



The market anomalies in capital market management: an evaluation on day of the week effect

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ABSTRACT

In this study including the literature that has been made so far about the anomaly concept used to explain every situation which is against the efficient market hypothesis, and "Days of the week Effect" which is among the periodical anomaly types, additionally, the efficient market hypothesis and shortly the anomaly types take place. In the end of the study: it has been determined that the average daily incomes in the beginning of the week, and at the end of the week shows difference according to the other days of the week, and while the incomes on Mondays, which is the first day of the week, tend to be negative, the incomes on Fridays, which is the last day of the week, tend to be positive, and according to the result that appears, it has been understood that Mondays and Tuesdays are the highest and the lowest risky days and the observed high and positive incomes on Fridays shows statistically meaningfulness. Possible reasons that are shown to this result are many factors such as the exchange applications of weekend effect, the behaviors of the individual investors, the news given by the firms on Fridays, profit distribution days and the firm size effect.

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Introduction

It can be said that the "Days of the Week Anomaly" is the most observed and the most investigated market anomalies in the financial literature. The basic target for the investigation of the anomalies related to the days of the week, is to set forth whether a specific day or a few days of the week provide higher or lower profits than the other days at the average or not.

In financial literature, the anomalies related to the days of the week are called as *Days of the week* or *Weekend* anomaly too. When it is called *Day of the week* it is understood that generally in security incomes, return low profits in Mondays which is the first trading day of the week.

The basic paradigm in financial markets that tries to explain the formation period of the security prices is the Efficient Market Hypothesis" According to the Efficient market hypothesis, the rational investments that target to maximize the individual profit functions, in a market including many buyers and sellers, reflects the information available and sent to the market fast and correctly to the prices. It is not possible to design profitable investment strategies by benefiting from past information, in an efficient market. Because it is not possible to estimate the market prices tendency that occurs in the result of individual purchases and sales decisions of the investors that are in a continuous rivalry in the direction of maximizing their profits by benefiting from the available information. (Aktaş and Kozoğlu, 2007:38).

According to FAMA, the markets which reflect all available information in the market by security incomes are qualified as "effective". According to this approach, there are many buyers in the market. By making a three stage classification of market efficiency such as weak, semi-powerful and powerful form, FAMA has provided the efficient market hypothesis testability due to different information sets (Fama, 1970: 396).

Different findings about this subject have been set forth in this subject in former years. Related to the short term yields, it has been shown that daily, weekly and monthly yields can be estimated with the past yields. FAMA (1965) has found positive correlation among the daily security yields. (FAMA, 1965-34-105) Fisher (1966) has obtained a similar result for monthly portfolio yields while Lo and Mac Kinlay (1988), Conrad and Kaul (1988) has obtained for weekly portfolio yields. French and Roll (1986) has found that the auto correlation in daily yields can take positive or negative values according to the firm sizes which bring the tested securities out the market.

This study, in which anomaly concept definition contrary to this assumption of the effective market hypothesis, and the investigations made in relation to the *Days of the Week Effect*, which is accepted as one of the periodical anomalies among these, take place includes the literature scan about the subject.

The Definition of the Anomaly

Before making the definition of the anomaly concept, it is needed to define the efficient market concept. Although the word "efficient" means movable, working, studying, effective, active, energetic, dynamic, etymologically, here it has been specified in the meaning of doing an act, or displaying an activity so as an adjective opposite to passive (<http://www.tdk.gov.tr>).

If we make the definition of effective markets, we can say that it anticipates the available prices of the values that are traded in a market, reflect all the obtainable information related to those values according to this hypothesis. This theory supposes that by assuming there are buyers and sellers who specify the price, the processors can reach all the reachable information at the same time and symmetrically. So it is anticipated that the price that occurs is the balance price (<http://muhasebeturk.org/ecopedia>).

According to another definition, the efficient market hypothesis, accepts that all the financial assets reflects all the information in any moment of the instant time and if there is any sudden information entrance it is reflected to the prices of these financial assets instantly (Dobbings and Witt, 1983: 6).

If we define the anomaly concept by setting off from here; the anomaly is an observation or reality which does not get along with the theory. (Thaler, 1987:201) According to another approach; if it is hard to rationalize a finding that leans to observation in the frame of theory, or if it is needed to make unreasonable hypothesis in order to explain this finding, this finding in question can be evaluated as "anomaly" (Özmen, 1997:1). Thus every situation that is in contrary to the efficient market hypothesis is called as anomaly.

The Anomaly Types

It is possible to face with anomalies in every area of economic, financial, social, political and cultural lives. The anomaly types are divided in to two as periodical and non periodical anomalies. The days of the week effect anomaly, is evaluated in the frame of periodical anomalies.

