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# Stock Market Reaction to Cash Dividend Announcement: Evidence from Palestine

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## Abstract

In this study, we used the event study methodology to examine if cash dividend announcements affect the stock prices of companies listed on the Palestine Exchange. We studied 62 events announced from 1/1/2006 to 31/12/2015. Appropriate statistical tests were used to examine if the cumulative abnormal return is statistically significant around the announcement day, namely, 10 days before and 10 days after the event day. Results reveal that statistically significant differences exist between cumulative abnormal returns and zero. Thus, investors could realize abnormal returns during the event window for the study period. The findings also indicate that a statistically significant negative relationship exists between dividend announcements and abnormal returns starting from the day of dividend announcement. We conclude that the market reacts negatively to cash dividends after disclosure.

**Keywords:** event study, abnormal return, cash dividend, Palestine Exchange, stock market reaction

## 1. Introduction

The generation of profits in companies represent the most crucial indicators of management performance, investors, and stockholders **Shehadeh and Hannon (2016)**. Organizations intend to maximize benefits related to investments, process, or action in capital investments. In the event a company generate profits, it will be distributed to shareholders as a way of dealing with the risk of owning company stocks, or will keep it for future expansion/investments, due to the fact that profits are seen as a quick source of funding. The distribution of profits are predicated on a few methods, the majority of which are in the form of cash or bonus shares or shares owned by companies in other companies being distributed in the form of goods produced by the company **Nour (2003)**. However, it should also be pointed out that psychological factors are crucial vis-à-vis the method of distribution; shareholders are more inclined towards cash distribution, as they see it as an acceptable form of compensation from the risk they are obliged to bear from being the owner of stocks.

The link between dividends and firm's value and share price has been the subject of study for a few decades. However, the influence of dividends on the value firms' value and price remains unresolved. Some studies pointed out that stock prices remain unaffected by the announcement of dividends (**Sharma, 2011; Pan et al., 2014**), while others reported otherwise, whether positively (**Liu and Chi, 2014; Perepeczo, 2014**) or negatively (**Abbas, 2015; Mamun, 2013**). Information signaling theory, the free cash flow hypothesis, and the dividend clientele effect hypothesis are the three major theories that explains the influence of dividend announcements upon share prices (**Kadioğlu et al., 2015; Nour, 2003**).

Event study is regarded as an important research tool in the context of economics and finance. It is entrenched in the capital markets for the analysis of events on stock prices. The study of an event is regarded as a statistical method to determine the influence of a specific event upon the value of a firm. Therefore, the current work studies the influence of cash dividend announcements upon stock prices and confirm if investors can realize abnormal returns prior to and post-announcements (Fama et al., 1969). In order to analyze the reaction of the stock markets to dividend announcements, their respective influence on share prices must be determined in the context of involved psychological factors for investors and anticipation at the end of the fiscal year. The research problem addressed is as follows: Do cash dividend announcements exert effect on stock prices in the Palestine Exchange?

By answering this question, we can determine if cash dividend announcements play a significant role in the Palestine Exchange (PEX) reaction.

The structure of the study is as follow; Section 2 of the study provides an overview of the relevant literature. Section 3 introduces the data and methodology while Section 4 presents the empirical results and their implications. Finally, Section 5 summarizes the conclusions of the study.

## 2. Literature Review

Several works have been reported since Fama et al. (1969) presented a study on theoretical techniques of event study and explained the methodology that can be utilized by researchers to measure the relationship between events and stock price movements. Their study was continued by Warner and Brown (1980, 1985), who was responsible for developing practical techniques pertaining to event study via the market model.

Some of the earliest work that utilized the event study methodology to analyze stock returns prior to and

post-event was **Cowan et al. (1990)**. They utilized the market model to gauge a firm's expected return in the event window from three years prior to and three years after calls of convertible bonds. They confirmed that the long-term negative abnormal returns are incurred following calls of convertible bonds, which was also observed during the short-term event window surrounding the actual announcement. **J. Rajesh (2013)** utilized the event study methodology to analyze the influence of stock split on stock prices via several windows. On top of utilizing the market model to determine the expected return for the stock sample, the study analyzed the split effect on 521 companies that carries stock split in 3–4 years. The study confirmed that the Indian market is efficient in its semi-strong form. **Kumar et al. (2012)** utilized event study methodology to analyze market reaction to dividend announcements. They utilized an event window of nine days (including the event day) days (-4, +4) for listed companies in the national stock market in India for one year (January 2009–December 2009). No abnormal return was observed during the study period, and remains-to-dividends announcement means that the national stock market is efficient in its semi-strong form. **Dilshad (2012)** utilized merger and acquisition events to examine stock market efficiency via the event study methodology, employing a sample of 18 deals for bank mergers from 2001–2010 in Europe. 89 days was set as the estimation period alongside an event window of (-30, +30). They confirmed that investors obtained abnormal returns during the (-5, +5) window around the event date. However, during the (-30, +30) event window, the cumulative abnormal return was statistically equal to 0.

