

Effects of Match-fixing Related Publications on Football Clubs' Stock Prices: An Example from Turkey

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ABSTRACT

The phenomenon of match-fixing can be found in any field of sport contests. Match fixing not only weakens the joy of watching sport competitions for the fans, but also causes financial losses for the investors. Match fixing affects many sports in many different ways, but, within the confines of this study, the study will focus on the relationship between match-fixing activities and sport clubs' stocks traded at the Istanbul Stock Exchange. In order to analyze the effects of football club related events caused by match-fixing activities on stock prices, this paper uses event study methodology by Brown and Warner. The empirical findings in this paper suggest that there are statistically significant abnormal returns around the publication date.

Keywords: Event study, Match-fixing activities, Stock market, Turkey.

Jel Classification: G11, G14.

Şike ile İlgili Yayınların Futbol Kulüplerinin Hisse Fiyatları Üzerindeki Etkileri: Türkiye'den Bir Örnek

ÖZET

Şike olgusu, spor müsabakalarının her alanında yer almaktadır. Şike faaliyetleri, spor severler açısından müsabakaların seyir keyfini zayıflattığı gibi yatırımcılar açısından da maddi kayıplara neden olabilmektedir. Dolayısıyla, şike olgusu ile birlikte spor kulüplerinin hisseleri arasındaki ilişkinin irdelenmesi gerekliliği ortaya çıkmaktadır. Bu çalışma, şike olayları ile ilgili olan yayınlar ile hisse senetleri piyasasında işlem gören futbol kulüplerinin hisse senetlerinin fiyatları arasındaki ilişkiyi incelemektedir. Futbol Kulüpleri tarafından yapılan şikelerin hisse senedi fiyatları üzerindeki etkisini analiz etmek için Brown ve Warner'ın olay çalışması metodolojisi kullanılmıştır. Bu çalışmanın ampirik bulguları, şike haberlerinin yayınlanması süreçlerinde hisse senedi fiyatlarında anormal getiriler olduğunu göstermektedir.

Anahtar Kelimeler: Olay çalışması, Şike, Hisse senetleri piyasası, Türkiye.

JEL Sınıflandırması: G11, G14.

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1. INTRODUCTION

The event study has a very long history in the literature. The first published study on the subject has been done by Dolley (1933). In Dolley's study, prices variations of companies' stocks have been examined at the time of splitting process. By examining the price volatility at the time of splitting process, the effects of news on investors' behaviors have been explained.

Between the years of 1930 to 1960, the amount of studies that the event study methodology is employed has started to increase. Myers and Bukey (1948), Barker (1956) and Ashley (1957; 1958; 1962) used the event study methodology in their studies however, the approach that is used today, has been developed by Ball and Brown (1968) and Fama, Fisher, Jensen and Roll (1969). While, Ball and Brown analyze the effects of company news on stock prices, Fama, Fisher, Jensen and Roll studied the effects of splitting process on stock prices by employing a method that eliminates the effects of increase in dividend ratios.

The results of this study provide additional evidence on the effects of information on stock prices. The empirical findings show that stock prices react to information. According to Stickel (1985), one of the proposed explanations of finding positive abnormal return around the publication date is that analysts often recommend securities that have recently performing well. Also efficiency of the capital markets creates the frame for the stock behavior (Fama, 1970; Cavusoglu and Gokten, 2011)

Many studies like Colker (1963), Diefenbach (1972), Lloyd Davies and Canes (1978), Watts (1978), Liu and others (1990), Beneish (1991), Mathur and Waheed (1991), Huth and Maris (1992) analyzed the price performance of the stocks according to public announcements and statements. Also, Anand and Singh (2005), Bekcioglu et al. (2004), Kothari and Warner (2006), Papadatos (2011) have also been devoted to explain the effects of merger & acquisitions (M&A) in finance. Especially, the banking industry has faced an intensive M&A activity after financial liberalization in the world. Cukur and Eryigit (2006) have measured the effect of M&A that occurred in 2005 in the Turkish banking industry by using event study methodology. The results indicate that the announcement of the M&A plans to the public have generally produced positive and significant abnormal returns and these abnormal returns tend to be permanent rather than temporary.

Aygoren, Uyar and Saritas (2008) have also employed the event study methodology to test whether performances of football teams have impact on stock returns. The findings of their study point out those investors are able to get abnormal returns during the event window interval both in derbies and European Football Matches. Their findings suggest that investors place more important a European football matches than derby matches however pay more attention to defeats triumph and draw.

2. MATCH-FIXING EVENTS

There are many occasions that football clubs have been associated with match-fixing events. This study tries to understand how those stories affect football clubs' stock prices.