In the investigations that are made the anomalies that are bounded to time (periodic anomalies) and the anomalies that are not bounded to time (non periodic anomalies) are met. Some of the periodic anomalies are intra-day effect, specific day of week effect, Month January effect, anniversary effect, holiday effect and etc... The non periodic anomalies are , big or small company effect, market value/book value proportion effect, price/profit proportion effect, neglected firm effect, profit efficiency effect, the companies that are in financial bath effect (Taner and Kayalıdere 2002: 7).

In the study, nonperiodic anomalies will mentioned shortly, but periodic anomalies will be emphasized.

Price Earning Proportion Anomaly

This approach starts from finding an appropriate multiplier coefficient between the net profit per share and equity share The multiplier coefficient in question shows that how much TL do the investors consent to invest against the profit per share before each TL tax of the company (Bolak, 1994:161).

Market Value-Book Value (M/B) Anomaly

The market value - book value proportion (M/B) is obtained by dividing the security price of a company to the equity capital value per each share. In empirical studies it has been specified that if investment is made to low M/B proportion bearing securities, this will bring profits over the normal. Especially when the price of the security decreases below the book value of it, the result becomes more clear (Karan, 2006:282-297)

Greatness or Small Firm Anomaly

The other name of the firm greatness in financial literature is market value. For this reason, from the small firm concept; it is understood that the firm has low security amount, low security value (price) or both of the two. Beside this; if the past and/or the future clearness criterion of the firm is taken as basis, while defining the greatness, big measuring problems will be faced in the application. (Taner and Kayalıdere, 2002: 8).

Work Cycle Anomaly

According to the general opinion, the liveliness in the business word is provided with the security indexes. Thus by making investigations during the term when he economy is alive, a profit over the normal can be provided. But the indexes can be in a situation of decreasing tendency in the times when there is no any inactivity in the economy (Karan 2006: 296)

Neglected Firm Anomaly

In the markets while some of the security has been eye catching, some of these have remained far from attention. By making various types of studies, it has been set forth that making investments on the securities which have remained far from attention, neglected securities, the investors have gained over normal profit providing . The possible reason of this anomaly has been stated as; This can arise from the low appreciation of the securities that belong to the firms that have remained far from attention. This situation can be accepted as a deviation from the efficient markets hypothesis (Bauman, 1964:10)

Besides these anomalies which are the most faced with and which have been the subject of investigations mostly, there are anomaly types called as periodic or seasonal too. The seasonal anomalies, are investigated in four titles generally, such as the anomalies related to the days, the anomalies related to the sessions, the anomalies related to the months and the anomalies related to the holidays.

It is possible to face with the anomalies in every area of economic, financial, social, political and cultural lives. The seasonal anomalies can be defined as anomalies that are connected to the calendar or specified times.

In international literature, the anomalies are investigated under two topics. These anomalies are ; the calendaral (seasonal) anomalies and the pricing anomalies The seasonal anomalies, are the anomalies that occur hourly, daily, weekly, monthly , annually, or before or after a specific period. (Barak and Demireli, 2002:2)

Hereunder the anomalies that constitutes the subject to our investigation or with its other name the *The Day of the Week Effect* anomaly will be emphasized in details.

The day of the week effect anomaly and related studies

The "Days of the Week Anomaly" is the most observed and the most investigated market anomalies in the financial literature. The basic target for the investigation of the anomalies related to the days of the week, is to set forth whether a specific day or a few days of the week provide higher or lower profits than the other days at the average or not.

In financial literature, the anomalies related to the days of the week are called as *Days of the week* or *Weekend* anomaly too. When it is called *Day of the week* it is understood that generally in security incomes, return low profits in Mondays which is the first trading day of the week.

In order to investigate the Days of the Week anomaly Effect many investigations have been made so far. Since 1980s, the availability of week end effect has been discussed in many stock exchanges by examining especially the days of the week effect subjects in both developed and developing stock exchanges. The first studies about this subject was made by Cross (1973) and French (1980) and it has been specified that the average profits of Mondays in New York stock exchange is negative. Then in the studies made by Rogalski (1984)/Gibbonsson and Hess (1981) /Lakonishok and Levy (1982) and Jaffe and Wetsetrfield (1985) , the evidences that support the weekend effect in USA markets have been obtained .

Also in the studies made in the markets that are out of USA market, the availability of the weekend effect in many country stock exchanges has been proven. Condoyanni, O'Hanlon and Ward (1987)/Jaffe, Westerfield and Ma (1989)/ Athanassakos and Robinson (1994)/ Barone (1990) and Alexakis and Xanthakis (1995) and many investigators have specified the weekend effect in Far East, Europe, and South America Stock

Exchanges, But Mehmet Baha Karan Akyay Uygur (1994), have determined that the weekend effect in small European stock exchanges and in Far East stock exchanges skips to Tuesday.