**Lasmanah and Bagja (2014)** analyzed the differences in abnormal return and trading volume around stock split announcements in the Indonesian Stock Exchange by utilizing the event study method. The study encompassed stock split announcements from 2010–2013, and utilized an event window of (-7, +7) around the event date. They utilized a sample of 32 companies that had stock split announcements and a paired two-sample T-test to examine their preset hypothesis. There were no reported significant difference between abnormal return and stock trading volume activity around the event date; the investors perceived benefits on wealth from the stock split. **Finnerty et al. (2013)** analyzed credit rating announcements on credit default swap using the event study methodology. They confirmed that credit rating change and credit watch and outlook influence credit default swap. **Galil and Soffer (2011)** utilized the event study technique to analyze the CDS market's response to rating announcements using a sample of 2866 rating announcements between January 2002 and June 2006 and CDS spreads for more than 2000 entities. They concluded that market reaction to bad news is stronger than that to good news.

**Olweny (2012)** utilized dividend announcements to determine if the Nairobi Stock Exchange (NSE) is an efficient market in its semi-strong form. They utilized secondary data gathered from NSE between 1999–2003. They confirmed that NSE is an inefficient market in its semi-strong form, due to the fact that investors can realize abnormal returns via dividend announcements. **Hanifa et al. (2014)** analyzed the announcements of sukuk and conventional bond on the stock price in Kuala Lumpur Stock Exchange (KLSE) and whether or not investors and institutional wealth are affected by abnormal returns. They used event windows from (-64, +64) around the event date, which was determined in the study as (-2, +2) days. The study covered 287 firms issuing securities debt between 2001 and 2013. They confirmed that the firm's value and investor's wealth are both influenced by announcements of sukuk and conventional bond.

**Kirat and Rezaee (2015)** utilized the event study methodology to examine the influence of regulatory sanctions on the stock prices of firms listed in the Paris Stock Exchange. The study analyzed 75 observations on regulatory sanctions. Some of the tested events include open investigations, issue financial sanctions, and dissemination of information on sanctions carried out by the Financial Market Authority from 2006–2011. They confirmed the strong negative effect of sanctions published in the press on firms' stock prices; the firms' stock prices decreased when the investigations opened. In **Kadioğlu et al. (2015)**, the event study methodology was used to determine the influence of cash dividend announcements on stock price and if investors can realize abnormal returns around the event date in Borsa, Istanbul. They used data on 902 events for 118 companies from 2003–2015. The study confirmed that the relationship between cash dividends per share and abnormal returns after the announcement day is significantly negative. The study attributed this occurrence to the tax clientele effect theory.

**Shehadeh and Hanoon (2016)** studied the effect of cash dividends announcement on stock prices in the Palestine stock market, the study covered 9 years from 2006 to 2014, and they used the event study to test whether or not the Palestine stock market is efficient market in its semi-strong form, the study determined to be inefficient. **Ramesh and Rajumesh (2015)** tested the stock market reaction and market efficiency through the political events in Sri Lanka. they used 40 political events from 2008 to 2012, and event window from 10 before and 10 after the events. They found that the stock market react badly to the political events, and the investors were rationally during the political events. **Mitsuyama and Shimizutani (2015)** used the event study methodology to examine the Tokyo Stock Exchange reaction to the events for firms with non-financial factors. The study period covered 2012 and the event window was -1, +1 around the Brand announcement day. The study found that there is no effect for Brand announcement on the stock market price.

### 3. Methodology

#### 3.1 The Data

The primary data in this study were collected from the Palestine Exchange, annual reports of listed companies listed, and the websites of these companies. The study population covers all companies that had cash dividend announcements from 2006–2015. A total of 108 events were obtained for the study period. Companies with no daily trading on company stock were excluded. One event was also removed because the stock stopped trading a month before the event date. Another event was removed from the sample because the company announced cash dividends in the same month of being listed in the stock market. The total number of events used in the analysis is 62; these events are from 19 companies for a period of 10 years. Table (1) presents the total events that match the study criteria.