As it is known, newspapers play a vital role in sharing information from politics to sport with responsibility to the community it serves. The newspaper's primary obligation is fidelity to the public good. This is why, the events of match fixing activities gathered from newspapers and institutions' websites which are open to general public.

In the summer of 2011, Turkish police began an investigation into 19 football matches suspected of being fixed, and by 10 July 61 individuals had been arrested, including club managers and Turkish national players. 26 of these would later have requests for release refused by the court (Kanaldhaber, 2011; BBC, 2011a; BBC, 2011b). By 12 July UEFA had confirmed they were monitoring the situation (UEFA, 2011a).

Around the same time, Istanbul BB player İbrahim Akın and Tayfur Havutçu the manager of the Beşiktaş at date admitted to participating in match fixing, specifically relating to two matches: Istanbul's match against Fenerbahçe, and the Turkish Cup final against Beşiktaş JK (Cumhuriyet, 2011). These individuals were found guilty by the court according to Decision 2012/71 (Court, 2012).

Beşiktaş president Yıldırım Demirören later returned the Turkish Cup following match-fixing allegations levelled at his own club. Following his arrest Akın withdrew his confession, claiming he had been tricked and his confession given under duress, and denied any involvement in the alleged corruption (Yurthaber, 2011).

Other players caught up in the scandal included Fenerbahçe's Emmanuel Emenike, who was transfer listed and eventually sold to FC Spartak Moscow following his implication in the corruption, and Ankaragücü player Uğur Uçar, who claimed to have been approached with a proposal to engage in the match fixing but never engaged in any illegal activity (Aksam, 2011a).

Much of the controversy revolved around Fenerbahçe, one of Turkey's biggest football clubs; the subject being particularly topical as Juventus had been relegated to the Italian second division five years earlier in similar circumstances, following the 2006 Italian football scandal (Guardian, 2006). The club's supporters were concerned that a similar fate might befall Fenerbahçe, should the club be indicted.

A week after, the TFF confirmed that the TFF Super Cup game between Süper League champions Fenerbahçe and Turkish Cup winners Beşiktaş would be postponed indefinitely due to the ongoing investigation (NTVS, 2011a). The opening game of the Süper League would also eventually be delayed until 9 September, and that of the Bank Asya 1. League until 10 September due to the investigation (NTVS, 2011b).

Fenerbahçe fans reacted to the scandal at a friendly match between Fenerbahçe and Shaktar Donetsk in Istanbul ripping out seats and throwing them at members of the press

(Sabah, 2011a; Aljazeera, 2011). The unrest continued for about 45 minutes with the police struggling to regain control, and with some security staff and members of the press sustaining serious injuries (Shaktar, 2011; Aksam, 2011b). The fans eventually invaded the pitch, throwing flares at security staff and protesting that Fenerbahçe should not be relegated, regardless of whether or not the club was found to be involved (Milliyet, 2011a). The match was abandoned by the referee (HTS, 2011). Fenerbahçe were ordered to play two matches behind closed doors following the violence and several of the perpetrators were arrested (TFF, 2011a; Milliyet, 2011b).

On 20 July the prosecutor submitted all the documents and video evidence regarding the investigation to TFF Ethics Committee, consisting of some 12.000 pages of documentation (NTVS, 2011c). The scandal took an even more sinister turn when Chris Eaton, Chairman of the FIFA Security Committee, claimed that links to organized crime networks had surfaced during collaborations with the Turkish police on the investigation (HDN, 2011; Sabah, 2011b).

The investigation continued with the questioning of Fenerbahçe Official Murat Özaydınlı, Fenerbahçe Administrative Manager Hasan Çetinkaya, Istanbul Büyükşehir Belediyespor and former Fenerbahçe player Can Arat and former referee and ex-Gençlerbirliği official Zafer Önder İpek (Milliyet, 2011c). Another round of questioning followed, with Fenerbahçe player Emre Belözoğlu, former Beşiktaş journalist Sinan Engin, Ankaragücü player Kaan Söylemezgiller, manager Ekrem Okumuş and journalist Tahir Kum all interviewed (Milliyet, 2011d). Dozens more would ultimately be questioned in the course of the investigation. According to criminal court's decision, Aziz Yıldırım has played vital role in forming of the criminal organization (Court, 2012).

On 15 August, The Report of the TFF's Ethics Committee, presented to the general assembly of the TFF, before the intervention of political power. The First Report of the TFF's Ethics Committee completely hidden from public scrutiny and FIFA and UEFA. But, summary section of the report (38 pages) leaked to the press. Oguz Atalay, chairman of the committee, confirmed that document published in the press is the actual document (EKP, 2011; Milliyet, 2011e).

