

CHAPTER II

THEORITICAL BACKGROUND

2.1 Literature Review

In this chapter, the researcher will explain about the theoretical background that will be the base of this research paper. It will be a guide to understand more about the discussed topic in this paper. This chapter will contain the definition and description about capital market, return, efficient market, market anomaly and day of the week effect.

2.1.1 Capital Market

One of the widely quoted definitions of the capital market is given by Nwankwo (1998) in Mary *et al.* (2012), who says that the capital market comprises the complex of institution and mechanism through which intermediate term funds and long term funds are pooled and made available to business, government, and individual. So in capital market the party that is involved in here can be in the form of individual, group, organization, or even the government. It also asserted that the capital market comprises the process by which securities already outstanding are transferred and it ensures liquidity as it provides market for both new and old securities (Mary, Adedinran, & Elizabeth, 2012).

While according to Indonesia Law No. 8 Year 1995 about capital market, in Chapter 1 Article 1, Capital Market is an activity concerning with public offering and securities trading, public company in regards of the issuance of its securities, as well institutions and profession relating to securities. It is a market where there

are two sides in it, the lender and the borrower. The lender can lend the borrower some capital to help them in their company growth in exchange of ownership to the securities and a return from their investment, while the borrower can have more capital to help fund their organization activity or growth.

2.1.2 Capital Market Instrument

According to Herbert (2004) quoted in Mary *et al.* (2012), the instrument in capital market is the types of the securities that are traded in capital market. There are 3 types of it:

1. Ordinary Shares

Ordinary shares or common share issued by the company as a long term financing to a company with a nominal value or face value. The owner of ordinary shares are entitled to have one vote per share that they own, so in a sense they have a way to control how the company should perform. They also can claim dividend when the company declare them, unfortunately they can claim it after the company pay it to the preference shareholders in full. It might seems like a risky investment at first, but if the company get a large amount of profit the ordinary shareholder will not just get the agreed dividend, they can divide the profit they get to the other ordinary shareholder according to the percentage of shares that they own. Because of that the return of an ordinary shareholder is unlimited.

2. Preference Shares

The preference shares or preferred stock is another source of long term financing to a company, where the shareholder of this stock will be entitled to have a fixed amount of dividend from the company when they issued it. Unfortunately the dividend can only be claim if a sufficient distribute profit are available, if not then the shareholder will have to wait to a later year for the company to pay their dividend. Even so, the unpaid dividend will be a cumulative dividend for the preference shareholder, the cumulative dividend of preference shareholder must be paid before the company can pay the dividend for ordinary shareholder.

3. Debt Instruments

A bond represent a long term borrowing by corporation of government agencies, when a corporate bond is issued, it as a legal contract that goes with it which contains the provision of loan in terms of its amounts, interest and maturity period. They can be purchased by commercial bank, insurance companies, pension fund, or even individual.

2.1.3 Types of Capital Market

As for the types of capital market there are 2 known types of capital market, primary market and secondary market. According to Soyede (2005) in Mary *et al.* (2012), primary market is a market for new securities. It could be seen as a market where the company initially offer to the public of their securities, or it is a market where Initial Public Offering (IPO) first occur. According to Ross *et al.* (2006),

Corporation engage in two types of primary market transactions, public offering that involves selling securities to the general public, and private placement which is a negotiated sale involving a specific buyer. It is also a market where the government or public company find a long term borrowing investor through bond offering. And in primary market because the public company make an IPO, the company directly involve themselves with the act of buying and selling with the investor.

According to Pandey (2006) in Mary *et al.* (2012), it is a type of market where existing securities of a market are traded on daily and continuous basis. To put it simply the secondary market contradict with the primary market, it is a place of existing securities to be traded. In the secondary market, it could be called of the index market, in here the trading can happen between one investor to another investor where the company issuing the stock will not have to partake in the act. Although the corporation is only directly involve in primary market transaction, the secondary market is still critical to the corporation because investor are much more willing to purchase securities in a primary market when they know that those securities can later be resold if desired (Ross, Westerfield, & Jordan, 2006).