Table 1. The events during the study years

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Events	9	8	7	7	5	5	5	5	9	2	62

#### 3.2 Research Method

The event study methodology was utilized to examine the effect of cash dividend announcements on stock prices, 3.2.1 the event date, which is the announcement date of cash dividends, was determined for all selected companies in each year of the study period. This event date is called “day zero.” A total of 62 events for cash dividend announcements in Palestine Exchange were obtained for the period of 2006–2015. The study used an event window of (-10, +10) days before “day zero” and 10 days after.

3.2.2 The daily abnormal return for a company’s stock in the study years was calculated. We calculated the actual return for companies and for the stock market index for the study estimation period days by using the following equation.

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

Whereas:

$R_{it}$  = is the actual return of the company’s stock  $i$  on day  $t$ ,  $P_{it}$  is the closing price of the company’s stock  $i$  at the end of day  $t$ , and  $P_{it-1}$  is the closing price of the company’s stock  $i$  at day  $t-1$ .

The expected return per stock was calculated for each company. The (market model), which is the most popular model in practice (Cowan et al. 1990; Shehadeh and Hannon, 2016; Whangteeranon and Gunawardana, 2005; Agrawal et al., 2006), was used to determine the expected return during the event window. The model is as follows:

$$E(R_{it}) = \alpha_i + (\beta_{it} * R_{mt}) + \epsilon_i \quad (2)$$

Where  $\alpha_i$  represents the constant in the equation that is the return achieved regardless of the relationship between the return on the stock market and the return on the company’s stock  $i$ .  $\beta_{it}$  represents the slope of the linear relationship between the return on stock  $R_{it}$  and the return on the market portfolio  $R_{mt}$ .  $\epsilon_i$  is a random error.  $\alpha_i$  and  $\beta_i$  are estimated by considering 245 days before the event window for each company in all of the years and using the simple regression model in the calculation. The actual return for the company stocks and the market portfolio during the study period were calculated.  $R_{mt}$  is the actual return on the market portfolio.

The actual return and expected return for the companies have been obtained thus far. We then determined the abnormal return through Equation (3).

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

Where:  $AR_{it}$  = is the abnormal return on the day  $t$ .  $R_{it}$  = the actual return on the day  $t$ .  $E(R_{it})$  = the expected return on the day  $t$ : which calculated from equation (2).

Equation (4) and (5) are used to determine the daily average abnormal returns (AAR) and cumulative average abnormal return (CAAR)

$$AAR_T = \frac{AR_{it}}{N} \quad (4)$$

$$CAAR = \sum_{i=1}^T AAR_{it} \quad (5)$$

We obtained 21 views for CAAR depending on the number of window days

3.2.3 One sample of the T-test was used to test the hypothesis using the SPSS software to determine whether or not the values of CAAR possess a significant statistical difference from 0.

### 4. Results and Discussion

The results of this research were obtained according to the hypotheses test. The main objective of the research is to examine whether or not cash dividend announcements exert a significant effect on stock prices. Table (2) presents the statistics of AAR for the study window of 21 days.

Table (2): Average Abnormal Return (AAR) Results

Day	AAR					
	Min	Max	Mean	Std. Deviation	t Value	Sig. (2 tailed)
-10	0.020	0.020	0.003	0.009	1.483	0.155
-9	-0.010	0.030	0.003	0.012	0.967	0.346
-8	-0.010	0.020	0.001	0.009	0.744	0.466
-7	-0.040	0.040	0.002	0.017	0.452	0.657
-6	-0.030	0.010	-0.002	0.010	-0.943	0.358
-5	-0.030	0.010	-0.001	0.013	-0.454	0.655
-4	-0.020	0.030	-0.001	0.012	-0.302	0.766
-3	-0.010	0.050	0.005	0.014	1.697	0.107
-2	-0.030	0.030	-0.002	0.014	-0.744	0.467
-1	-0.040	0.010	-0.006	0.013	-1.972	0.064*
0	-0.120	0.030	-0.033	0.042	-3.469	0.003**
1	-0.170	0.010	-0.017	0.041	-1.821	0.085*
2	-0.040	0.020	-0.004	0.014	-1.08	0.294
3	-0.050	0.040	-0.005	0.018	-1.218	0.239
4	-0.040	0.020	-0.003	0.013	-1.022	0.32
5	-0.020	0.050	0.003	0.017	0.66	0.514
6	-0.020	0.030	0.000	0.012	0.014	0.989
7	-0.030	0.020	0.000	0.010	-0.024	0.981
8	-0.030	0.010	-0.004	0.012	-1.553	0.138
9	-0.050	0.020	-0.005	0.018	-1.316	0.205
10	-0.110	0.010	-0.011	0.027	-1.722	0.102

