



Stock Price Reactions on NASDAQ Stock Exchange for Special Dividend Announcements

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Abstract

Announcing dividend pay-out policy by a company will signal market firm's future prospects and changes its stock prices according to dividend signalling theory. By analysis the effect of special dividend announcements for 5 companies listed in NASDAQ for the period of 2014-2018, this study investigates the stock price reactions to special dividend announcement for 40 days around the event and challenges dividend signalling theory. The empirical results calculated both in discrete and logarithmic forms. Only few disordered significant abnormal returns and average abnormal returns occurred according to the t-test. The results show that shareholders do not gain value from announcement of special dividend in NASDAQ stock exchange market. That Results indicated from adjusted market model in this research do not support dividend-signalling theory Hence do not confirm that the announcement of dividend has significant effect on price of shares. In general the results consistent with the Miller and Modigliani (1961) dividend irrelevance hypothesis.

Keywords:

Abnormal Returns;
Event Study;
Dividend Announcement;
Market Adjusted Model.

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1- Introduction

The goal of financial managers is to maximizing shareholders wealth. Financial managements, target to maximize a company's value, which quantifies by the price of its stock. This aim may achieve by paying shareholders dividends, however this subject is still unsolved. It is often debate about the impact of dividend policy on stockholders wealth. There are many researches about information asymmetry between investors and managers. Dividends signal investors about the future performances of companies. Previous studies found that stock prices react positively once there is announcement of dividend increases and, also it react negatively once there is decrease in dividend payout in a company. There are many literatures though, claim that no abnormal return would occur by declaration of dividend via a company. The myth still remains that if paying out by a company would really generate shareholders' value or not. This paper aims to see if stock prices react once special dividends announces.

2- Literature Review

Many empirical and theoretical researches on the effect of dividend has been done recently. Cash dividend is a reward to shareholders of a company and this reward will be offsets with the stock value reduction in the company [1]. In a perfect world (no restriction and taxes) paying out dividend has no effect on the value of shareholders [2]. In reality though, altering the dividend policy would often follows by stocks market value changes. Gordon (1959) and Walter (1956) suggesting that present value of all future dividends will reflect on current price of stock [3, 4]. Brennan (1979) and Litzenberger (1979) On the other hand, indicated that once marginal tax rate is bigger than zero, receiving dividend would not be optimal as investor's perspective and systematic risk and dividend yield would be determinative [5, 6]. As Ross (1977) in dividend signaling theory says, firms which increase their dividend payments significantly had a

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corresponding rise in their share prices while those firms which reduce or omit dividend payment significantly, had a corresponding reduction in their share prices [7]. In this regards, some studies found significant positive relationship of paying out dividend and stock price [8-10]. In addition others suggested that this relationship is negative [11]. Sealy (1987) found that dividend announcement on Johannesburg Stock Exchange sends market little or no information thus the role of signaling is questionable on the phenomenon of dividend [12]. Uddin and Chowdhury (2005) also examine dividend announcements for Stock Exchange of Dhaka and found that there were no significant abnormal returns statistically and dividend has no content of information for stocks' prices and returns [13]. Nevertheless this issue is still controversial among recent studies. A study on 196 dividend announcements of 1996 to 2004 for Tunisian Securities exchange shows inconsistent results with signaling theory [14]. Chatterjee and Dutta (2017) also found no abnormal returns generated by the announcement of cash dividend by studying 210 dividend announcements of National Stock Exchange of India Ltd [15]. Legenzova (2017) likewise found no statistically significant abnormal returns of NASDAQ OMX Baltic market which paid out dividends during 2010-2005 [16]. On the other hand there are studies that support signaling theory. Felimban (2018) found partially supports for signaling hypothesis in Gulf countries stock market [17]. Chaabouni (2017) found that high dividend pay outs sign shareholders positively in Saudi Arabia Financial Markets [18]. A study on the Nigerian Stock Exchange also supported the signaling hypothesis [19]. Furthermore significant abnormal returns have also be shown by other studies [20]. As the literature about the effect of dividend has been developed well theoretically, this puzzle needs to be more investigated and explained that why firms still pay out dividends as until now no consensus was found. This study examines the effect of special dividend announcement on stock returns in NASDAQ stock market over period of 2014 to 2018. Therefore, by investigating one of the most reliable stock markets this study inspects whether announcing special dividend by NASDAQ companies contributes to abnormal return or not.

3-Methodology

The aim of this study is to investigate stock prices reaction to dividend announcement by using market adjusted returns methodology to discover stock return abnormality nearby dividend announcement period (Dividend window). Event study is a technique to assess the impact of specific event on stock price as announcing dividend and return of stock [21].