2.1.4 Return

According to Ross *et al.* (2006), when investor buy an asset of any sort, their gain or loss from that investment is called the return of investment. In investing something the investor will seek some profitable compensation of their investment, it could be either in the form of cash directly (income component) or the change of

value of their assets (capital gain or loss). And in calculating the return of one investment, the investor usually use the term of dollar return and percentage return. But usually investor prefer to summarize their return in the percentage return, because the return will not depend on how much the investor actually invest.

According to Ross *et al.* (2006) the return on any stock trade in financial market is composed of two part, which is the expected return and unexpected return. The expected return as the name stated is the return that the investor predict or expect from their investment. Expected return is based on the information that the shareholder hold regarding their stock, and also the information regarding the understanding of the market in term of the important factor that might affect the stock. And the unexpected return is the return that the investor mark as uncertain or risky. Unexpected return is based on the unexpected information or event that might affect the shareholder stock in the future.

Based on the text above, we can conclude that information itself is crucial in determining one investment, without certain information available in determining an investment uncertainty or risk could appear. Risk that appear in an investment can be in the form of systematic risk or unsystematic risk, where systematic risk or market risk affect a large number of assets, while unsystematic risk only affect a specific assets. In regard of that, the investor will have to be more careful in determining the assets that they like to invest, and mostly be prepare if a sudden event or information could possibly gain them some loss in their investment.

2.1.5 Efficient Market

Efficient market is a market in which a security prices reflect available information, and based on the available information there is no reason for the investor to think that the current price of a securities is too high or low (Ross, Westerfield, & Jordan, 2006). The market value of the company changes in a way very similar to that of the intrinsic value of a company, but these changes are not consistent with the value and do not restrain from trading financial assets (Degutis & Novickyte, 2014). And the price of securities in an efficient market is random, investor cannot predict the price of the investment because of the price reflecting the available investment, it means that the price will adjust quickly to the new information and a planned approach to an investment cannot be applied in this market.

According to Degutis and Novickyte (2014), generally the essence of an efficient market is built on two pillars, the first is that in efficient markets available information are already incorporated in stock price, and the second is that in efficient markets investor cannot earn a risk-weighted excess return. In another word, an efficient market could be implied in the term of no one can beat the market. But, for investor when they buy securities they would like to gain a return in their investment, and sometimes to gain a profitable return the investor will try to beat or outperform the market.

The study of market efficiency is quite crucial for investor, investment manager and policy maker (Mazviona & Ndlovu, 2015). By understanding the

concept of market efficiency it could help the investor in gaining more profitable return from their investment, while for the investment manager it could help them in managing the portfolio of their client more thoroughly, lastly for the policy maker it could help them in keeping track of the situation of the market.

2.1.6 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) asserts that well-organized capital markets are efficient markets, it argue that although inefficiencies may exist, they are relatively small and not common (Ross, Westerfield, & Jordan, 2006). In here, it can be assume that in EMH the Net Present Value (NPV) investment in market is zero. The reason is because all of the price of the securities in the market reflect the available information the price of the securities is just right, not too low and not too high. The investor and the corporation will get the exact price for their securities and investment. Which mean that the investor will not have to worry whether their investment is in a “fair” price or not, this also goes for the corporation.

According to Ross *et al.* (2006), the things that makes a market efficient is competition among its investors. Investor in the market would like to try to outrun their competitors. They will try to gain as much information to choose the best investment for them, while also try to be one step ahead of their other rivals in the market. By gathering all of the information regarding the investment they actually makes the market more efficient, because the market will adjust more quickly by the information it will receive.

The efficient market hypothesis is closely related to other financial models and assumptions, it require absolute or partial rationality of market participants is essential for its efficiency (Degutis & Novickyte, 2014). But not all investor is rational because there are some other irrational investor in the market. And because of those irrational investor sometime make a trading randomly and it sometimes worry other investor, in regard whether their behavior will actually affect the market. But, study by Goehart, Koller and Wessels (2010) quoted in Degutis and Novickyte (2014), conclude that even if the existence of irrational investor is generally recognize, their influence in stock price is considered negligible. This conclusion will then strengthen the EMH theory in term of the market efficiency, even if there is a random investor, information that is available in the market will surely strengthen its efficiency.

