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Şirketlere Özgü Haberler mi Hisse Senedi Tavsiyeleri mi? Borsa İstanbul Üzerine Bir Uygulama

Firm-Specific News or Stock Recommendations? Evidence from the Borsa Istanbul

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ÖZET

Bu çalışmanın amacı, yatırımcıların şirketlere özgü haberlere ve piyasa yapıcıların verdikleri hisse senedi tavsiyelerine dayanarak aşırı getiri elde edip etmeyeceklerini araştırmaktır. Hisse senetlerinin haber ve tavsiyelere tepkisini test etmek için, ilk olarak, Ocak 2019 ve Nisan 2020 dönemi için olay çalışması yöntemi kulanılmıştır. Bu kapsamda, Borsa İstanbul'da işlem gören hisse senedi getirileri ve piyasa göstergesi olarak BIST 30 endeksi kullanılmıştır. Araştırmanın sonuçları, pozitif şirket haberlerinin hisse performansına önemli bir etkisinin olmadığını ancak yatırımcıların şirketlere özgü yayınlanan negatif yönlü haberlerden etkilendiklerini göstermektedir. Araştırmanın sonuçlarını genişletmek ve karşılaştırma yapabilmek için, şirketlere özgü haberlerin yayınlandığı gün piyasa yapıcıların verdikleri tavsiyelerin hisse senedi getirileri üzerinde bir etkisinin olup olmadığı regresyon analizi yardımıyla araştırılmıştır. Buna göre, piyasa yapıcıların verdikleri tavsiyelere dayanarak karar alan yatırımcıların aşırı getiri elde ettikleri gözlemlenmiştir. Ayrıca hisse senetleri, pozitif haberlere kıyasla negatif haberlere daha çok tepki vermektedirler. Bu sonuçlar etkin piyasa hipotezinin varsayımları ile uyuşmamaktadır.

Anahtar Kelimeler:

Hisse Senedi Tavsiyeleri,

Şirketlere Özgü Haberler,

Aşırı Getiriler.

ABSTRACT

The aim of this study is to examine whether investors can earn abnormal returns based on firm-specific news in general, and stock recommendations given by market makers in particular. To measure the stock market reaction, at first, the event study is conducted for pre- and post-event windows covering the periods from January 2019 to April 2020. In this context, stock returns traded on Borsa Istanbul and BIST 30 Index as market indicator are used. The results indicate that while positive firm-specific news does not provide valuable information, investors are affected from negative news during post-event days. Then, to enchance and compare the results, a regression analysis is estimated to examine whether the stock recommendations have an additional effect on stock returns at the day of news announced. This analysis has provided that investment decisions based on the recommendations of the market makers would generate abnormal returns to investors. In addition, the market reacts stronger to negative news, contrary to the positive ones. These results are inconsistent with the assumptions of efficient market hypothesis.

Keywords:

Stock Recommendations,

Firm-Specific News,

Abnormal Retırns.

1. INTRODUCTION

Fama (1965) has developed efficient market hypothesis and argued that investors make decisions in a rational way to hold an optimal portfolio and maximize their returns at a given level of risk. Accordingly, market is efficient and investors have all available information which is reflected in prices. Thus, the market as a whole does not deviate from rationality and all information is rapidly incorporated into stock prices that no investor can use it to earn abnormal returns (Özsu, 2015). Contrary to this traditional approach to finance, investors are affected by a particular set of information during their judgment and decision making process under uncertainty and risk and that can lead investors to obtain abnormal returns, indicating market inefficiency.

Firm-specific news, analysts recommendations, press coverages etc. provide valuable information to investors during their decision making process. It is worth to examine whether the information obtained from these resources can help investors to earn abnormal returns. Within this context, this study aims to find out the interactions between firm-specific news and market makers' recommendations and examine whether there is an additional effect of the recommendations on market reaction during positive and negative event days.

The rest of the study is structured as follows: the literature review on abnormal return behavior is provided in the next section. The methodology covering event study and regression analysis used in the study are discussed next. Empirical findings are followed by conclusion.

