investor overconfidence against the truth of the private

stud, he found that portfolios of the stock three months before that have positive abnormal return (winner) to be negative abnormal returns in the three-month period later. However Susiyanto didn't found excessive reaction to the previous

companies. In his research, he also found that the loser stocks have a tendency to be a winner, but the winner does not have a tendency to be a loser.

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information (over confidence) and self-attribution bias that is the nature of private investors.

Fama (1997) examined the market efficiency, long-term returns and behavioral finance. Fama stated that the market is more often overreacting than under reacting to information. In his research, found that there is overreaction in the long term and there under reaction in the short term. Fama argues that there are two biases that affect the information in stock prices. First, the bias of overconfidence of market, and this was causing investors overestimate in assessing stocks price. Second, the nature of a personal self-attribution, which caused investors, dropped a public assessment based on the stock value.

Dissanaike (1997) declared that investor regularly overreact to the new information, stock prices that tend to be loser, would change and move into winner. His research proved that the anomaly occurred in the stock price. Hypothesis of overreaction is a contradiction to the efficient market hypothesis and as a integral part of modern financial. Hypothesis of overreaction indicates that the form of market efficiency in the weak form and implies the half strong form of market efficiency. Hypothesis of overreaction also implies market inefficiency because stocks prices are too reactive toward information.

Susiyanto (1997) examine the existence of overreaction on the Indonesia Stock Exchange. He used weekly data during the period 1994-1996 and in the stud, he found that portfolios of the stock three months before that have positive abnormal return (winner) to be negative abnormal returns in the three-month period later. However Susiyanto didn't found excessive reaction to the previous

loser stock portfolio that has negative abnormal returns. Susiyanto interpret the research that investors in the Indonesia Stock Exchange more often respond excessively on positive information than negative information.

Sartono and Yarmanto (1996) research the excessive reaction (overreaction) to the Indonesian stock market using Damodoran model. The main purpose of their study was to measure the market adjustments and how new information is absorbed effectively. And they found that the Indonesia Stock Exchange tend to overreact to the latest information.

In the research by Jegadeesh and Titman (1995), found that the price overreact to the specific information of company and delay the reactions toward common information. Profits reversals due to the stock price overreaction only have a few benefits that can be given to the lead-lag effect. Opposite advantages basically caused by a few stocks that react more quickly than other stocks. His research examined the nature of the stock price reaction to the normal factors and against specific information of the company. Reversal of the specific components of a company against return was interpretated as a corrective to the excessive reaction that occurred before, although there is possibility of other interpretations.

Lo and Mackinlay (1990) stated that the existence of overreaction in their study marked with the return on some stocks that has systematically progress (lead) or decline (lag) from the return of other stocks, they use of a strategy to sell the stock class winner and buying loser stocks groups, that will enable to generate a positive expected return. Hypothesis test against the stock price of capital markets generally focused on individual securities as well as the grouping into

portfolios. In their research, Lo and Mackinlay, indicated that the interaction of cross-sectional return of the securities has important aspect in the dynamics of stock price changes.

2.5. Theoretical Framework and Development of Hypothesis

2.5.1. Theoretical Framework

Hypothesis of overreaction basically said that the market has been exaggerated reaction to information. Psychologically, market players tend to give dramatic reactions to negative news. De Bondt and Thaler share the portfolio in the portfolio have a consistent earnings (winner) and portfolios that consistently did not receive earnings (loser). Corrections to the information in the future period taken place in the short term period, the correction is excessive, significant and recurring. De Bondt and Thaler released the research on overreaction to the stock prices in 1985, followed by subsequent studies conducted both domestically and overseas. Rahmawati and Suryani (2005) conducted research entitled "Market Overreaction toward Manufacturing Companies Stock Price on the Jakarta Stock Exchange"concluded that there were indications of excessive reaction that marked with loser portfolios outperform than winner portfolios. The effect of this excessive reaction not occurred in a constant and long term period, but it occurred separately.

Sukmawati and Hermawan (2003) conducted the research on the overreaction by made six formation for both portfolios, where portfolios was comprised of three groups loser portfolio and winner portfolio. They found that the loser portfolios outperformed than winner portfolios, separately during the

testing period. Dissanaike (1997) declared that investor regularly overreact to new information, indicated by changed loser stocks moved into winner stocks.

2.5.2. Hypothesis

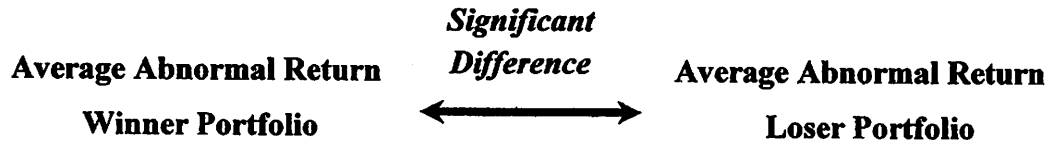
Based on the basis of relevant literature and the previous research, the hypothesis of this research is:

"There is significantly difference average of abnormal returns between the loser portfolio and the winner portfolio"

2.6. Theoretical Framework

Figure 2.1

Theoretical Framework



CHAPTER III

RESEARCH METHOD

3.1 Research Objectives

According to the purpose of this research, the type of research is testing hypothesis. Testing hypothesis is conducted to test the hypothesis of the research based on the previous research.

3.2. Population and Sampling Technique

3.2.1. Population

Population means the totalizing of all objects or individuals objects that have certain characteristics, clear and complete that will be examined. These populations consist of the companies that listed on the IDX (Indonesia Stock Exchange) in 2004 until 2009.

The sample is a part of the population that taken by certain ways, clearly, and can be considered fully representative of the population (Sugiyono, 2000).

3.2.2. Sampling Technique

Sampling Technique that conducted in this research is purposive sampling method. Sampling is done by purposive sampling, which means that the population is population samples that have certain criteria for the desired sample,

taken not randomly. The selected samples based on certain considerations (Sugiyono, 2000).

Research sampling techniques based on certain criteria to be tested so that the results of data analysis can be used to answer the research problem. Follow the research that conducted by Hadi and Kiryanto (2008), the criteria for sampling in this research includes:

1. Companies that listed on the Indonesia Stock Exchange during the period January 2004 to December 2009.
2. Companies that consistently traded on the observation period from January 2004 to December 2009.
3. In the Winner Portfolio, samples are taken based on the rises trends of stocks price movements of the company's stock price. Sampling period beginning from January 2004 until December 2004.
4. In the loser Portfolio, samples are taken based on the decreases trends of stocks price movements of the company's stock price. Sampling period beginning from January 2004 until December 2004.

Based on the criteria above, and then obtained 30 samples of companies that classified into winner portfolio and 30 samples of companies that classified into loser portfolio. 30 samples of winner portfolio will be split again into 6 winner portfolios, each portfolio is allocated by 5 companies, as well as a collection of loser companies.

Samples of companies that listed on the Indonesia Stock Exchange are categorized into winner portfolio and loser portfolio.