2.1.7 Efficient Market Hypothesis Form

There are 3 form of EMH, According to Mazviona and Nyangara (2013) quoted in Mazviona and Ndlovu (2015), the three form of EMH define efficiency relative to the information set available to investors in the market. The difference between these forms relates to what information is reflected in prices (Ross, Westerfield, & Jordan, 2006). According to Ross *et al.* (2006), depending on the degree of efficiency, there are three form of EMH:

1. Weak form Efficient

It suggest that at a minimum the current price of a stock reflect the stock own past prices (Ross, Westerfield, & Jordan, 2006). According to

Reilly and Brown (2006) in Mazviona and Ndlovu (2015), weak form market efficiency assumes that current stock prices fully reflect all security market information including the historical sequence of prices, rates of return, trading volume data, and other market generated information such as odd lot locations, block trades and transactions by exchange specialist. It implied that if an investor predict the market by finding a pattern in the historical price of the stock it would be a futile act because the price will follow at a random rate.

2. Semi-strong form Efficient

Semi-strong form efficient is very controversial, it suggest that all public information is reflected in the stock price (Ross, Westerfield, & Jordan, 2006). The semi-strong form EMH asserts that security prices adjust rapidly to the release of all public information, that is current security prices fully reflect all public information, which includes, in addition to past prices, fundamental data on the firm's product line, quality of management, balance sheet composition, patents, accounting practices and earnings forecasts (Mazviona & Ndlovu, 2015). It implied that if an investor want to stay ahead of their competitor and the market they cannot do that by analyzing the data using the publicly available information.

3. Strong form Efficient

In the strong form efficient all information of every kind is reflected in stock prices (Ross, Westerfield, & Jordan, 2006). According to Chikoko and Muparuri (2013) in Mazviona and Ndlovu (2015), the strong form EMH

contends that stock prices fully reflect all information from public and private sources and this means that no group of investors has monopolistic access to information relevant to the information of prices. This market implied the purest form of EMH where the philosophy of no one can beat the market truly stand, because in this form there would not be any insider information available to help the investor.

2.1.8 Calendar Anomaly

Anomalies refers to any deviation from efficient market hypothesis, while calendar anomalies refer to the existence of any irregularities, fluctuations, or the specific pattern, occurring in a recurring manner during a definite time within a year (Khan, Khan, & Khan, 2014). According Schwert (2003) in Vasileiou and Samitas (2015), the calendar effects can be defined as calendar anomalies, because occasionally the empirical findings seem to be inconsistent with the asset pricing theories. Calendar anomalies are not only important for traders to get abnormal returns but also for the test of efficient markets (Basdas, 2011). Because when the price become predictable because of a certain pattern that exist, it will become easier for the investor to take advantages of it and gaining more profitable return. So in other word, calendar anomalies comprise one widely studied set of pricing anomalies (Philpot & Peterson, 2011).

These types of anomalies prove out to be a severe threat to the market efficiency as the patterns become predictable making the abnormal profits possible (Khan, Khan, & Khan, 2014). The two concept of market anomalies and EMH

contradict with each other, therefore it became quite a heated topic in financial industry. In a sense, the calendar anomalies can be one of the strategies that investors can use to attain more profit from the market or beat the market. But even so, the calendar anomalies could also greatly help the market in calculating the efficiency of the market.

2.1.9 Types of Calendar Anomaly

Many kinds of calendar anomalies have been found by previous researchers, some of the most well-known ones are the Day-of-the-Week effect and January Effect. But the researcher will focus more on describing the phenomenon that is the day of the week effect. Here is some of the seasonal anomalies that can be found in the market:

1. Day of the Week Effect

The day of the week effect, also referred to as weekend effect or Monday effect, is an important area of study and many researchers tried to find observable patterns by testing equality of returns across all days of the week (Mazviona & Ndlovu, 2015). The day of the week effect is the phenomenon where stock returns and volatilities behave differently on different days of the week (Plimsoll, Saban, Spheris, & Rajaratnam, 2013). According to Al-Khazali (2008), the day of the week effect is well documented, and it reveals there is a significantly negative stock market return on Monday or Tuesday in many countries. The day of the week can occur in Monday resulting in the lowest weekly average that

occur on Monday, or in the week day (Tuesday, Wednesday and Thursday), or Friday (Weekend).