For the empirical evidence five companies from NASDAQ stock exchange which paid out special dividend during 2014 to 2018 have been sampled randomly in this study (Table 1). The companies declared special dividend have been found from NASDAQ website. Daily data for share prices of each company were collected from yahoo finance and NASDAQ website information services. Share returns are based on adjusted closed share prices from 200 days before the event to 30 days after the event which obtained from yahoo finance website. The data characterized based on event time, with day zero determined as announcement day for special dividend.

Table 1. Dividend history for five selected corporations.

No.	Company name	Announcement date	Amount of special dividend in \$
1	Equinix, Inc.	9/28/2015	10.95
2	Amerco CO.	8/28/2015	3
3	CME Group Inc.	12/6/2017	3.5
4	KLA-Tencor Co.	11/19/2014	16.5
5	T. Rowe Price Group, Inc.	2/19/2015	2

Note: data collected from [22].

Market adjusted return model has been used for the impact of special dividends on prices of shares.

$$AR_{it} = R_{it} - R_{mt} \quad (1)$$

Where:

AR_{it} = Abnormal return of share i over day t

R_{it} = Actual return of share i over day t

R_{mt} = daily Market return on day t

The model is used for each events in three time frames. 20 days before and 20 days after day 0 for event window. 180 days before event window for estimation window and 10 days after event window for post event window. The concern time range is before and after the date of event in order to determine the effect of announcements on price, which occurs once, stock market closes on day 0 [23]. To test statistic on event window, abnormal returns has been standardized by standard deviation estimated during estimation period.

To testing following hypothesizes;

H1: No statistically significant abnormal returns by reason of special dividend announcement during event window.

H2: The cumulative abnormal returns by reason of special dividend announcement are statistically insignificant during event window.

Firstly, this study assesses the impact of dividend announcement on a firm's value for pre and post-event abnormal returns both in discrete and logarithmic forms. Secondly, by calculating average abnormal returns and cumulative abnormal returns (CAR), this study will assesses the impact of divided announcement on the share prices of a sample of 5 corporations. CAR is compute by combining daily abnormal returns starting beforehand day 0 (dividend announcement) to after the day 0.

$$CAR_{it} = \sum AR_{it} \quad (2)$$

In conclusion, the results of statistical significance of AR and CAR will describe.

4- Empirical Results

In this study the findings are based on event study methodology which abnormal returns are investigated to see the effect of divided announcement on stock prices. Table 2 shows abnormal returns of 41 days of event window (20 days prior and 20 days post event) to dividend announcement of a corporation. Market adjusted abnormal return on the dividend announcement day was only 0.2 percent and not statistically significant. Leaking information prior the announcement made by the company may be the reason for that. Once such leakages happens the announcement of dividend carries no shock to the market. A positive significant abnormal returns of 0.28 and 0.31 percent two and five days before the dividend announcement respectfully, according to the t-test, shows that market reacted earlier than the actual announcement of the dividend.

Table2. Abnormal returns (AR_s) & t-values of stocks using both discrete and logarithmic returns for one corporation.

Days	Discrete returns		Logarithmic returns	
	AR _s	t-test	AR _s	t-test
-20	-0.002	-0.165	-0.002	-0.166
-19	-0.003	-0.277	-0.003	-0.277
-18	0.009	0.888	0.009	0.888
-17	-0.001	-0.128	-0.001	-0.128
-16	0.015	1.535	0.015	1.523
-15	0.003	0.325	0.003	0.325
-14	0.001	0.091	0.001	0.090
-13	-0.010	-0.989	-0.010	-0.991
-12	-0.003	-0.271	-0.003	-0.273
-11	0.016	1.597	0.016	1.585
-10	-0.006	-0.573	-0.006	-0.575
-9	-0.006	-0.564	-0.006	-0.566
-8	-0.003	-0.322	-0.003	-0.322
-7	0.003	0.300	0.003	0.300
-6	0.017	1.641	0.016	1.621
-5	0.031	3.114*	0.031	3.101*
-4	0.004	0.427	0.004	0.421
-3	0.012	1.210	0.012	1.208
-2	0.028	2.769*	0.028	2.758*
-1	-0.007	-0.648	-0.007	-0.652