Table 3.1

List sample of companies that categories into Winner Portfolios

NO	CODE	COMPANY NAME	SECTOR	SUBSECTOR
1	DLTA	Delta DIndonesia Tbk	Manufacturing	Food and Beverages
2	MLBI	Multi Bintang Indonesia Tbk	Manufacturing	Food and Beverages
3	AQUA	Aqua Golden Mississippi Tbk	Manufacturing	Food and Beverages
4	SQBI	Bristol-Myers Squibb Indonesia Tbk	Manufacturing	Pharmaceuticals
5	INCO	International Nickel Indonesia Tbk	Mining and Mining Services	
6	SMDR	Samudera Indonesia Tbk	Manufacturing	Transportation Services
7	HMSP	HM Sampoerna Tbk	Manufacturing	Tobacco ManufacturerS
8	PTRO	Petrosea Tbk	Constructions	
9	TBMS	Tembaga Mulia Semanan Tbk	Manufacturing	Metal and Allied Products
10	HERO	Hero Supermarket Tbk	Manufacturing	Whole Sale and Retail Trade
11	SCPI	Schering Plough Indonesia Tbk	Manufacturing	Pharmaceuticals
12	LMSH	Lion Mesh Prima Tbk	Manufacturing	Metal and Allied Products
13	AALI	Astra Agro Lestari Tbk	Agriculture, Forestry and Fishing	
14	TOTO	Surya Toto Indonesia Tbk	Manufacturing	Stone, Clay, Glass and Concrete Products
15	AUTO	Astra Otoparts Tbk	Manufacturing	Automotive and Allied Products
16	LSIP	PP London Sumatera Tbk	Agriculture, Forestry and Fishing	
17	MEDC	Medco Energi International Tbk	Mining and Mining Services	
18	UNTR	United Tractors Tbk	Manufacturing	Automotive and Allied Products
19	AMFG	Asahimas Flat Glass Tbk	Manufacturing	Plastics and Glass Products
20	TLKM	Telekomunikasi Indonesia (Persero)	Manufacturing	Telecommunication

		Tbk		
21	UNVR	Unilever Indonesia Tbk	Manufacturing	Consumer Goods
22	TKIM	Pabrik Kertas Tjiwi Kimia Tbk	Manufacturing	Paper and Allied Products
23	IGAR	Kageo Igar Jaya (formerly Igarjaya) Tbk	Manufacturing	Plastics and Glass Products
24	BRAM	Indo Kordsa (formerly Branta Mulia) Tbk	Manufacturing	Automotive and Allied Products
25	MEGA	Bank Mega Tbk	Banking	
26	ASII	Astra International Tbk	Manufacturing	Automotive and Allied Products
27	BBCA	Bank Central Asia Tbk	Banking	
28	AKKU	Aneka Kemasindo Utama Tbk	Manufacturing	Plastics and Glass Products
29	INTP	Indocement Tunggal Prakarsa Tbk	Manufacturing	Cement
30	KLBF	Kalbe Farma Tbk	Manufacturing	Pharmaceuticals

Table 3.2

List sample of companies that categories into Loser Portfolios

NO	CODE	COMPANY NAME	SECTOR	SUBSECTOR
1	LPLI	Lippo E-Net Tbk	Others	
2	GGRM	Gudang Garam Tbk	Manufacturing	Tobacco Manufacturers
3	ADMF	Adira Dinamika Multi Finance Tbk	Credit Agencies Other than BaFinancenk	
4	GDYR	Goodyear Indonesia Tbk	Manufacturing	Automotive and Allied Products
5	MTFN	Capitalinc Investment (formerly Global Financindo) Tbk	Credit Agencies Other than Bank	
6	LMAS	Limas Centric Indonesia Tbk	Others	
7	LPIN	Multi Prima Sejahtera Tbk	Manufacturing	Automotive and Allied Products
8	TIRA	Tira Austenite Tbk	Manufacturing	Metal and Allied Products

9	ADES	Ades Waters Indonesia Tbk	Manufacturing	Food and Beverages
10	INDS	Indospring Tbk	Manufacturing	Automotive and Allied Products
11	IKBI	Sumi Indo Kabel Tbk	Manufacturing	Cables
12	AHAP	Asuransi Harta Aman Pratama Tbk	Insurance	
13	BSWD	Bank Swadesi Tbk	Banking	
14	PNSE	Pudjiadi & Sons Estate Tbk	Real Estate and Property	
15	MYOR	Mayora Indah Tbk	Manufacturing	Food and Beverages
16	IDKM	Indosiar Karya Media Tbk	Others	
17	KARW	Karwell Indonesia Tbk	Manufacturing	Apparel and Other Textile Products
18	AKPI	Argha Karya Prima Industry Tbk	Manufacturing	Plastics and Glass Products
19	JSPT	Indonesia Setiabudi Internasional Tbk	Real Estate and Property	
20	BBNI	Bank Negara Indonesia (Persero) Tbk	Banking	
21	DEFI	Danasupra Erapacific Tbk	Credit Agencies Other than Bank	
22	BMRI	Bank Mandiri (Persero) Tbk	Banking	
23	JECC	Jembo Cable Company Tbk	Manufacturing	Cables
24	DUTI	Duta Pertiwi Tbk	Real Estate and Property	
25	SMAR	SMART Tbk	Manufacturing	Food and Beverages
26	RICY	Ricky Putra Globalindo Tbk	Manufacturing	Apparel and Other Textile Products
27	NIPS	Nipress Tbk	Manufacturing	Automotive and Allied Products
28	DYNA	Dynaplast Tbk	Manufacturing	Plastics and Glass Products
29	PJAA	Pembangunan Jaya Ancol Tbk	Real Estate and Property	
30	KONI	Perdana Bangun Pusaka Tbk	Manufacturing	Photographic Equipment

3.3. Type and Source of Data

The types of research data that used are secondary data. Sources of data obtained from Andalas University IDX Corner and IDX Site and yahoo finance. The required data includes the Monthly Closing Price of 60 companies listed on the IDX from the years 2004 - 2009 and the Composite Stock Price Index during period years 2004 - 2009.

3.4. Data Collecting Method

Data collection methods that used in this research are literature study, the data obtained from some of the literature relating to the matters under investigation. This data searches conducted by:

1. Searching the data manually, the data presented in a print out format such as: journals, books and thesis.
2. Searching the data by using computer. The data presented in electronic (excel and spss) format.

3.5. Identify of Research Variables

Variables that used in this study are stocks return of the company, calculated from monthly stock prices and compared with returns market from Composite Stock Price Index to obtain the results of abnormal returns of each stock.

3.6. Operational Definition of Variables

Variables of this research are stocks returns which the levels of the stocks returns calculated from closing price of the stocks this month minus closing price of the stocks last month and divided by closing price of the stocks last month. To test the stock return variable and the ratio of average abnormal return winner portfolio and loser portfolio, the calculation using the formula Jogiyanto (2003) as follows:

1. Calculating the Abnormal Return from the closing price of each stocks.

The formula is as follows:

$$ARi,t = Ri,t - ERi,t$$

Description:

ARI, t = Abnormal Stock Return in the period t i

Ri,t = Return indeed occurred during the period of the stock i t

ERi,t = Expected Return stock i on period t

Return is the fact return that occurred in the period t which is the difference of current price relative to the previous price. The formula is:

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

Description:

Pi, t = current stock price that referred to the closing price that day.

Pi, t-1 = previous stock price

Then determine the number Expected Return. In this study to determine the Expected Return using the Market Adjusted Model

Market Adjusted Model

Market adjusted model (think), that

Eri, t = Rm, t,

Expected Return = Market Return

So, The formula for Abnormal Return:

$$ARi,t = Ri,t - Rm,t$$

Description:

ARI, t = Abnormal Stock Return in the period t i

Ri, t = Return indeed occurred during the period of the stock i t

Rm, t = market return in the period t

$$R_{mt} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

R_{mt} = Market Return

$IHSG_t$ = IHSG (closing price) at t

$IHSG_{t-1}$ = HSG (closing price) at t-1

2. Calculating Average Abnormal Return

Average abnormal return for day t can be calculated based on the arithmetic average as follows:

$$AAR_{i,t} = \frac{\sum_i^n AR_{i,t}}{n}$$

Description:

AARi,t = Average Abnormal Return during the period t

ARi, t = Abnormal Return stock i in period t

k = number of Stocks

3. Calculating Cumulative Abnormal Return

Some studies on studies using an accumulation of events also did not return to normal or (cumulative abnormal return) is the sum of abnormal returns in the period of the previous day for each event - each stock as follows:

$$CAR_{i,t} = \sum_{i}^{n} AR_{it}$$

Description:

CAR i, t = Cumulative Abnormal Return stock i on day / periodt, which accumulated abnormal return of stock i startfrom the beginning of the event period (t3) until the day / period t.