Day of the week effect phenomenon has been a popular topic in the financial sector which lead to many research and investigation. According to Gharaibeh and Hammadi (2013), Miller (1988) hypothesized that individual investor tend to sell stocks on Mondays and cause the weekend effect, this hypothesized is supported by Lakonishok and Maberly (1990) by showing that investors did trade more on Mondays and their ratio of sell to buy orders is higher on Mondays than the rest of the week days. They speculated that the reason of day of the week to occur is because of the different trading pattern of each investors and organization is different with one another.

But another research done by Gibbons and Hess (1981), Keim and Stambaugh (1984), Jaffe and Westerfield (1985), and Cross (1973) quoted in Gharaibeh and Hammadi (2013), stated that the actual reason of the day of the week phenomenon can occur is based on the institutional features of the national stock markets. From those previous research the day of the week effect phenomenon can then be studied more with a more precise result without the need to randomly guess about the meaning of the result. These features could be include such as the settlement procedures and delays between trading and settlement in stocks, pricing misquotes and measurement errors, specialists' behavior or dividend patterns (Gharaibeh & Hammadi, 2013).

According to Gharaibeh and Hammadi (2013), Damodaran (1989) argues that the cooperation's release of bad news on Friday after the markets close tends to depress Monday share prices, while Brusa *et al.* (2000), stated the opposite where Monday returns were positive and Friday returns were small in comparison. This resulting in many different opinion and theories between many researcher, where at one side upheld the traditional weekend effect theory and the other side stated that the theory has reversed resulting in a positive Monday effect instead.

Dubois and Louvet (1996) in Plimsoll *et al.* (2013), investigated international evidence of the day of the week effect across a range of market of different stage development in the period of 1969-1992, the result state that the day of the week disappear in the USA in recent periods, yet there is still an evident in some Europeans countries and Hong-Kong. This result could be affected because of the previous market is still inefficient in the time period of the study, because of that other new researcher that is interested in researching this topic and using their research as a reference must be cautious. The reason is that their period of research time might differ greatly with the present period, because of the globalization that occur worldwide, market might become more efficient than the previous period.

Borges (2009) in Plimsoll *et al.* (2013), critiqued previous studies of the day of the week effect and concluded that calendar anomalies were

most prominent between the 1970s and 1990s, and since then the anomaly has weakened perhaps due to the increases in market efficiency across the globe, the paper also highlighted that many previous studies were flawed in their methodologies and that the day of the week effect was not evident on a worldwide level, but rather in a certain country market. Borges also suggest to investigate the effect of day of the week in a more micro level than macro, which the author then try to explore in this paper, by investigating on a firm level.

2. January Effect

According to Floros (2008), Moller and Zilca (2008), Lynch *et al.* (2014), the January effect is a calendar anomaly reported in the financial markets wherein the returns in the month of January are higher than the returns during any other month of the year (Kumar & Pathak, 2016).

3. Turn of the Month Effect

Turn of the month effect is where an average returns on securities are higher on last and first three days of a month due to the investors behavior (Khan, Khan, & Khan, 2014).

4. Turn of the Year Effect

Turn of the year effect is when small capitalization stocks tend to heavily outperform large capitalization stocks on the last trading day of December and the first five trading days in January (Szakmary & Kiefer, 2004).

5. The Month of the Year Effect

The Month of the Year Effect is when stock return on a particular month are higher than the other month, and one of the example of this is January Effect and November Effect (Minimol, Makesh, & Radhika, 2013).

6. Time of the Month Effect

According to Chandra (2009), the time of the month effect is when the returns of stock are different at some points in time during a month (Khan, Khan, & Khan, 2014).