\* Significant at 10% level, \*\* Significant at 1% level.

From table (2) we can note that the mean column shows AAR having several positive and negative values. Most of the values around the event day are negative. The negative returns can be explained by the fact that the firms in this study usually declared large dividends. Therefore, these firms may have had unusually strong positive stock returns in the estimation period, thereby biasing the estimated market-model parameters. Hence, the predicted returns are unusually positive and may lead to significant negative abnormal returns. The highest AAR value of 0.50% was reported 3 days before the dividend announcement. The lowest value of -3.3% occurred on the dividend announcement day (day 0).

The table also reveals that cash dividend announcement leads to significant abnormal returns in three days only, i.e., the event day, one day before, and one day after. All the significant returns are negative. In other words, when cash dividends were announced, a negative market reaction was presented with a significance of 6.4% a day before the announcement, 0.3% on the announcement day, and 8.5% the following day, this result comes as in **Shehadeh and Hannon (2016)** that was conducted for a different study period on the same market. Table (3) presents statistical results of the Cumulative Average Abnormal Returns (CAAR).

Table (3): Cumulative Average Abnormal Returns (CAAR) Results

Day	CAAR					
	Min	Max	Mean	Std. Deviation	t Value	Sig. (2 tailed)
-10	-0.02	0.02	0.0029	0.00862	1.483	0.155
-9	-0.03	0.04	0.0055	0.01445	1.661	0.114
-8	-0.04	0.05	0.0070	0.01834	1.660	0.114
-7	-0.03	0.08	0.0088	0.02638	1.453	0.163
-6	-0.07	0.07	0.0067	0.03085	0.944	0.358
-5	-0.07	0.05	0.0054	0.03232	0.725	0.478
-4	-0.07	0.06	0.0045	0.0301	0.658	0.519
-3	-0.09	0.07	0.0099	0.03378	1.278	0.218
-2	-0.08	0.06	0.0076	0.03002	1.102	0.285
-1	-0.1	0.06	0.0017	0.03246	0.222	0.827
0	-0.14	0.03	-0.0316	0.04408	-3.127	0.006*
1	-0.18	0.02	-0.0487	0.05222	-4.068	0.001*
2	-0.17	0.01	-0.0523	0.04884	-4.669	.000*
3	-0.15	0.01	-0.0573	0.04535	-5.508	.000*
4	-0.15	0.01	-0.0603	0.04826	-5.449	.000*
5	-0.15	0.02	-0.0577	0.0456	-5.517	.000*
6	-0.17	0.02	-0.0577	0.04573	-5.497	.000*
7	-0.16	0.02	-0.0577	0.04357	-5.776	.000*
8	-0.19	0.02	-0.0619	0.04915	-5.486	.000*
9	-0.18	0.02	-0.0673	0.04912	-5.972	.000*
10	-0.28	0.04	-0.0793	0.0699	-4.946	.000*

\* Significant at 1% level

From table (3) we can note that the values of CAAR is negative starting from the dividend announcement day and statistically significant at the 1% level. This result reveals that a statistically significant negative relationship exists between dividend announcement and abnormal returns starting on the day of dividend announcement. The market reacts negatively to cash dividends after their disclosure.

Based on these results, we conclude that cash dividend announcement affects stock prices, and investors can achieve abnormal returns

## 5. Conclusion

This study aims to contribute to existing literature on the reaction of stock prices to cash dividend announcements. Event study was applied to a total sample of 19 listed companies in PEX for the period of 2006–2015. Cash dividend announcement was used as an event that could affect stock prices as a result of the sensitivity of cash dividends to the investors' responses.

The findings of this study indicate that a statistically significant negative relationship exists between dividend announcements and abnormal returns starting on the day of dividend announcement. We conclude that the market reacts negatively to cash dividends after their disclosure.

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