In the studies that are made, many factors such as the exchange applications of weekend effect, the behaviors of the individual investors, the news given by the firms on Fridays, profit distribution days and the firm size effect have been shown as the possible reasons about the weekend effect. Rogalski (1984) has obtained findings which support these results.

In another investigation, Lucas (2000) specifies that the determination of the days of the week effect availability in securities market yields reaches to 1930s.

Fields (1931), has examined the daily closing values of DJIA between 1918-1930 years in order to test the closing tendency jurisdiction of the specific positions of the financial market interpreters' investors at the closing hours of the last trading day in order to avoid the uncertainty, which the developments that will appear at week holiday, will breed.

On the other hand (1973), in his study which he has examined the price changes of composite index of Standard's and Poor's for 1953-1970 period, he has determined that the average daily profits shows difference according to the week days, and these profits have the tendency of being negative in the first day of the week, and being positive in the last day of the week. If the daily profits are calculated according to the closing prices, two basic hypotheses are set forth on the profit occurrence period of the effects of the weekdays.

According to the Calendar Time Hypothesis among these, the profits of Mondays should be higher than the other week days. Because, according to the Friday closing prices, the profit that occurred due to the Monday closing prices in correspond to 3 calendar days, while the profits realized according to the closing prices of the other week days are specified according to 1 calendar day. For this reason, the Mondays Profits should appear 3 times higher than the other days of the week profits.

According to Trading Time Hypothesis, the profits should occur during the hours when the markets are open to trading. For this reason, in connection to the days of the week, no difference should occur among the profits. French (1980) has examined the daily profits of 1953-1977 years Standard's and Poor's composite index by separating it into sub periods, and, in contrary to the two hypothesis, he has proven statistically that the profits on Mondays are negative while they are positive on other days of the week.

Gibbons and Hess (1981) have set forth that the daily closing prices should be evaluated as forward prices because of the exchange period in the markets which have exchange periods, and according to this, the exchange periods different from 5 working days and its multiples can cause days of the week effect. They have examined the 1962-1979 period daily profits of Standard's and Poor's composite index and CRSP equiponderant index for the two sub-term when the exchange periods are 4 and 5 days, and they have concluded that, as the daily profits that belong to Monday have been negative in the period when the exchange day rises to 5 days too, the exchange period does not explain the days of the week effect.

The availability of the days of the week in USA markets have been observed in the other studies made by Lakonishok and Levi (1982), Jacobs and Levi (1988) too. In the studies made by Jaffe and Westerfield (1985), Calendar and Rivoli (1989), Choudhry (2000), Bayar and Kan (2002) the relations between the daily profits and the days of the week have been set forth in the other country markets too.

The days of the week effect which is observed as an international phenomenon in the security markets, have been observed in the studies made about İMKB too. In his study that Seller (1996) has made about 1991-1995 years composite index period of İMKB he has obtained findings that the profits show differences on Mondays, Tuesdays and Fridays.

Kıvılcım and the other (1997) have examined the days of the week effect in terms of market efficiency in İMKB for 1988-1996 years and they have concluded that Fridays and Mondays effect the profit occurrence periods and for this reason, the market is not effective in weak form.

Bildik (2000) has examined national 100 index with 1988-1999 data by separating it into sub terms, and has concluded that the highest and lowest risky days are Mondays and Fridays, and the high and positive profits that are observed on Fridays shows statistically meaningfulness.

In the study that Demirer and Karan (2002), have realized in index bases, they have determined no powerful proofs for the days of the week effect between 1988-1996 interval. On the other hand, Berument, İnamlık and Kıymaz (2004) have determined that the daily profits and the risk are affected from the days of the week, in their studies that they have examined 1986-2003 period by using GARCH model.

Conclusion

The days of the week effect is one of the anomalies which models the theoretic trading of the financial markets, which constitutes contrary to Effective *Market Hypothesis* and that is commonly tested. In the result of the different studies that are made different findings have been reached about the days of the week effect anomaly.

These have determined that the average daily profits that is obtained from the beginning of the week and end of the week, shows difference according to the days of the week, and these profits have the tendency of being negative on Mondays which is the first day of the week and positive on Fridays which is the last day of the week. And according to the results appear in different investigations, it has been concluded that the highest and lowest risky days are Mondays and Fridays, and the high and positive profits that are observed on Fridays shows statistically meaningfulness.

Among these, according to the Calendar Time Hypothesis, the profits of Mondays are higher than the other week days. Because, according to the Friday closing prices, the profit that occurred due to the Monday closing prices in correspond to 3 calendar days, while the profits realized according to the closing prices of the other week days are specified according to one calendar day. For this reason, the Mondays Profits should appear 3 times higher than the other days of the week profits.

The possible reasons that are shown to these results obtained in the conclusion of the investigations are many factors such as the exchange applications of weekend effect, the behaviors of the individual investors, the news given by the firms on Fridays, profit distribution days and the firm size effect.

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