AR i, t = Abnormal Return t = i on a period, ie from t3 today / period t

3.7. Data Analysis Technique

To test the hypothesis that if there is a level of significance between the average winner portfolios compared to the loser portfolios is calculated by t - Test. To determine the t table, the real level of use of 5% with degrees of freedom, df = (n-k-1) where k is the number of independent variables. Its provisions are as follows:

Ho: There is no significant difference between the averages abnormal return loser portfolios and average abnormal return winner portfolios.

Ha: There is significant difference between average abnormal return loser portfolios and average abnormal return winner portfolios.

If the significance > 0.05, Ho is accepted and Ha is rejected

If the significance <0.05, Ha is received and Ho is rejected

CHAPTER IV

RESULTS AND DISCUSSION

4.1. Variables and Hypothesis Testing

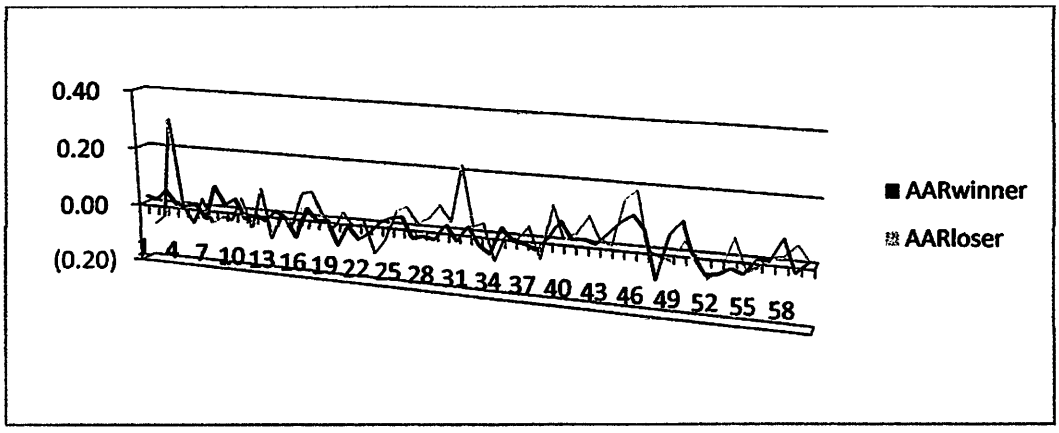
The variable in this study is abnormal return taken from the calculation of stocks return from both winner stocks and loser stocks. The model used in calculating the abnormal return is Market Adjusted Model. Hadi and Kiryanto (2008), calculated parameters include:

1. Average Abnormal return overall Winner and Loser portfolios.
2. Cumulative Abnormal return of both portfolios. 30 samples of companies as winner portfolios were divided into six portfolios, 30 samples of companies as loser portfolios were divided into six portfolios.
3. Average Abnormal Returns of both portfolios were represented by one selected winner and loser portfolios that have extremely negative and positive graphics.
4. Test the significance of the Average Abnormal return Winner portfolio compared with Average Abnormal Return Loser portfolio.

4.2. The Results of the Testing

1. Graph Average Abnormal Return Winner and Loser Portfolios.

Figure 4.1



In figure 4.1 both overall loser portfolio and winner portfolios have average abnormal returns moving around zero, although there were some periods that appeared having more extreme negative and positive peak in the average value of the portfolios. The average abnormal return of the loser portfolio outperformed than winner portfolio that happened to several periods. This overreaction occurred in March 2005, July 2007 and March 2008. In the year 2006 and 2009, both portfolios were relatively stable. Then if we look at the culmination of the average abnormal return rate of loser portfolio on March 2005, we will see that it amounted to 0.30 and on the same month average abnormal return of winner 0.05, on July 2007, loser portfolio 0.22 and winner - 0.03, and also on March 2008, portfolio loser 0.11 and winner 0.01. The findings from the years 2006 and 2009 show that two portfolios are likely fluctuating around zero.

2. **Graphic Cumulative Abnormal Return Portfolio Winner and Loser.**

Figure 4.2

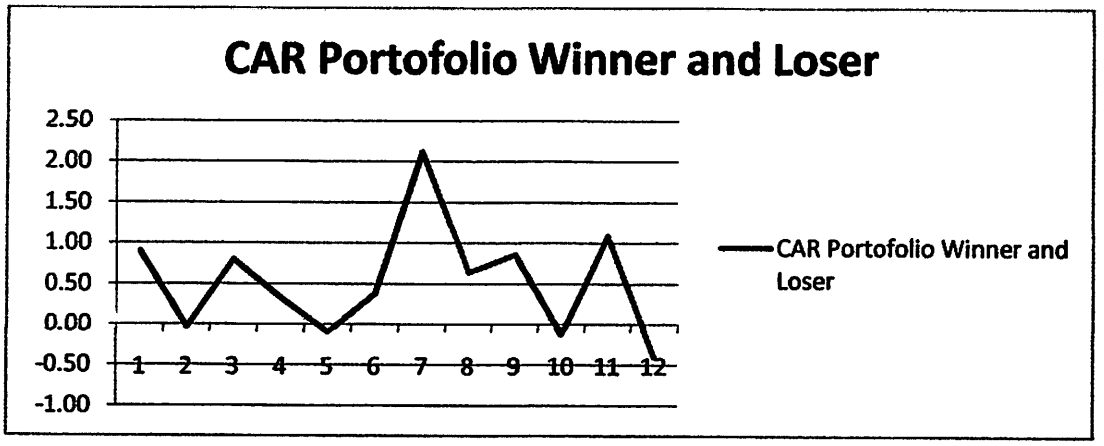
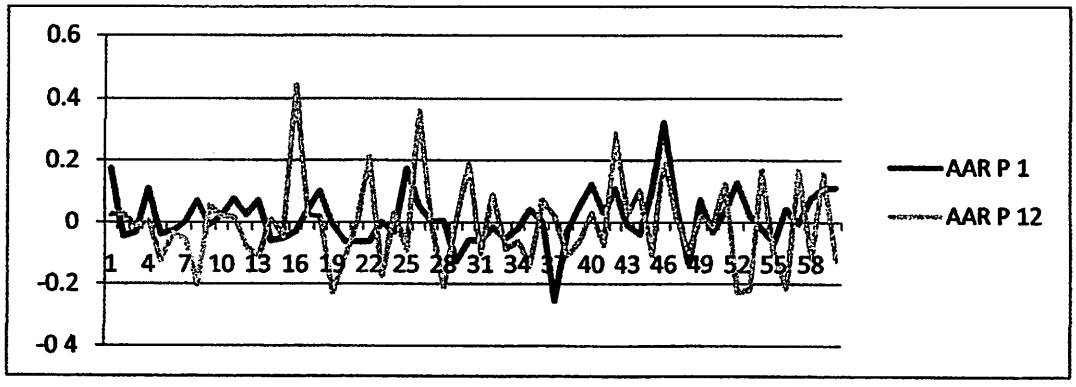


Figure 4.2 shows Cumulative Abnormal Return (CAR) of the lowest portfolio occurred in twelfth portfolio while highest Cumulative Abnormal Return (CAR) occurred in seventh portfolio. Although those two portfolios are both loser and winner, they still fluctuate sharply, but the observation time will compare one of the most extreme portfolios with both negative and positive between the loser portfolios and winner portfolios.