7. Trading Month Effect

The trading month effect is the tendency for statistically increased returns in each month's first fortnight in comparison to the second (Vasileiou & Samitas, 2015).

2.1.10 Event Study

An event study is a statistical method to measures the impact of a specific event on the value of a firm, or it could be define as a methodology to investigate the impact of an event on a specific dependent variable (Kumar, Mahadevan, & Gunasekar, 2012). In this research the dependent variable that is used is company stock price, where the researcher will try to find the existent of the day of the week effect in it. By finding the day of the week effect, it could be used as one of the strategy to outperform the market. Event study methods exploit the fact that, given rationality in the marketplace, the effects of an event will be reflected immediately

in security prices, thus the impact can be measured by examining security prices surrounding the event (Kumar, Mahadevan, & Gunasekar, 2012).

According to Kumar *et al.* (2012), the methodology of event study is fairly standard and proceeds as follows :

1. Collect a sample of firms that has a surprise announcement (the event).
2. Determine the precise day of the announcement and designate this day as zero.
3. Define the period to be studied.
4. Computation of the return on each of the days being studied for all stock.
5. Computation of abnormal return for each of the days being studied.
6. Examination and discussion of the result.

Unfortunately there are some limitations in the event study model, according to Kumar *et al.* (2012) those limitations are :

1. Event study analysis employed in stock market assuming that the market is efficient. According to the EMH theory there are three types of market efficiency, weak, semi-strong, and strong that determine the information circle of the investor. Because the different time and information an investor respond to an event is random, there is bond to create a market inefficiency.
2. The methodology provide estimates of the short-run impact on shareholders only and fail to consider many other effects of the events. There might be some other event that might occur or hinder the research,

for example the scandal of the company in the research, or tax amnesty effect to the company.

3. The results of the event studies are sensitive to changes in research design. The sensitivity in here can be in term of different in choice of return from the market, change in estimation window, and the choice of sample size. It all could lead to a different result and different conclusion, making it hard to choose which research to believe.
4. The results of research estimation depend heavily on the data compiled. If the researcher collect the data from not trustworthy sources it could effect on the data processing and result of the research.

Even with all the drawback this methodology is still widely used because of its easy and powerful design, its ability in detecting abnormal performance, it also can be used in a less than perfect conditions, and the results are easy to interpret and share (Kumar, Mahadevan, & Gunasekar, 2012).

2.2 Review on Previous Researcher

By studying and implementing the day of the week effect, investor can use this strategy to help them in making a decision not only in term of a single investment but also in a portfolio investment. With this phenomenon the investor can speculate the price movement of a stock that would open up an opportunity for them to gain more profitable return from the market. Day of the week effect has create many speculation and debate among the financial researchers because of the contradictory characteristic of it with the Efficient Market Hypothesis.

Cross (1973) examine the distribution of price changes on Fridays and Mondays, and also the relationship of the prices change in those two days. The research conclude that there is a pattern in the price change of the index, where the index advancement of Monday is the lowest and Friday is the highest. He also found that the Monday index price was dependent on the way the previous Friday index performance, and this dependent relationship of Monday was not shared by other days and its previous days.

French (1980) examines two alternative models of the process generating stock returns, using the calendar time hypothesis and the trading time hypothesis. The result of French research reject both hypothesis because French found that the Monday mean return is significantly negative, but the opposite happen to the mean return of Wednesday through Friday is significantly positive. This research result is similar to the research done by Cross in 1973.

After the research done by both Cross and French, other researchers began to examine more about the day of the week phenomenon. There are some researchers that extend their research in the non-equity markets. Junkus (1986) examine the day of the week effect in the futures markets, the result stated that he reject the calendar time hypothesis but he cannot reject the trading time hypothesis. During the period of the research there is no unusual negative Monday return or weekend effect. While Ma (1986) examines the day of the week effect in the rate of return distribution in the gold market. The research find there is a significant rise of return in Monday on a rising market period, and significant decline of return in Monday on a declining market.