With the TFF hesitating to impose any sanctions on its members until the legal investigation was concluded, UEFA Board of Arbitration member Levent Bıçakçı suggested that UEFA could take matters into its own hands and deal with the offending clubs and individuals directly (Sabah, 2011c; Milliyet, 2011f). After a statement released by the TFF on 15 August regarding delaying any sanctions against Turkish clubs, the share price of Fenerbahçe SK climbed by more than 49%, leading to yet more investigations into insider trading (Stargazete, 2011).

The TFF, under pressure from UEFA (who had sent the Chief Inspector of the Disciplinary Committee Pierre Cornu to oversee the investigation), eventually banned

Fenerbahçe from participating in the 2011-12 Champions League, with UEFA announcing that Trabzonspor would replace them (UEFA, 2012; Sabah, 2011d). Nihat Özdemir, Fenerbahçe's deputy-president, resigned from his club and Aziz Yıldırım, the head of Union of Clubs, resigned from this as a result of the situation (Hurriyet, 2011a; Hurriyet 2011b). In further developments the TFF dismissed two officials, Professional Football Players Registration Director Haldun Şenman and Director of Football Development Communication Specialist Ali Kalender due to theft and misconduct in office (Sabah, 2011e).

Many members of the European football community voiced their concerns about the situation, with UEFA president Michel Platini saying how the match-fixing scandals had "badly tarnished the game" and that the developments were "not good for Turkish football" (Reuters, 2011a; Hurriyet, 2011c; Milliyet, 2011g).

UEFA Chief Executive Gianni Infantino stated "In these uncertain times we must take care to protect our game. Threats from outside the game, including illegal betting and match-fixing, are a cause for real concern (UEFA, 2011b).

On 9 December 2011 match-fixing indictment was accepted by the Turkish court (Reuters, 2011b). On 10 December 2011, Turkey's Parliament approved a reduction in prison terms for match-fixing and hooliganism despite a veto by the president earlier (Worldbulletin, 2011). On 28 December 2011, The Turkish Football Federation scheduled a date for discussing an article in the disciplinary code and the relegation ban will be removed by the General Convention. In addition, there will be point deductions and monetary penalties for match-fixing instead of relegation (TFF, 2011b).

However, Galatasaray SK and Trabzonspor, reacted the TFF's declaration, announced that they do not support TFF's decision regarding the reduction of punishments of match-fixing and after that Galatasaray SK and Trabzonspor were sent to Professional Football Disciplinary Board by TFF (GSW, 2011; TSW, 2011; Zaman, 2011; Aktifhaber, 2011).

After several investigations and lawsuits, while Galatasaray SK and Trabzonspor faced with minor consequences, considerable penalties were given to Beşiktaş JK and Fenerbahçe.

Finally, The Court of Arbitration for Sports decided to reject the Fenerbahçe SK's and Beşiktaş's appeal against their suspension from European competition and Fenerbahçe was banned for two years and Beşiktaş was banned for one year from European competitions after the Court of Arbitration for Sport (CAS) opted to uphold the club's punishment for their involvement in match-fixing in Turkey (CAS, 2013a; CAS, 2013b).

3. DATA AND METHODOLOGY

Brown and Warner (1985) examine properties of daily stock returns and how the particular characteristics of these data affect event study methodologies. According to Brown and Warner (1985), daily data generally present few difficulties for event studies and standard procedures are typically well-specified even when special daily data characteristics are

ignored. However, recognition of autocorrelation in daily excess returns and changes in their variance conditional on an event can sometimes be advantageous. Therefore, Brown and Warner (1985) conclude that a simple methodology based on the market model is both well-specified and relatively powerful under a wide variety of conditions, and in special cases even simpler methods also perform well.

Brown and Warner (1985) observed daily stock returns and daily excess returns by using variety of alternative models for measuring excess returns. To examine the implications of these properties for event studies, a procedure similar to one that Brown and Warner (1980) developed previously is applied to observed daily returns.

To analyze the effects of football club related events caused by match-fixing activities on stock prices, we also employed the event study methodology developed by Brown and Warner (1985).

The following market model is used;

$$R_{i,t} = \alpha_i + \beta R_{m,t} + \varepsilon_{i,t}$$

Where;

$R_{i,t}$ = return on the common stock of firm i on the day t ;

$R_{m,t}$ = return on the ISE Composite Index on day t ;

α, β = regression coefficients;

$\varepsilon_{i,t}$ = stochastic error term for firm i on day t .