3. **Graphic Average Abnormal Return Portfolio 1 as a representation of Winner Portfolio and 12 as a representation of Loser Portfolio.**

Figure 4.3



In Figure 4.3 is intended exclusively for portfolio one and twelve, with some reasons, portfolio one and portfolio twelve are the highest portfolios with average abnormal return positive and negative in each portfolios, with the aim to illustrate more clearly about the winner portfolio and loser portfolio. The graph shows that the portfolio is relatively stable moving around zero; portfolio twelve has fluctuated sharply around July 2006, July and November 2007 and also March and October 2008. Portfolio twelve has extremely outperformed than portfolio one on 0.44 and -0.03 on October 2008. The graph shows that fluctuations of both portfolios turn extremely to each other towards extremely negative and the positive direction.

4. **T-Test was performed to determine the level of significance of each Average Abnormal Return Winner and Loser Portfolio.**

Table 4.1

Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
AAR WINNER PORTFOLIO	60	-.09	.11	.0062	.00578	.04481	.002
AAR LOSER PORTFOLIO	60	-.11	.30	.0116	.00961	.07443	.006

Source: processed data

Table 4.2

Different test was performed to determine the level of significance of each Average Abnormal Return Winner and Loser Portfolios during Testing Period

Testing Period	Loser		Winner		t	Sig.
	Mean	SD	Mean	SD		
2005 - 2009	0.012	0.074	0.006	0.045	-.557	.579

Source: processed data

From the Table 4.3, the results of hypothesis during the testing period for significant differences in average abnormal returns of both portfolios show that the entire class loser stocks have a mean of 0.012 and shares of class winner has a mean of 0.006. In Table 4.3, T-test value: -0.553 and t tables for 1.697 and 0.579

for a significance level greater than 0.05. This means '**H0**' is accepted, so there is no significant difference between the average abnormal return loser portfolios and the average abnormal return winner portfolios.

4.3. Research Discussion

By looking the graph of Average Abnormal Return Winner and Loser Portfolios, indicated that market overreaction was characterized by the loser portfolio outperformed than winner portfolio. This overreaction occurs separately in a few months during the testing period and average abnormal return loser portfolio outperformed than average abnormal return winner portfolios separately. In other words, overreaction does not occur constantly over time but occurs separately.

From the graph of Average Abnormal Return (AAR) between loser portfolio and winner portfolios over 60 months testing period, shown the indication of excessive reactions marked with loser portfolio outperformed than winner portfolio. Overreaction does not occur constantly but more occurs in separatist. This may be caused by a variety of events that occurred during the years of testing, including change of the president, political turbulence, economic crisis until the occurrence of various kinds of information, like terror bombs. These events were considered as dramatic by the investors.

The result that was obtained from the graph Cumulative Abnormal Return (CAR) between the six losers and six winner portfolios stated that loser portfolios outperform than winner portfolios. Loser portfolios have high performance of overreaction, only the loser portfolio is the one which indicates the existence of

the overreaction effect. Result of this research supports the research conducted by De Bondt and Thaler (1985). The overreaction that happened separately also indicates that capital market in Indonesia has a type of the market efficiency in the weak form, especially in the year 2007 and 2008, while in the year 2006 and 2009 condition of capital market used to tend to be stable.

In the graph of average abnormal return (AAR) for a particular portfolio, it was declared that the graphical movement patterns showed indications of overreaction of the loser portfolio that outperformed than winner portfolios. The results of testing show that overreaction occurs more separatist and fragmentary.

Result of independent t test shows that there is no significant difference between the average abnormal return of all loser stocks and winner stocks. T test result means that on average the whole loser samples and winner sample are unable to support clearly that there is an overreaction showing its effects in the capital markets in Indonesia. These results are similar to the research conducted by Rahmawati and Suryani (2005) which also used the Market Adjusted Model that there is no significant difference between the average abnormal stock between return around loser and the winner portfolios.

CHAPTER V

CONCLUSION

5.1 Conclusion of the Research

Test results of the hypothesis show that the existence of overreaction events occurred during the testing period and concluded that there is an indication of excessive reaction (overreaction) which marked with loser portfolio outperformed than winner portfolio. The effect of this excessive reaction occurs not constant in long time, but occurs separately.

The results of this study support the research conducted by De Bondt and Thaler (1985) and the research of Rahmawati and Suryani (2005), that market overreaction occurs in separatists period and provide an explanation to the efficiency of capital markets in Indonesia, especially in weak form in the years 2007 and 2008, whereas in 2006 and 2009 the capital market conditions remained at a stable condition.

Significance t tests of average abnormal returns between loser portfolios and winner portfolios using independent samples t test state that there is no significant difference between the averages abnormal returns all classes of loser stocks with all winner stocks groups. These results from the significance test were not very supportive for the overreaction effect that has been tested in hypothesis 1 that stated there were indications of the effects of overreaction indicated by loser portfolio outperformed than winner portfolio.

5.2 Limitation and Recommendation of the research

This study has some deficiencies which can be improved in for further researches. Here are the limitations of this research: The research only uses the market adjusted model in which the expected return was only represented by market return. This study uses monthly closing price data in order to calculate the average abnormal return. By using monthly statistics data may still make bias in the research, since the unsynchronized situation of Indonesia capital market with a thin trading level.

The number of the samples that used in this research is only 60 samples. The number of the samples was probably still not big enough to give satisfying information about the overreaction which tested by the separation between the sample that has a poor performance (loser portfolio) with a sample that has performed well (winner portfolio).

For the future research, other models should be used and use all of three models that described in the book, Jogiyanto (2000), in order to know the difference of the overreaction, these three existing models should be used. These three models are the market model, the mean adjusted model and the market adjusted modes.

The selection for the sample period for the further research should be develop by using daily period or weekly period in the calculation of average abnormal return. Detailed data will make the results of the research more detail about the overreaction that occurs in Indonesia capital markets, because capital market changes rapidly from day-to-day.

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Appendix 1

List sample of companies that categories into Winner Portfolios

NO	CODE	COMPANY NAME	SECTOR	SUBSECTOR
1	DLTA	Delta DIndonesia Tbk	Manufacturing	Food and Beverages
2	MLBI	Multi Bintang Indonesia Tbk	Manufacturing	Food and Beverages
3	AQUA	Aqua Golden Mississippi Tbk	Manufacturing	Food and Beverages
4	SQBI	Bristol-Myers Squibb Indonesia Tbk	Manufacturing	Pharmaceuticals
5	INCO	International Nickel Indonesia Tbk	Mining and Mining Services	
6	SMDR	Samudera Indonesia Tbk	Manufacturing	Transportation Services
7	HMSP	HM Sampoerna Tbk	Manufacturing	Tobacco ManufacturerS
8	PTRO	Petrosea Tbk	Constructions	
9	TBMS	Tembaga Mulia Semanan Tbk	Manufacturing	Metal and Allied Products
10	HERO	Hero Supermarket Tbk	Manufacturing	Whole Sale and Retail Trade
11	SCPI	Schering Plough Indonesia Tbk	Manufacturing	Pharmaceuticals
12	LMSH	Lion Mesh Prima Tbk	Manufacturing	Metal and Allied Products
13	AALI	Astra Agro Lestari Tbk	Agriculture, Forestry and Fishing	
14	TOTO	Surya Toto Indonesia Tbk	Manufacturing	Stone, Clay, Glass and Concrete Products
15	AUTO	Astra Otoparts Tbk	Manufacturing	Automotive and Allied Products
16	LSIP	PP London Sumatera Tbk	Agriculture, Forestry and Fishing	
17	MEDC	Medco Energi International Tbk	Mining and Mining Services	
18	UNTR	United Tractors Tbk	Manufacturing	Automotive and Allied Products
19	AMFG	Asahimas Flat Glass Tbk	Manufacturing	Plastics and Glass Products
20	TLKM	Telekomunikasi Indonesia (Persero)	Manufacturing	Telecommunication