Yakob *et al.* (2005) research on the stock market seasonality in the different country in Asia Pacific stock markets, the country selected are Australia, China, Japan, India, Indonesia, Malaysia, Singapore, South Korea, and Taiwan. The result conclude that the day of the week effect did occur in five country of the sample one of them is Indonesia, which prove that the day of the week is a global effect phenomenon. The research by Yakob *et al.* (2005) gives an evidence of the existence of the day of the week effect in Indonesia. Brahmana *et al.* (2012) further examine it existence and the day of the week relationship with the weather, and investor irrationality. The research conclude that there is a day of the week effect in Indonesia, and the market return is not the same through the week. The market return also have a negative Monday return and lowest Monday return, indicating a Monday effect of day of the week (Brahmana, Hooy, & Ahmad, 2012). The result also stated that the temperature level affects the decision of investor and could cause the day of the week anomaly.

Plimsoll *et al.* (2013) examines the existence of day of the week effect on a firm-specified levels, focusing more on the finding on a micro scale rather than macro scale. The result is that the day of the week effect did not exist in the index level but it does exist on the firm-specific levels. Many researchers might find the less significant impact of day of the week effect in an index level stock market, this might be the result of globalization creating a more efficient market than the past.

Table 1
Summary of Previous Research

No.	Author and Journal Name	Research Title	Result
1	Cross (1973)	The behavior of stock prices on Fridays and Mondays	There is a pattern in the price change of the index.
2	French (1980)	Stock returns and the weekend effect	Monday mean return is significantly negative, but the opposite happen to the mean return of Wednesday through Friday is significantly positive
3	Junkus (1986), and Ma (1986)	Weekend and day of the week effects on stock index futures, a further investigation of the day of the week effect in the gold market	Discovery of a weekend effect in non-equity markets (futures contracts and gold)
4	Yakob (2005)	Seasonality in the Asia Pacific Stock Markets	Day of the week effect occur in five country of the sample, one of them is Indonesia.
5	Brahmana <i>et al.</i> (2012)	Weather, Investor Irrationality and Day of the Week Anomaly: Case of Indonesia	Day of the week effect exist in Indonesia, and there is a relationship between Weather Anomaly and Seasonal Anomaly
6	Plimsoll <i>et al.</i> (2013)	The day of the week effect: An analysis of the Johannesburg Stock Exchange Top 40 Firms	Day of the week effect did not exist in the index level but it does exist on the firm-specific levels

Source : Various Journal.

2.3 Hypothesis Development

Many research regarding the day of the week effect in the world has been done with mixed result. But, many researchers conclude that in recent year the day of the week effect has been weakening, there might still be a day of the week effect but the impact of it to investor investment is small in comparison to other factors that might impact their investment. Researchers believe it as the result of a more efficient market because of the effect of globalization. Plimsoll *et al.* (2013) examines the day of the week effect following Borges suggestion in a firm level in the top 40 firms in Johannesburg Stock Exchange. They discover that the day of the week effect did not exist in the index level but it does exist on the firm-specific levels, albeit not in each and every firm that is considered in the data. This research is the idea behind this paper, the author is interested to find the day of the week phenomenon in a firm level in Indonesia using the company listed in LQ45.

In determining the day of the week effect, previous research done by French (1980), Junkus (1986), Ma (1986), Yakob (2005), and Brahmana *et al.* (2012) use two types of hypothesis in determining the existence of day of the week effect. They are the calendar time hypothesis and the trading time hypothesis. Calendar time hypothesis stated that the process operates continuously and the expected return for Monday is three times the expected return for other days of the week, while the trading time hypothesis stated that returns are generated only during active trading and the expected returns is the same for each day of the week (French, 1980). This research will use the trading time hypothesis which is popularly used by other researchers. Because it eliminates the Monday Dummy to avoid the dummy trap

because there are more than three dummies in the variables (Brahmana, Hooy, & Ahmad, 2012).

Based on the literature review and theoretical foundation above, then the alternative hypothesis that will be used in this research to test the existence of the day of the week effect.

H_a : The expected return is not the same of each day, which conclude there is a day of the week effect.