For each sample observation, calendar time is converted to event time by defining the date of publication as event day 0. The market model for each of the sample is estimated, using daily observations of return for the 80, 100 and 120 trading days spanning the period from -140 through -21, (pre-estimation period), and spanning from +21 to +140, (post-estimation period), where day 0 is the publication date of market information. The analysis period extends from event day -20 to +20. The abnormal performance in the analysis period is tested for. For each event, abnormal returns are calculated for each day in the analysis period.

Where;

$AR_{i,t}$ = abnormal return for security i on day t ;

$R_{i,t}$ = observed return for security i on day t ;

$(\alpha_i + \beta_i R_{m,t})$ = expected return for security i on day t .

The abnormal returns are calculated for each of the 40 days surrounding the event day. Average abnormal returns across all sport clubs in the sample are calculated for each day in the analysis period.

$$AAR_t = (1/N) \cdot \sum_{i=1}^N \varepsilon_{i,t}$$

The null hypotheses to be tested are the average abnormal returns in the event period are equal to zero. The following test statistic is used.

$$t_t = \left(\frac{1}{\sqrt{N}}\right) \cdot \sum_{i=1}^n \frac{\varepsilon_{i,t}}{\sigma_i}$$

Where $\varepsilon_{i,t}$ is error term and σ_i is the standard deviation in the estimation period. Finally cumulative abnormal returns are calculated in the analysis period.

$$CAR = \left(\frac{1}{N}\right) \cdot \sum_{t=d_1}^{d_2} \sum_{i=1}^n \varepsilon_{i,t}$$

The corresponding test statistic for CARs is calculated as follows:

$$t = \sqrt{\left(\frac{1}{N \cdot k}\right)} \cdot \sum_{t=d_1}^{d_2} \sum_{i=1}^n \frac{\varepsilon_{i,t}}{\sigma_i}$$

4. EMPIRICAL RESULTS

To determine how stock prices are influenced by several events, we pose two period analyses. While the first one examines the effect of events around the publication date, the second looks for unusual activity after the publication date.

In addition, we also use three different market models in order to determine the abnormal price movements that are caused by different periods (Barber and Loeffler, 1993). The tables 1, 2 and 3 report the cumulative abnormal returns (CARs) for the pre-estimation period and tables 4, 5 and 6 indicate the results for post-estimation period.

In the middle part of table, CARs around the publication of events are reported. The results for pre-estimation period indicate that football clubs experience negative abnormal returns just before the event dates (-5, 0).

For example, (-5, 0) time periods, CARs differ between the sport clubs, which were faced with minor consequences (Galatasaray and Trabzonspor) and with considerable penalties Beşiktaş and Fenerbahçe). In longer time period (-10, 0) while Beşiktaş and Fenerbahçe experience negative abnormal returns, Galatasaray and Trabzonspor shows positive abnormal returns.

Table 1: Cumulative abnormal returns by using pre-estimation (-20, -100)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,71021	-7,19112	9,71615	17,1918
(-10 - 0)	-1,12001	-3,23328	5,15191	10,1091
(-5 - 0)	-0,71892	-1,69893	1,98342	1,9317
(0 - 5)	2,23156	6,56426	2,01191	1,3197
(0 - 10)	6,62902	8,46520	3,72519	2,1981

(0 - 20)	8,91821	10,91702	4,34921	3,4552
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Table 2: Cumulative abnormal returns by using pre-estimation (-20, -120)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,31921	-6,92531	11,7381	16,1291
(-10 - 0)	-1,09192	-3,18512	7,8821	9,7522
(-5 - 0)	-0,61510	-1,52621	3,1536	1,9277
(0 - 5)	2,11728	5,99237	2,1902	1,3101
(0 - 10)	5,17261	7,82283	3,2182	2,2394
(0 - 20)	7,99181	9,98283	4,1862	3,4361

Table 3: Cumulative abnormal returns by using pre-estimation (-20, -140)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,27113	-6,45218	9,12901	15,9181
(-10 - 0)	-1,91643	-3,09271	7,01266	9,4988
(-5 - 0)	-0,59182	-1,74812	2,95109	2,0271
(0 - 5)	1,97261	5,72617	1,90621	1,2881
(0 - 10)	5,03821	7,91275	3,01812	2,2781
(0 - 20)	7,18171	9,78091	4,12719	3,4286

In addition, during (-20, 0) time periods, CARs differ between -3.71% and 17.19% respectively. Considering the football clubs (Galatasaray and Trabzonspor) considered as reference group, the CARs seem quite high compared to the other football clubs.

Based on these results, one would conclude that events like lawsuits, arrestments, etc. have the ability of providing valuable information to investors whether the football club had involved the match-fixing activities.