		Tbk		
21	UNVR	Unilever Indonesia Tbk	Manufacturing	Consumer Goods
22	TKIM	Pabrik Kertas Tjiwi Kimia Tbk	Manufacturing	Paper and Allied Products
23	IGAR	Kageo Igar Jaya (formerly Igarjaya) Tbk	Manufacturing	Plastics and Glass Products
24	BRAM	Indo Kordsa (formerly Branta Mulia) Tbk	Manufacturing	Automotive and Allied Products
25	MEGA	Bank Mega Tbk	Banking	
26	ASII	Astra International Tbk	Manufacturing	Automotive and Allied Products
27	BBCA	Bank Central Asia Tbk	Banking	
28	AKKU	Aneka Kemasindo Utama Tbk	Manufacturing	Plastics and Glass Products
29	INTP	Indocement Tunggal Prakarsa Tbk	Manufacturing	Cement
30	KLBF	Kalbe Farma Tbk	Manufacturing	Pharmaceuticals

List sample of companies that categories into Loser Portfolios

NO	CODE	COMPANY NAME	SECTOR	SUBSECTOR
1	LPLI	Lippo E-Net Tbk	Others	
2	GGRM	Gudang Garam Tbk	Manufacturing	Tobacco Manufacturers
3	ADMF	Adira Dinamika Multi Finance Tbk	Credit Agencies Other than BaFinancenk	
4	GDYR	Goodyear Indonesia Tbk	Manufacturing	Automotive and Allied Products
5	MTFN	Capitalinc Investment (formerly Global Financindo) Tbk	Credit Agencies Other than Bank	
6	LMAS	Limas Centric Indonesia Tbk	Others	
7	LPIN	Multi Prima Sejahtera Tbk	Manufacturing	Automotive and Allied Products
8	TIRA	Tira Austenite Tbk	Manufacturing	Metal and Allied Products
9	ADES	Ades Waters Indonesia Tbk	Manufacturing	Food and Beverages
10	INDS	Indospring Tbk	Manufacturing	Automotive and Allied

				Products
11	IKBI	Sumi Indo Kabel Tbk	Manufacturing	Cables
12	AHAP	Asuransi Harta Aman Pratama Tbk	Insurance	
13	BSWD	Bank Swadesi Tbk	Banking	
14	PNSE	Pudjiadi & Sons Estate Tbk	Real Estate and Property	
15	MYOR	Mayora Indah Tbk	Manufacturing	Food and Beverages
16	IDKM	Indosiar Karya Media Tbk	Others	
17	KARW	Karwell Indonesia Tbk	Manufacturing	Apparel and Other Textile Products
18	AKPI	Argha Karya Prima Industry Tbk	Manufacturing	Plastics and Glass Products
19	JSPT	Indonesia Setiabudi Internasional Tbk	Real Estate and Property	
20	BBNI	Bank Negara Indonesia (Persero) Tbk	Banking	
21	DEFI	Danasupra Erapacific Tbk	Credit Agencies Other than Bank	
22	BMRI	Bank Mandiri (Persero) Tbk	Banking	
23	JECC	Jembo Cable Company Tbk	Manufacturing	Cables
24	DUTI	Duta Pertiwi Tbk	Real Estate and Property	
25	SMAR	SMART Tbk	Manufacturing	Food and Beverages
26	RICY	Ricky Putra Globalindo Tbk	Manufacturing	Apparel and Other Textile Products
27	NIPS	Nipress Tbk	Manufacturing	Automotive and Allied Products
28	DYNA	Dynaplast Tbk	Manufacturing	Plastics and Glass Products
29	PJAA	Pembangunan Jaya Ancol Tbk	Real Estate and Property	
30	KONI	Perdana Bangun Pusaka Tbk	Manufacturing	Photographic Equipment

APPENDIX 2

Table of Group Winner Portfolios

NC	CODE	COMPANY NAME	CATAGORIES
1	DLTA	Delta Djakarta Tbk	Portfolio 1
2	MLBI	Multi Bintang Indonesia Tbk	
3	AQUA	Aqua Golden Mississippi Tbk	
4	SQBI	Bristol-Myers Squibb Indonesia Tbk	
5	INCO	International Nickel Indonesia Tbk	
6	SMDR	Samudera Indonesia Tbk	Portfolio 2
7	HMSP	HM Sampoerna Tbk	
8	PTRO	Petrosea Tbk	
9	TBMS	Tembaga Mulia Semanan Tbk	
10	HERO	Hero Supermarket Tbk	
11	SCPI	Schering Plough Indonesia Tbk	Portfolio 3
12	LMSH	Lion Mesh Prima Tbk	
13	AALI	Astra Agro Lestari Tbk	
14	TOTO	Surya Toto Indonesia Tbk	
15	AUTO	Astra Otoparts Tbk	
16	LSIP	PP London Sumatera Tbk	Portfolio 4
17	MEDC	Medco Energi International Tbk	
18	UNTR	United Tractors Tbk	
19	AMFG	Asahimas Flat Glass Tbk	
20	TLKM	Telekomunikasi Indonesia (Persero) Tbk	
21	UNVR	Unilever Indonesia Tbk	Portfolio 5
22	TKIM	Pabrik Kertas Tjiwi Kimia Tbk	
23	IGAR	Kageo Igar Jaya (formerly Igarjaya) Tbk	

24	BRAM	Indo Kordsa (formerly Branta Mulia) Tbk	
25	MEGA	Bank Mega Tbk	
26	ASII	Astra International Tbk	Portfolio 6
27	BBCA	Bank Central Asia Tbk	
28	AKKU	Aneka Kemasindo Utama Tbk	
29	INTP	*Indocement Tunggal Prakarsa Tbk*	
30	KLBF	Kalbe Farma Tbk	

Table of Group Loser Portfolios

NO	CODE	COMPANY NAME	SECTOR
1	LPLI	Lippo E-Net Tbk	Portfolio 7
2	GGRM	Gudang Garam Tbk	
3	ADMF	Adira Dinamika Multi Finance Tbk	
4	GDYR	Goodyear Indonesia Tbk	
5	MTFN	Capitalinc Investment (formerly Global Financindo) Tbk	
6	LMAS	Limas Centric Indonesia Tbk	Portfolio 8
7	LPIN	Multi Prima Sejahtera Tbk	
8	TIRA	Tira Austenite Tbk	
9	ADES	Ades Waters Indonesia Tbk	
10	INDS	Indospring Tbk	
11	IKBI	Sumi Indo Kabel Tbk	Portfolio 9
12	AHAP	Asuransi Harta Aman Pratama Tbk	
13	BSWD	Bank Swadesi Tbk	
14	PNSE	Pudjiadi & Sons Estate Tbk	

15	**MYOR**	Mayora Indah Tbk	
16	**IDKM**	Indosiar Karya Media Tbk	**Portfolio 10**
17	**KARW**	Karwell Indonesia Tbk	
18	**AKPI**	Argha Karya Prima Industry Tbk	
19	**JSPT**	*Jakarta Setiabudi Internasional Tbk*	
20	**BBNI**	Bank Negara Indonesia (Persero) Tbk	
21	**DEFI**	Danasupra Erapacific Tbk	**Portfolio 11**
22	**BMRI**	Bank Mandiri (Persero) Tbk	
23	**JECC**	Jembo Cable Company Tbk	
24	**DUTI**	Duta Pertiwi Tbk	
25	**SMAR**	SMART Tbk	
26	**RICY**	Ricky Putra Globalindo Tbk	**Portfolio 12**
27	**NIPS**	Nipress Tbk	
28	**DYNA**	Dynaplast Tbk	
29	**PJAA**	Pembangunan Jaya Ancol Tbk	
30	**KONI**	Perdana Bangun Pusaka Tbk	