2. LITERATURE REVIEW

Many studies have attempted to investigate abnormal return behavior in terms of different determinants such as analysts' recommendations, firm-specific news, press coverages etc. for different periods within different stock markets.

Tetlock (2007) has investigated the relation between the media and the stock market by using daily data from the popular column of Wall Street Journal. General Inquirer program has provided content analysis results of textual data and resulted that while high or low pessimism estimates high market trading volume, high media pessimism estimates a decrease on market prices.

Tetlock et al. (2008) have utilized DJNS and WSJ stories about S&P 500 firms from 1980 to 2004 to investigate the effect of negative words in firm-specific news on accounting earnings and stock returns of the firms. They have observed low firm earnings based on negative words in firm-specific news. Hovewer, the negative words in stories that focus on fundamentals have the largest impact on the earnings and return of the stocks.

Palmon et al. (2009) have measured the effect of columnists' recommendations for the period 2000-2003. For the analysis, they have utilized three business magazines of Business Week, Forber and Fortune. Accordingly, the findings support that stock recommendations given by columnists do not have any impact on abnormal returns. Hovewer, recommendations including references to management or providing merger & acquisition related to rumors affect investor decisions.

Soon (2010), in his thesis, has investigated whether published financial news have an impact on volatility, market returns and other market characteristics. Content analysis through the General Inquirer (GI) was conducted by using the data obtained from daily news articles published in the Wall Street Journal. Accordingly, it is resulted that high negative news scores are not correlated with negative abnormal returns in the S&P 500, as expected. Hovewer, high negative news scores estimate higher market volatility.

Boudoukha et al. (2013) have measured the interactions between events relevant to companies and stock price volatility. Based on textual analysis conducted during the periods from 2000 to 2009, it can be said that fundamental firm-level information such as new product launches, lawsuits, analyst coverage, news on financial results, mergers has significant effect on stock price volatility in the S&P500.

Jory et al. (2015) have used US publicly listed firms to examine corporate scandals of both a financial and non-financial nature between 1993 and 2011. An event study has conducted and resulted that investors react adversely to such events and firms with more cash flows, and their stock returns are less likely to be affected from such scandals. Moreover, an increase is observed in stock price volatility of these affected firms after the announcement of the scandal.

Ostrovsky-Berman (2020) has attempted to investigate the effect of market perception to press coverage of public companies and media interviews with CEOs. He has used event study by utilizing press articles and interviews given by CEOs and conducted the study on 378 S&P companies. He has found that both press coverage and interviews with CEOs have significant abnormal returns. Additionally, negative news has more impact on market in comparison with positive news.

Zou et al. (2002) have used 1,075 IPOs on China's stock market for the years 2009-2016 to examine the effect of media coverage on IPO underpricing and post-IPO volatility. They have conducted a textual analysis and found that media coverage is negatively associated with IPO underpricing. Investors are affected more by media coverage in a negative way.

The existence of abnormal return behavior has also been tested in Borsa Istanbul by utilizing event study methodology. Kıymaz (2001) is one of the first studies that investigates whether stock market rumors affect stock prices or not in Istanbul Stock Exchange. He has conducted an event study by using the stock market rumors published in the HOTS column of the 'ET' weekly magazine between the periods July 21, 1996 and August 17, 1997. Especially, rumors based on earning expectations have greater impact on stock prices.

Yazıcı and Muradoğlu (2002) have studied the impact of published investment advices by Investor Ali on common stock prices during the period from 1993 to 1998 in Istanbul Stock Exchange. The event study conducted has reported that the stock recommendations do not help investors to earn excess returns.

Erdogan and Yezegel (2008) have examined the behavior of the stock returns following large price changes of the firms in the presence of no new news between the years 1998 and 2004. Findings of the event study have suggested that the daily security prices, stock split, capital increases and dividend data obtained from Istanbul Stock Exchangehave decreased significantly following large price changes.

Erdogan et al. (2010) have analyzed analyst recommendations made for stocks of BIST 30 Index. The daily and monthly stock price, dividend and stock split data have been obtained from Istanbul Stock Exchange during the period between 1993 and 2005, in their study. As similar with the results of Yazıcı and Muradoğlu (2002), they have concluded that analysts recommending stocks listed in the Istanbul Stock Exchange (ISE) do not exhibit superior stock picking ability.