In the tables 4, 5 and 6, the findings pertaining to the post-estimation period are reported. For example, during (-5, 0) period, CARs differ between -0.61% and 1.81% respectively. All of them are highly significant at 1% level and show that the events have considerable effects on football clubs' stock prices. In addition, results for (-10, 0) and (-20, 0) also show similar results as (-5,0) period.

The behavior of stock prices during and after the publication of sport events is further analyzed as well. In the table 1, 2 and 3, CARs in the publication and post-publication period are reported. Considering the CARs in the publication and post-publication periods, we see that the abnormal returns are positive and statistically significant.

For example during (0, 5) periods, CARs differ between 1.97% and 6.57% respectively when the pre-estimation period is employed. Furthermore, calculated CARs also show positive and significant results that differ from 2.19% to 7.91% for (0, 10) time periods. Considering the time period (0, 20), it has also been seen that the CARs show slight differences among three market models.

Table 4: Cumulative abnormal returns by using post-estimation (20, 100)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,67912	-11,0840	8,28192	16,3189
(-10 - 0)	-1,42819	-7,75895	7,56126	9,7378
(-5 - 0)	-0,60189	-4,08241	2,71628	1,8027
(0 - 5)	1,29182	4,98112	2,00268	1,5962
(0 - 10)	5,45521	7,21091	3,31973	2,3386
(0 - 20)	6,92871	9,21192	4,03307	3,4829

Table 5: Cumulative abnormal returns by using post-estimation (20, 120)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,34932	-15,6791	8,19291	17,1854
(-10 - 0)	-1,43891	-8,00189	6,98143	9,6762
(-5 - 0)	-0,61189	-4,11281	2,66829	1,7581
(0 - 5)	1,19838	5,02192	2,01341	1,6012
(0 - 10)	5,69101	7,11281	3,39291	2,3828
(0 - 20)	7,02271	10,0713	4,13929	3,4927

Table 6: Cumulative abnormal returns by using post-estimation (20, 140)

	BJK CARs	FB CARs	GS (Ref.) CARs	TS (Ref.) CARs
(-20 - 0)	-3,36695	-17,9971	8,21948	19,0127
(-10 - 0)	-1,53728	-12,6482	6,89185	10,1037
(-5 - 0)	-0,60198	-5,86421	2,61901	1,8100
(0 - 5)	1,24721	5,21927	2,11939	1,6912
(0 - 10)	5,37291	7,87194	3,41322	2,3948
(0 - 20)	7,22395	11,4628	3,99179	3,4346

In the tables 4, 5 and 6, the findings pertaining to the post-estimation period are also reported. These results indicate the possible dissemination of information prior to the publication date. This may include insiders, who may use information for their trading, and stock analysts, who may supply information to their clients for trading.

Overall, the empirical results indicate the existence of statistically significant abnormal returns in pre-publication period of events. Such findings would refute the strong form of market efficiency, which is in the line with existing literature. The findings pertaining to the post-publication of sport events also reveal that there are also statistically significant abnormal returns.

This suggests that investment strategies based on the published events would not generate any wealth gains to investors, implying that information provided by media does not have any value at the time of its publication.

The findings also refute the view that the football clubs, which deal with several lawsuits, are subject to publications. The results obtained using post-estimation data is similar to those of pre-estimation data, indicating that the price movements are the results of publicity created by events.

5. CONCLUSION

The question of whether the trading based on a particular set of information can lead investors to obtain abnormal returns has been a focus of research for a long time. A vast majority of these studies on analyst recommendation/stock market rumors reports statistically significant stock price reaction to the publication of information and, hence, concludes that information has value.

This study investigates the effects of several events related to match-fixing activities on the prices of football clubs' stocks traded at the Istanbul Stock Exchange. The empirical findings suggest that there are statistically significant abnormal returns around the publication date. While positive, significant abnormal returns are observed around the publication date for some football clubs' stocks, negative abnormal returns are also found for other football clubs' stock.

Furthermore, the results further show that the price movements are due to the price pressure created by the publication of events related to match-fixing activities. Contrary, the abnormal returns are more pronounced in some cases when the post-estimation data is used.

Considering the lawsuits for match-fixing activities that were performed by football clubs, we see that the penalties that were given to football clubs show considerable differences in terms of stock prices. Therefore, while Trabzonspor and Galatasaray's stock prices show positive abnormal returns, stock prices of Fenerbahçe and Besiktaş show more volatile pattern.

At last but not least, incompatible reactions also show that the insiders have the information about penalties that were given to football clubs, before the publication date.

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