0	0.002	0.209	0.002	0.209
1	-0.006	-0.547	-0.006	-0.547
2	0.001	0.093	0.001	0.091
3	-0.006	-0.579	-0.006	-0.580
4	0.004	0.392	0.004	0.392
5	-0.011	-1.115	-0.011	-1.121
6	-0.005	-0.500	-0.005	-0.504
7	-0.007	-0.729	-0.007	-0.731
8	-0.007	-0.694	-0.007	-0.695
9	-0.003	-0.296	-0.003	-0.299
10	-0.004	-0.434	-0.004	-0.436
11	0.009	0.893	0.009	0.889
12	-0.012	-1.172	-0.012	-1.181
13	0.003	0.311	0.003	0.312
14	0.003	0.304	0.003	0.303
15	0.001	0.090	0.001	0.090
16	0.005	0.491	0.005	0.492
17	-0.024	-2.342*	-0.024	-2.349*
18	0.008	0.759	0.008	0.748
19	0.009	0.885	0.009	0.880
20	-0.002	-0.175	-0.002	-0.177

*Significant

Table 3 shows cumulative abnormal returns of stocks for one corporation. At the top CARs prior to announcement date are stated. The results show that the firm experienced positive not statistically significant CARs prior to announcement date during event windows of (-10, -1) and (-5, -1). On the other hand CARs around the announcement date, on (0, 1), (0, 5) and (0, 10) periods, are negative but also statistically insignificant. For after dividend announcement periods (2, 5) and (2, 10), CARs are also negative and statistically insignificant for the firm. Results indicated that in all the three time periods including pre, around and post-announcement, CARs are all statistically insignificant for the firm hence it reveals that dividend announcement do not gain shareholders' value of the firm and it consists with Miller and Modigliani (1961) dividend irrelevance hypothesis [1].

Table3. Cumulative abnormal returns (CARs) & t-values of stocks using both discrete and logarithmic returns for one corporation

Period (days)	Length	Discrete returns		Logarithmic returns	
		CARs	t-value	CARs	t-value
(-10,-1)	10	0.0742	-0.0012	0.0734	-0.0012
(-5,-1)	5	0.0693	-0.0015	0.0688	-0.0015
(0,1)	2	-0.0034	0.0001	-0.0034	0.0001
(0,5)	6	-0.0156	0.0003	-0.0157	0.0003
(0,10)	11	-0.0489	0.0007	-0.0425	0.0006
(2,5)	4	-0.0122	0.0003	-0.0123	0.0003
(2,10)	9	-0.0390	0.0006	-0.0391	0.0007

*Significant

Table 4. Average abnormal returns (AARs) & t-values of stocks using both discrete and logarithmic returns for five corporations

Days	Discrete return			Logarithmic return		
	AARs	t-value	p-value	AARs	t-value	p-value
-20	0.001	0.250	0.818	0.001	0.238	0.827
-19	0.005	1.099	0.352	0.005	1.081	0.359
-18	0.011	2.416	0.095*	0.010	2.292	0.106
-17	-0.001	-0.291	0.790	-0.001	-0.312	0.776
-16	0.017	3.812	0.032**	0.017	3.779	0.032**
-15	-0.004	-0.972	0.403	-0.005	-1.002	0.390
-14	-0.003	-0.583	0.601	-0.003	-0.609	0.586
-13	0.010	2.157	0.120	0.010	2.123	0.124
-12	0.005	1.113	0.347	0.005	1.096	0.353
-11	0.009	2.043	0.134	0.009	2.021	0.136
-10	0.005	1.193	0.319	0.005	1.180	0.323
-9	-0.007	-1.498	0.231	-0.007	-1.499	0.231
-8	0.001	0.141	0.897	0.001	0.137	0.899
-7	-0.001	-0.150	0.890	-0.001	-0.154	0.887
-6	0.002	0.397	0.718	0.002	0.368	0.737
-5	0.010	2.247	0.110	0.010	2.213	0.114
-4	0.003	0.614	0.582	0.003	0.599	0.592
-3	0.007	1.478	0.236	0.007	1.468	0.238
-2	-0.008	-1.672	0.193	-0.008	-1.713	0.185
-1	-0.001	-0.273	0.803	-0.001	-0.290	0.790
0	0.005	1.067	0.364	0.005	1.036	0.377
1	-0.002	-0.418	0.704	-0.002	-0.420	0.703
2	0.000	0.038	0.972	0.000	0.017	0.988
3	0.004	0.933	0.419	0.004	0.907	0.431
4	0.002	0.389	0.723	0.002	0.383	0.727
5	-0.007	-1.435	0.247	-0.007	-1.442	0.245
6	0.002	0.344	0.753	0.001	0.314	0.774
7	-0.006	-1.219	0.310	-0.006	-1.233	0.305
8	-0.003	-0.681	0.545	-0.003	-0.682	0.544
9	0.006	1.320	0.278	0.006	1.292	0.287
10	-0.001	-0.160	0.883	-0.001	-0.166	0.879
11	0.007	1.533	0.223	0.007	1.510	0.228
12	-0.001	-0.227	0.835	-0.001	-0.239	0.826
13	0.002	0.550	0.621	0.002	0.531	0.632
14	0.010	2.222	0.113	0.010	2.205	0.115
15	0.008	1.800	0.170	0.008	1.773	0.174
16	0.007	1.639	0.200	0.007	1.632	0.201
17	-0.002	-0.397	0.718	-0.002	-0.418	0.704
18	0.004	0.803	0.481	0.004	0.789	0.488
19	-0.002	-0.469	0.671	-0.002	-0.478	0.666
20	0.004	0.809	0.478	0.004	0.770	0.498