Eyüboğlu and Bulut (2016) have analyzed the impact of firm-specific news on stocks listed in BIST 30 Index between the years 2003 and 2012. The results of the event study have supported that investors are more sensitive to operational, financial and restructuring related announcements.

Eyüboğlu and Bulut (2017) have performed an analysis of the weekly magazine "Para" covering the period between February 2006 and December 2012 in the Istanbul Stock Exchange. The event study results have indicated that business magazine recommendations cannot help investors to earn abnormal returns from stocks, consistent with the results of Erdogan et al. (2010). In other words, investors do not gain abnormal returns from the "buy" recommendations of the business magazines.

3. AIM OF THE STUDY

This analysis aims to find out whether investors can earn abnormal returns from firm-specific news in general, and from market makers'recommendations in particular in Borsa Istanbul. As suggested by Brown and Warner (1985), the event study is conducted to analyze and compare the effects of positive and negative news on stock prices and as suggested by Ostrovsky-Berman (2020), the regression anaysis is conducted to test whether market makers can change the market perception by giving recommendations to investors between the periods January 2019 and April 2020.

This study is the first comprehensive attempt to measure market perception in terms of firm-specific news and market maker recommendations, jointly, in Borsa Istanbul. In this context, whether investors are more sensitive to firm-specific news or market maker recommendations is examined. Furthermore, this is the first study that compares the effects of positive and negative announcements of the firms on stock returns.

This study also contributes to the international literature in the field of behavioral finance and market efficiency by measuring similar variables that were used in the earlier studies and strengthening their empirical frameworks.

4. DATA & METHODOLOGY

An event study has been conducted to detect the reactions of the firm-specific news to the stock retuns, at first, in this study. Then, the net sample related to daily recommendations have been included to the regression analysis to measure additional effect of market makers on stock returns traded on BIST 30 Index. In this case, the sample consists of 19,750 observations for the analysis over the period from January 2019 to April 2020. IS Investment Inc. has been selected as market maker and both daily recommendations and firm-specific news have been obtained from the official website of IS Investment Inc. The reason to examine is that IS Investment Inc. is one the most reviewed and followed members listed on Borsa Istanbul equity market members eligible for market making. Furthermore, daily data of the stock prices traded on BIST 30 Index for both the estimation period and event period has been utilized from the official website of Finnet which is the Electronic Publishing Data Communications Co. Ltd.

4.1. Event Study Methodology

The event study allows researchers to test the effects of an event such as firm-specific or financial news or analyist recommendation etc. on stock performance (Palmon et al., 2009). As in Brown and Warner (1985)'s study, a maximum of 250 daily return observations for the given period has been used for each stock. Accordingly, for the hypothetical event, while the 'estimation period' starts at day -244 and ends at day -6 in this period, the following 11 days (-5 through +5) is accepted as the 'event period'. For a stock to be taken into consideration for the analysis the entire 250 day period is needed and in case of no missing return data in the last 20 days, the stock is included in a sample.

As reported in Brown and Warner (1985), market adjusted returns were used to test short run abnormal returns, in this study. To be used in this abnormal return estimation method, firstly, daily closing prices were converted to daily logarithmic returns, as in Özsu (2015). The following formula was used to calculate returns:

$$R_{it} = ln(P_{it}/P_{it-1})$$

where R_{it} is the return of stock *i* at time *t*, P_{it} is the closing price of stock *i* at time *t*, and P_{it-1} is the closing price of stock *i* on the day before.

To estimate market adjusted abnormal return for each stock during the event period, the following procedure was used:

$$AR_{it} = R_{it} - R_{mt}$$

where R_{mt} is the market return at day *t*. AR_{it} is the abnormal return which is defined as the difference between the return on stock *i* and the return on the market at day *t*.