APPENDIX 3

Table Average Abnormal Return of Winner Portfolios

AAR / Months	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4	Portfolio 5	Portfolio 6
January-05	0.17	0.10	(0.04)	0.06	(0.06)	(0.05)
February-05	(0.05)	0.01	0.06	(0.02)	0.04	0.05
March-05	(0.03)	0.15	0.07	0.03	0.15	(0.07)
April-05	0.11	0.05	(0.01)	0.09	(0.14)	(0.04)
May-05	(0.04)	(0.06)	(0.07)	0.03	0.12	0.05
June-05	(0.03)	(0.06)	0.11	0.07	0.01	(0.02)
July-05	0.00	(0.02)	(0.10)	(0.01)	(0.01)	(0.07)
August-05	0.07	0.11	0.23	0.06	0.03	(0.00)
September-05	(0.01)	0.18	(0.05)	0.07	0.03	(0.07)
October-05	0.02	0.10	0.11	0.07	(0.04)	0.02
November-05	0.08	(0.10)	(0.01)	(0.05)	0.01	(0.03)
December-05	0.02	0.06	(0.11)	(0.03)	(0.07)	0.12
January-06	0.07	(0.14)	(0.07)	(0.01)	(0.04)	0.06
February-06	(0.06)	0.06	(0.01)	0.08	0.06	(0.02)
March-06	(0.05)	(0.01)	0.08	(0.00)	(0.04)	0.01
April-06	(0.03)	(0.11)	(0.20)	(0.03)	(0.05)	(0.04)
May-06	0.04	(0.02)	0.23	(0.01)	0.03	(0.07)
June-06	0.10	(0.01)	0.02	(0.03)	(0.10)	0.02
July-06	(0.01)	0.04	0.00	0.03	0.04	(0.06)
August-06	(0.06)	(0.13)	(0.14)	(0.04)	(0.09)	(0.03)
September-06	(0.06)	0.01	(0.03)	(0.02)	(0.04)	0.07
October-06	(0.06)	(0.12)	0.01	(0.01)	(0.05)	(0.08)
November-06	0.00	(0.09)	(0.10)	(0.03)	0.04	0.00

December-06	(0.03)	0.01	0.04	0.03	0.02	(0.01)
January-07	0.17	0.07	0.03	(0.03)	(0.01)	(0.05)
February-07	0.06	0.04	0.10	0.00	(0.01)	0.06
March-07	0.00	(0.05)	(0.08)	0.01	0.00	(0.05)
April-07	0.01	(0.13)	(0.10)	(0.04)	0.04	0.10
May-07	(0.13)	0.14	(0.03)	(0.04)	(0.06)	(0.06)
June-07	(0.06)	0.01	0.03	(0.00)	0.13	0.05
July-07	(0.06)	(0.12)	0.17	(0.00)	(0.16)	0.00
August-07	(0.02)	0.07	0.13	0.02	(0.05)	0.01
September-07	(0.05)	0.00	(0.11)	(0.05)	0.04	0.03
October-07	(0.02)	(0.16)	(0.05)	0.05	(0.19)	0.01
November-07	0.04	0.02	0.13	0.01	0.03	(0.05)
December-07	0.00	0.01	(0.01)	(0.02)	(0.05)	0.01
January-08	(0.25)	0.01	0.09	0.07	0.08	(0.07)
February-08	(0.03)	(0.03)	0.00	(0.04)	(0.06)	(0.03)
March-08	0.05	(0.00)	0.02	0.01	(0.04)	0.01
April-08	0.12	0.09	0.08	0.06	0.23	(0.10)
May-08	0.03	(0.04)	(0.01)	0.04	0.11	(0.04)
June-08	0.11	(0.02)	0.12	(0.02)	(0.03)	(0.04)
July-08	(0.01)	(0.02)	(0.02)	(0.03)	0.02	0.10
August-08	(0.04)	0.18	0.04	(0.03)	0.07	0.05
September-08	0.10	0.09	0.17	(0.05)	0.15	0.07
October-08	0.32	0.18	0.12	(0.12)	0.16	0.02
November-08	0.06	(0.01)	0.18	0.10	0.03	0.05
December-08	(0.14)	(0.15)	(0.16)	0.00	(0.10)	0.01
January-09	0.07	0.11	0.02	0.02	0.08	0.06
February-09	(0.03)	0.43	0.05	0.13	0.04	0.04
March-09	0.03	(0.13)	0.10	0.01	(0.07)	0.04

April-09	0.13	(0.19)	(0.16)	0.02	(0.11)	(0.02)
May-09	0.02	(0.10)	(0.14)	(0.02)	(0.01)	(0.06)
June-09	(0.02)	(0.12)	(0.03)	(0.03)	(0.03)	0.08
July-09	(0.07)	(0.16)	(0.13)	(0.00)	(0.09)	0.20
August-09	0.04	(0.03)	0.09	(0.02)	(0.02)	(0.02)
September-09	(0.00)	(0.18)	0.05	(0.00)	(0.00)	0.18
October-09	0.08	0.17	0.13	0.03	0.05	0.04
November-09	0.11	(0.02)	(0.09)	(0.04)	(0.08)	(0.02)
December-09	0.11	(0.02)	0.05	0.00	(0.07)	0.02

Table Average Abnormal Return of Loser Portfolios

AAR / Months	Portfolio 7	Portfolio 8	Portfolio 9	Portfolio 10	Portfolio 11	Portfolio 12
January-05	(0.05)	(0.11)	(0.16)	(0.10)	(0.08)	0.02
February-05	(0.28)	(0.01)	(0.04)	(0.01)	0.02	0.03
March-05	1.89	(0.10)	(0.01)	0.01	0.00	(0.01)
April-05	0.08	(0.16)	(0.03)	(0.03)	0.09	0.00
May-05	(0.05)	(0.03)	(0.05)	(0.01)	(0.12)	(0.13)
June-05	(0.02)	(0.04)	0.01	(0.07)	0.31	(0.04)
July-05	0.00	(0.08)	(0.15)	(0.05)	0.00	(0.06)
August-05	(0.05)	0.16	(0.06)	(0.02)	(0.04)	(0.20)
September-05	(0.04)	(0.08)	(0.09)	(0.02)	(0.06)	0.05
October-05	0.01	(0.00)	0.26	(0.10)	0.04	0.02
November-05	(0.16)	0.00	(0.01)	(0.16)	(0.06)	0.02
December-05	(0.08)	0.14	0.16	0.29	0.05	(0.08)
January-06	(0.06)	(0.11)	(0.17)	(0.15)	0.03	(0.11)
February-06	0.05	(0.01)	(0.01)	(0.09)	0.03	0.01