Significance level: *10%, ** 5%

Table 4 shows average abnormal returns of 41 days of event window (20 days prior and 20 days post event) to dividend announcement of five corporations. Market adjusted abnormal return on the dividend announcement day was only 0.5 percent both in discrete and logarithmic forms and not statistically significant. Table 4 also shows no statistically significant average abnormal returns of five companies in the event window.

Table 5 shows cumulative abnormal returns of stocks for five corporations. At the top CARs prior to announcement date are stated. The results show that the firms experienced negative not statistically significant CARs prior to announcement date during event windows of (-10, -1) and (-5, -1). On the other hand CARs around the announcement date, on (0, 1), (0, 5) and (0, 10) periods, are positive but also statistically insignificant. For after dividend announcement periods (2, 5) and (2, 10), CARs are negative and also statistically insignificant for the firms. Results for five companies also indicated that in all the three time periods including pre, around and post-announcement, CARs are all statistically insignificant for the firms hence again it reveals that dividend announcement do not gain shareholders' value of the firm and it consists with Miller and Modigliani (1961) dividend irrelevance hypothesis [1].

Table 5. Cumulative abnormal returns (CARs) & t-values of stocks using both discrete and logarithmic returns for five corporation

Period (days)	Length	Discrete returns		Logarithmic returns	
		CARs	t-value	CARs	t-value
(-10,-1)	10	-0.863	-1.436	0.011	0.730
(-5,-1)	5	-0.853	-2.007	0.010	1.018
(0,1)	2	0.285	1.062	0.003	0.436
(0,5)	6	0.100	0.216	0.002	0.196
(0,10)	11	0.058	0.092	0.000	0.002
(2,5)	4	-0.185	-0.487	-0.001	-0.068
(2,10)	9	-0.228	-0.399	-0.003	-0.203

*Significant

5- Conclusion

There has been substantial amount of studies on the performance of stock prices around the announcement of dividend. Despite Walter (1956) and Gordon (1959) that showed stock values depends on expected dividends this study adds to previous research of Miller and Modigliani (1961) research that indicated no impact of dividend on shareholders' value by examining share price behavior around the dividend announcement day.

Findings stated in Table 2 to 5 shows that except few days, market adjusted abnormal return (ARs) and cumulative abnormal returns (CARs) in event window (-20 days prior and +20 days post) for dividend announcement was not statistically significant. This can be due to the fact that dividend payment information frequently leaks out to the market few days earlier to the dividend announcement made by the corporation. Henceforth, the dividend announcements generally brings no surprise to market and market reacts prior to the announcement of dividend.

Prior to dividend announcement, results for a company found significant only on the days -2 and -5. Furthermore the results for the sample of 5 companies found significant just 15 prior to the event. The evidences tend to approve that market reacts days prior to day 0.

All cumulative abnormal returns for the period of 10 days before and 10 days after announcement day is insignificant. Results in Table 2 and 5 demonstrations that, investors do not gain value of the announcement of dividend. Hence, in general the results consistent with the Miller and Modigliani (1961) dividend irrelevance hypothesis.

Based on 5 companies listed in NASDAQ which pay out special dividends between 2014 and 2018, the results suggest that the influence of dividend announcement on stock prices are not strong in NASDAQ Stock Exchange. So, Corporations may not able to signal company's future earning through the announcement of their dividend and like to keep paying regular dividends for their good standing. It is however vital to examine more whether dividends carry any information like future earnings. Future researches on the dividend information hypothesis would assess the current finding of this study that supports the dividend irrelevancy proposition NASDAQ stock exchange.

6- Conflict of Interest

The author declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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