To conduct an event study, average abnormal returns and cumulative average abnormal returns were calculated for event days and taken into account for the analysis (Eyüboğlu and Bulut, 2017). Average abnormal returns *(AAR)* on *n* stocks at day *t* can be measured as dividing abnormal return for each stock by number of stocks analyzed, as seen in the following equation:

$$AAR_{jt} = \frac{\sum_{i=1}^{N} AR_{it}}{N}$$

where *j* is either "positive" or "negative" . For *N* number of events, cumulative average abnormal return *(CAAR)* is the sum of average abnormal return of the stocks used during the period. Thus, *CAAR* for the period is defined as:

$$CAAR_{jti} = \sum_{t=t-1}^{ti} AAR_{jt}$$

In this study, an event window that starts on day t = -5 and ends on t = +5 is taken into consideration for the analysis and the t-tests are carried out for this event window.

In case of valuable information related to a stock during pre-event period, it will be possible to observe positive average abnormal returns during post-event period and thus, cumulative average abnormal returns will begin to increase. *T-values* are also expected to be higher than *1.96* during post-event days (Keown ve Pinkerton, 1981).

4.2. The Regression Model

To measure the additional effect of market makers on abnormal returns and to detect market reaction to recommendations, the following regression equations are calculated, as suggested by Ostrovsky-Berman (2020):

$$CAAR_{it} = \alpha + \beta_1 * NegNews_{it} + \beta_2 * NegNews_{it} * Recommendation_{it} + \beta_3 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$$

$$CAAR_{it} = \alpha + \beta_1 * PosNews_{it} + \beta_2 * PosNews_{it} * Recommendation_{it} + \beta_3 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$$

$$CAAR_{it} = \alpha + \beta_1 * PosNews_{it} + \beta_2 * PosNews_{it} * Recommendation_{it} + \beta_3 * NegNews_{it} + \beta_4 * NegNews_{it} * Recommendation_{it} + \beta_5 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$$

where *PosNews* is equal to one if the firm-specific news is positive for stock *i* and on day *t* and equal to zero otherwise, NegNews is equal to one if the firm-specific news is negative for stock *i* and on day *t* and equal to zero otherwise.The variable of *Recommendation* also takes one at the day of recommendation that market maker gives and zero otherwise. μ_t and γ_j represent time and market fixed effects, respectively, and ε_{it} is the error term. The estimations were performed using an OLS market regression.

5. EMPIRICAL FINDINGS

5.1. Market Reaction to Firm-Specific News

Following Brown and Warner (1985), the event study methodology was employed to analyze the effects of firm-specific news on abnormal returns. The daily average abnormal returns (*AARs)* for all news were computed for analysis period to relative to the event day. Table 1 provides the summary statistics of average abnormal returns for both positive and negative news in IS Investment Inc. during event days of (-5), (-2), (-1), (1), (2), (5). The t-statistics tests the null hypothesis that the average abnormal returns are equal to zero. As reported on Table 1, based on statistically insignificant *t-values*, no positive news related to a stock affects investors while making a decision. In other words, they would not generate abnormal returns by using these positive news information, supporting the efficient market hypothesis. Hovewer, increased *AARs* (-0,04040 and -0,09080) and statistically significant coefficient (-2,83272) indicate that negative news announced by companies traded on BIST 30 Index provides an opportunity to obtain abnormal returns for the post-event periods. Investors may perceive negative news as risk and thus, they may tend to take the risk to turn into an opportunity under these uncertain conditions.

Table 1: Average Abnormal Returns (AARs) based on Firm-Specific News

Event Window	AARs	t-value	AARs	t-value
	Positive News		Negative News	
-5	0,02868	0,89479	-0,03030	-0,93595
-2	-0,02947	-0,91939	-0,02765	-0,86264
-1	-0,02941	-0,91745	-0,02860	-0,89219
1	0,02137	0,66666	-0,04040	-1,26037
2	0,03253	1,01485	-0,09080	-2,83272*
5	-0,02659	-0,82962	-0,02849	-0,88883

* Significance at 5%

**Significance at 1%

Table 2 provides the average cumulative abnormal returns (*CAARs*) for all positive and negative firm-specific news, seperately. Event windows are divided into two sub-periods: pre-event ((-5, -4), (-5, -2), (-5, -1)) and

post-event ((+1, +2), (+1, +3), (+1, +5)) periods. Based on the results, it can be concluded that positive news related to the companies do not provide valuable information to investors. Trading based on these announcements would provide statistically insignificant average abnormal returns and would not benefit to investors. Even if there is no significant reaction during post-event periods after the positive announcements, increased returns (*-0,0539* and *-0,05281*) are reported for *(+1, +2*) and *(+1, +3*) post-event windows, respectively. In other words, the values of post-event periods are higher than the values of pre-event periods, and the *CAARs* are constantly increasing compared to the previous ones. Thus, it can be said that investors may tend to take into consideration of the positive announcements, even if they are not affected at most.