March-06	(0.08)	(0.24)	0.02	0.11	0.03	(0.05)
April-06	(0.03)	0.14	0.08	(0.06)	(0.13)	0.44
May-06	(0.01)	0.05	0.03	0.21	0.18	0.03
June-06	0.12	0.06	(0.08)	(0.03)	(0.05)	0.02
July-06	(0.02)	(0.01)	0.17	(0.04)	(0.09)	(0.23)
August-06	0.01	(0.04)	0.22	(0.05)	0.13	(0.12)
September-06	(0.01)	(0.11)	(0.10)	0.08	(0.01)	(0.00)
October-06	(0.05)	(0.11)	0.05	(0.04)	(0.07)	0.21
November-06	(0.14)	(0.07)	(0.06)	(0.10)	(0.10)	(0.17)
December-06	(0.00)	(0.17)	(0.09)	(0.09)	(0.02)	0.03
January-07	0.03	0.12	0.24	0.04	(0.07)	(0.09)
February-07	0.06	(0.03)	(0.07)	0.01	0.04	0.36
March-07	(0.01)	0.11	(0.01)	0.00	(0.04)	(0.00)
April-07	0.38	(0.15)	0.17	(0.08)	0.08	(0.21)
May-07	(0.10)	0.07	0.18	0.44	(0.12)	0.00
June-07	(0.19)	0.15	(0.04)	(0.09)	0.14	0.19
July-07	0.36	0.60	(0.14)	0.03	0.56	(0.10)
August-07	(0.08)	(0.02)	(0.03)	0.09	0.04	0.09
September-07	(0.04)	0.31	0.16	(0.12)	(0.03)	(0.09)
October-07	(0.14)	(0.14)	(0.20)	(0.03)	0.01	(0.06)
November-07	0.18	(0.00)	0.04	(0.18)	0.10	(0.13)
December-07	(0.05)	(0.06)	(0.06)	0.12	(0.10)	0.07
January-08	0.15	(0.16)	(0.01)	(0.02)	0.23	0.02
February-08	0.01	(0.01)	(0.09)	(0.15)	(0.07)	(0.11)
March-08	0.12	0.25	0.07	0.20	0.11	(0.06)
April-08	(0.11)	(0.01)	0.06	0.03	0.02	0.03
May-08	(0.08)	0.08	0.12	0.00	0.09	(0.07)
June-08	(0.05)	0.27	0.02	0.06	(0.07)	0.29

July-08	0.03	(0.01)	(0.01)	0.09	(0.04)	0.03
August-08	(0.04)	0.00	0.03	(0.15)	0.03	0.10
September-08	0.27	0.08	0.06	0.46	0.13	(0.11)
October-08	0.07	0.26	0.35	0.05	0.14	0.22
November-08	(0.00)	0.01	(0.10)	0.04	0.01	0.01
December-08	(0.05)	0.07	0.01	(0.06)	(0.03)	(0.10)
January-09	0.07	(0.07)	(0.14)	(0.05)	(0.04)	0.02
February-09	0.14	0.03	0.04	0.05	(0.05)	(0.01)
March-09	(0.03)	(0.04)	0.09	(0.10)	(0.09)	0.12
April-09	(0.05)	(0.09)	0.05	(0.06)	(0.13)	(0.23)
May-09	0.04	(0.08)	(0.16)	(0.07)	0.18	(0.22)
June-09	0.14	(0.03)	0.02	0.02	0.04	0.17
July-09	(0.07)	(0.01)	0.02	(0.03)	(0.06)	(0.11)
August-09	0.01	0.18	(0.08)	(0.15)	0.08	(0.21)
September-09	(0.01)	(0.05)	0.01	(0.08)	(0.01)	0.17
October-09	0.04	0.00	0.04	0.10	0.01	(0.12)
November-09	0.13	(0.07)	0.10	0.14	(0.14)	0.16
December-09	(0.05)	0.02	0.23	(0.15)	0.06	(0.12)

Table AAR and CAR Winner and Loser Portfolios

Months	AAR P.Winner	AAR P.Loser	CAR P.Winner	CAR P.Loser
January-05	0.03	(0.08)	0.90	(2.36)
February-05	0.02	(0.05)	0.50	(1.49)
March-05	0.05	0.30	1.53	8.91
April-05	0.01	(0.00)	0.27	(0.13)
May-05	0.01	(0.07)	0.21	(1.97)

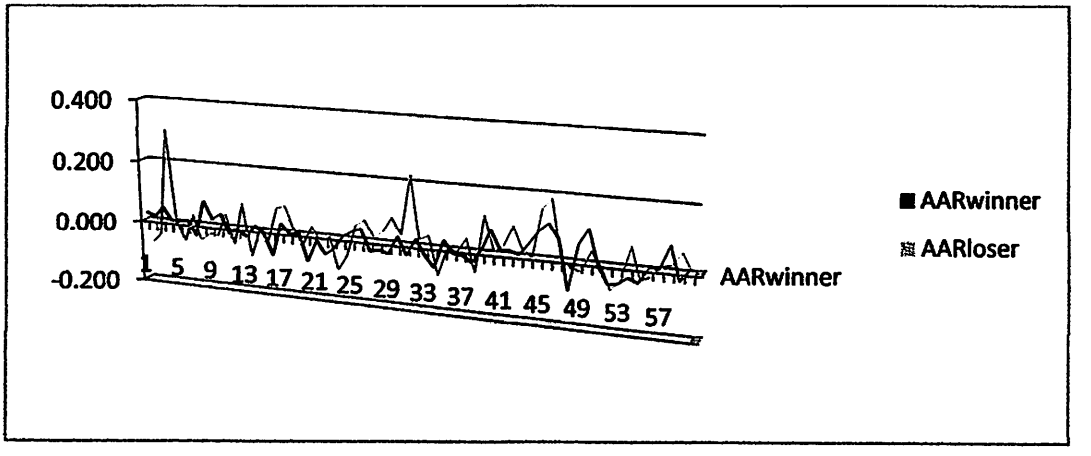
June-05	0.01	0.02	0.40	0.74
July-05	(0.04)	(0.06)	(1.10)	(1.70)
August-05	0.08	(0.04)	2.51	(1.05)
September-05	0.03	(0.04)	0.77	(1.16)
October-05	0.05	0.04	1.39	1.13
November-05	(0.02)	(0.06)	(0.56)	(1.84)
December-05	(0.00)	0.08	(0.06)	2.37
January-06	(0.02)	(0.09)	(0.65)	(2.81)
February-06	0.02	(0.00)	0.55	(0.13)
March-06	(0.00)	(0.03)	(0.11)	(1.05)
April-06	(0.07)	0.07	(2.25)	2.22
May-06	0.03	0.08	1.02	2.49
June-06	0.00	0.01	0.04	0.20
July-06	0.01	(0.04)	0.18	(1.09)
August-06	(0.08)	0.02	(2.43)	0.75
September-06	(0.01)	(0.03)	(0.34)	(0.75)
October-06	(0.05)	(0.00)	(1.60)	(0.11)
November-06	(0.03)	(0.11)	(0.89)	(3.23)
December-06	0.01	(0.06)	0.30	(1.72)
January-07	0.03	0.04	0.87	1.29
February-07	0.04	0.06	1.24	1.87
March-07	(0.03)	0.01	(0.84)	0.28
April-07	(0.02)	0.03	(0.65)	0.95
May-07	(0.03)	0.08	(0.92)	2.36
June-07	0.03	0.03	0.84	0.79
July-07	(0.03)	0.22	(0.87)	6.53
August-07	0.03	0.02	0.78	0.46

September-07	(0.02)	0.03	(0.75)	0.93
October-07	(0.06)	(0.09)	(1.78)	(2.76)
November-07	0.03	0.00	0.93	0.01
December-07	(0.01)	(0.01)	(0.24)	(0.36)
January-08	(0.01)	0.03	(0.34)	1.04
February-08	(0.03)	(0.07)	(0.95)	(2.13)
March-08	0.01	0.11	0.28	3.39
April-08	0.08	0.00	2.38	0.04
May-08	0.02	0.02	0.51	0.70
June-08	0.02	0.09	0.55	2.63
July-08	0.01	0.01	0.26	0.44
August-08	0.05	(0.00)	1.41	(0.10)
September-08	0.09	0.15	2.64	4.48
October-08	0.11	0.18	3.42	5.45
November-08	0.07	(0.00)	2.09	(0.15)
December-08	(0.09)	(0.02)	(2.63)	(0.73)
January-09	0.06	(0.03)	1.78	(1.02)
February-09	0.11	0.03	3.29	0.98
March-09	(0.00)	(0.01)	(0.04)	(0.27)
April-09	(0.05)	(0.08)	(1.63)	(2.49)
May-09	(0.05)	(0.05)	(1.50)	(1.57)
June-09	(0.03)	0.06	(0.84)	1.78
July-09	(0.04)	(0.04)	(1.23)	(1.28)
August-09	0.01	(0.03)	0.20	(0.89)
September-09	0.01	0.00	0.22	0.15
October-09	0.08	0.01	2.46	0.37
November-09	(0.02)	0.05	(0.68)	1.58