Contrary to positive announcements, it is observed that the *CAAR values (-0,1312, -0,14822 and -0,32861, seperately)* after the negative announcements increase and *t-values (-2,89435, -2,66979 and -4,58487, seperately)* of them are statistically significant. Thus, negative news significantly influences returns. As a resut, it is determined that investors react to negative announcements about the companies more in terms of the cumulative average abnormal returns *(CAARs)* when compared to positive announcements.

Table 2: Cumulative Average Abnormal Returns (CAARs) based on Firm-Specific News

Event Window	CAARs	t-value	CAARs	t-value
	Positive News		Negative News	
Pre-event windows				
-5, -4	0,05656	1,24774	-0,0870	-1,91927
-5, -2	0,03116	0,48607	-0,18412	-2,87212*
-5, -1	0,00175	0,02442	-0,21272	-2,96794*
Post-event windows				
+1, +2	0,0539	1,18906	-0,1312	-2,89435*
+1, +3	0,05281	0,95123	-0,14822	-2,66979*
+1, +5	0,02289	0,319369	-0,32861	-4,58487**

* Significance at 5%

**Significance at 1%

5.2. Market Reaction to Stock Recommendations

Finally, the effect of stock recommendations given by market makers on the market reaction is examined. The statistics reported in Table 3 provides the estimated regression coefficients and their significance levels.

Model 1 reported in Table 3 exhibits findings of $CAAR_{it} = \alpha + \beta_1 * NegNews_{it} + \beta_2 * NegNews_{it} * Recommendation_{it} + \beta_3 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$. According to the results, there is no significant difference between negative news and cumulative average abnormal returns. Hovewer, market makers' recommendations play a positive and significant role at the day a firm-specific negative news announced. Supporting that, when examining the coefficients of β_1 *(1,592)* and β_3*(1,948)* seperately, it is observed that recommendation effect on cumulative average abnormal return is stronger than negative news effect. In addition, the model explains the 74 % of the dependent variables as given with the adjusted R-squared statistics.

Model 2 shows the results ofthe equation of $CAAR_{it} = \alpha + \beta_1 * PosNews_{it} + \beta_2 * PosNews_{it} * Recommendation_{it} + \beta_3 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$. The model indicates insignificant coefficients of β_1, β_2 and β_3, supporting the absence of the effect of both positive news and recommendations on cumulative average abnormal returns. Even if there is no significant relation, the coefficient of β_2 (7,337) indicating the recommendation effect at the day of a positive

news announced is higher when compared recommendation and news effect seperately. Hence, it can be said that investors may tend to react more to the recommendations given by maker makers if a firms-specific news announced is positive.

Model 3 provides the regression results for the equations of $CAAR_{it} = \alpha + \beta_1 * PosNews_{it} + \beta_2 * PosNews_{it} * Recommendation_{it} + \beta_3 * NegNews_{it} + \beta_4 * NegNews_{it} * Recommendation_{it} + \beta_5 * Recommendation_{it} + \mu_t + \gamma_j + \varepsilon_{it}$. Based on coefficients that were estimated by utilizing market adjusted abnormal returns, it can be said that, recommendations given by market makers positively and significantly affect cumulative average abnormal returns. The constant variable (α) is also positive and statistically significant at the 5% level. According to the results, the interaction between the firm-specific news and market makers' recommendations is positive and statistically significant at the 1% level. Hence, both negative and positive news that include market maker recommendations have a positive response from investors. Moreover, investors react to these recommendations more if the news is negative ($\beta_2 < \beta_4$), supporting the event study results. Thus, it can be concluded that in general, market makers' recommendations play a positive role on investors decision making process rather than firm-specific news. Hovewer, the positive effect is enhanced when negative news is supported by the market makers. The R-squared values are 97% explaining the variation at a higher degree for the models.