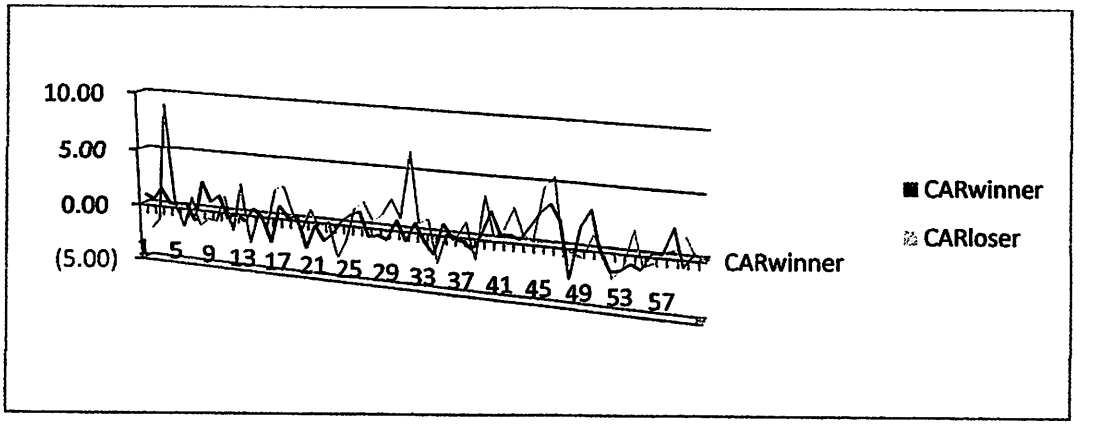
December-09	0.02	(0.00)	0.47	(0.03)

APPENDIX 4

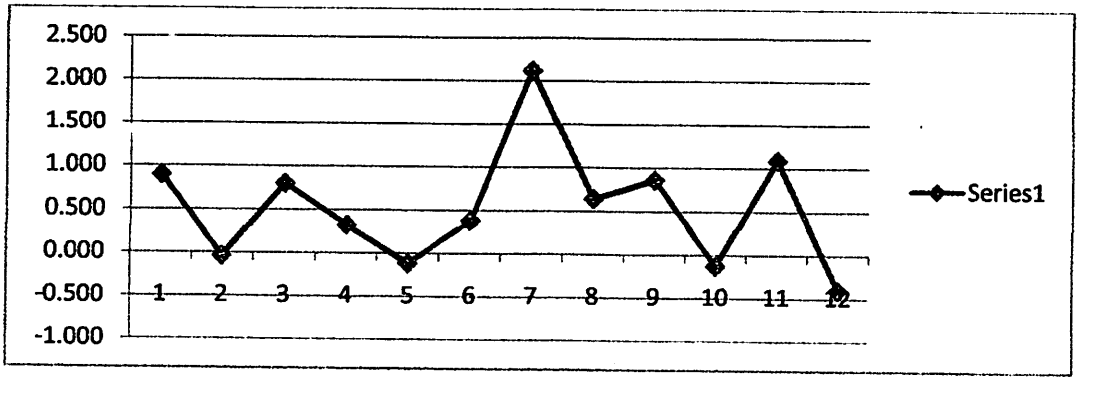
Graphic Average Abnormal Return Portfolio Winner and Loser



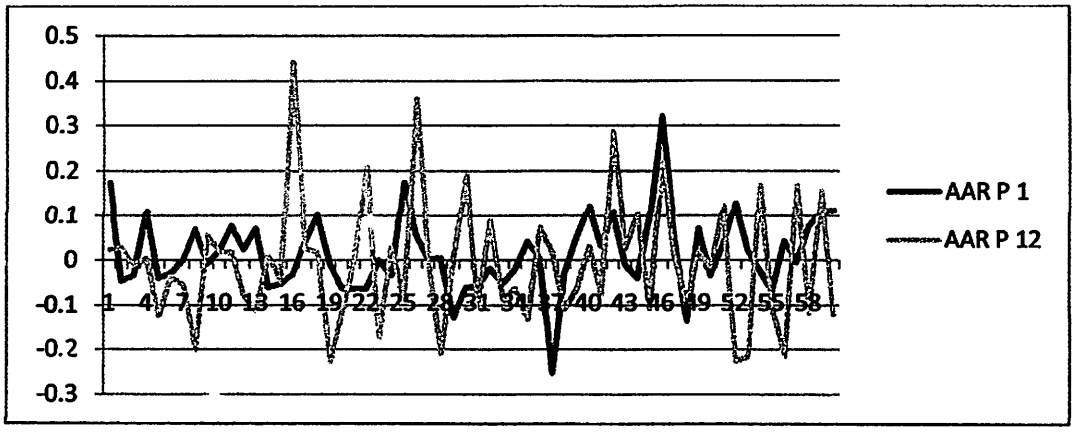
Graphic Cumulative Abnormal Return Portfolio Winner and Loser



Graphic Cumulative Abnormal Return Portfolio 1 until 12



Graphic Average Abnormal Return Portfolio 1 representation winner and 12 representation Portfolio loser



Appendix 5

Descriptive Statistics of Average Abnormal Return Portfolio Winner

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
AAR PORTFOLIO WINNER	60	-.09	.11	.0062	.00578	.04481	.002
Valid N (listwise)	60						

Descriptive Statistics of Average Abnormal Return Portfolio Loser

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
AAR PORTFOLIO LOSER	60	-.11	.30	.0116	.00961	.07443	.006
Valid N (listwise)	60						

Descriptive Statistics of Cumulative Abnormal Return Portfolio Winner

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
CUM. ABNORMAL RETURN W	60	-2.63	3.42	.1881	.17349	1.34381	1.806
Valid N (listwise)	60						

Descriptive Statistics of Cumulative Abnormal Return Portfolio Loser

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
CUM. ABNORMAL RETURN L	60	-3.23	8.91	.3485	.28807	2.23136	4.979
Valid N (listwise)	60						

Appendix 6

One-Sample Test AAR Portfolio Winner

	Test Value = 0					
				Mean	95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Difference	Lower	Upper
AAR PORTFOLIO WINNER	1.080	59	.284	.00625	-.0053	.0178

One-Sample Test AAR Portfolio Loser

	Test Value = 0					
				Mean	95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Difference	Lower	Upper
AAR PORTFOLIO LOSER	1.211	59	.231	.01163	-.0076	.0309

One-Sample Test CAR Portfolio Winner

	Test Value = 0					
				Mean	95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Difference	Lower	Upper
CUM. ABNORMAL RETURN WINNER	1.084	59	.283	.18807	-.1591	.5352

One-Sample Test CAR Portfolio Loser

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CUM. ABNORMAL RETURN LOSER	1.210	59	.231	.34848	-.2279	.9249

Appendix 7

Paired Samples Statistics Portfolio Winner and Loser

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AAR PORTFOLIO WINNER	.0063	60	.04481	.00578
	AAR PORTFOLIO LOSER	.0116	60	.07443	.00961

Paired Samples Correlations Portfolio Winner and Loser

		N	Corrclation	Sig.
Pair 1	AAR PORTFOLIO WINNER & AAR PORTFOLIO LOSER	60	.292	.023

Paired Samples Test Portfolio Winner and Loser

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	AAR PORTFOLIO WINNER - AAR PORTFOLIO LOSER	-.00538	.07481	.00966	-.02471	.01394	-.557	59	.579