Table 3: Effect of Stock Recommendations on Cumulative Average Abnormal Returns

	CAAR Market Adjusted		
	(1)	(2)	(3)
Positive_News		1,087	3,250**
		(0,864)	(7,241)
Positive_News and Recommendation		7,337	33,374**
		(0,809)	(8,192)
Negative_News	1,592		2,964**
	(1,906)		(5,667)
Negative_News and Recommendation	8,935*		20,526**
	(2,580)		(5,566)
Recommendation	1,948	2,407	11,550**
	(0,911)	(0,520)	(5,840)
Constant	-0,022	-0,005	0,113*
	(-1,024)	(-0,081)	(4,425)
Observations	19,750	19,750	19,750
R-squared	0.74	0,33	0,97

t-statistics in parentheses

* Significance at 5%

**Significance at 1%

To sum up, according to event study results, negative news has greatest impact on stock returns during post-event windows, while others have statistically insignificant abnormal returns in pre- and post-event periods for BIST 30 Index. This suggests that firm-specific news would not generate any abnormal returns to investors who may use information for their trading. In other words, news announced does not have any value at all for investors while making an investment decision. On the other hand, the regression results for combined effects of firm-specific news and market makers' recommendations indicate that stock recommendations given by market

makers play a positive role on investors decision making process and investors react to these recommendations more, especially, if the news is negative, as similar with the results of Ostrovsky-Berman (2020).

CONCLUSION

In this study, a comprehensive analysis is conducted and the performance of firm-specific news announced and market makers' recommendations made for stocks are investigated jointly in Borsa Istanbul. The sample covers daily stock returns, and daily market maker recommendations between the periods January 2019 and April 2020. BIST 30 Index was used as a proxy for the market. While the daily stock data was collected from the official website of Finnet, the positive and negative firm-specific news was collected by utilizing text mining methods. IS Investment Inc. was selected as the market maker.

To examine whether investors can earn abnormal returns by using the positive and negative firm-specific news, the event study methodology is used, as suggested by Brown and Warner (1985). Through this analysis, average abnormal returns and cumulative average abnormal returns were calculated for pre- and post-event days. In the presence of the news effect on investors, while abnormal returns are expected to be increased, *t-values* are expected to be higher than *1.96* during post-event days.

The results of the event study indicate that positive firm-specific news do not provide valuable information during pre- and post-event periods, similar with the results of Yazıcı and Muradoğlu (2002), Erdogan et al. (2010) and Eyüboğlu and Bulut (2017). In the contrary, investors can earn abnormal returns based on negative firm-specific news during post-event periods, consistent with the results of Ostrovsky-Berman (2020).

To examine the interaction between firm-specific news and market makers' recommendations, a regression analysis is conducted. The effect of recommendations on the market reaction at the day of a news announced is analyzed. Findings support that stocks traded on BIST 30 Index are affected more from recommendations of the market makers when a negative news is announced, and thus, investors earn abnormal returns by using these recommendations for the stocks. Hovewer, the interaction between positive news and recommendations is lower, and the market reacts weaker to positive news, contrary to the negative ones. Nevertheless, it can be said that investment decisions based on the recommendations of the market makers at the days of news announced can generate abnormal returns to investors, not supporting the efficient market hypothesis.

We believe that our findings will be useful for both individual and institutional investors who trade on Borsa Istanbul and will contribute to the finance literature as a reference for further studies. In this context, for further studies, it would be suggested to measure long run abnormal returns. Because of the possibility of poor performance of the stocks in the short run, recommendations of the market makers might be profitable in the long run. This study does not take into account any other resources that may direct investors to act. Thus, the effects of analysts recommendations, press coverages etc. on stock returns might be examined. It woud provide a more comprehensive analysis to evaluate investor behavior by examining the effects of other determinants on abnormal returns. The differences in stock price reaction with respect to the sectors might also be examined to detect the sectors which investors take into consideration stock recommendations while making decision.

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