Stock Prices Reaction to Dividend Announcements:
A Study on Listed Companies in the Damascus Securities Exchange

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Abstract   *According to the signaling theory, dividend announcements are usually considered as a signal to the investors, about firm's future performance, that results in stock prices changes. This study attempts to investigate the stock prices response to dividend announcement in the Damascus Securities Exchange. The purpose of the study is to identify whether there are any significant abnormal returns around the public announcement of dividend. An event study methodology is used for an event window of forty days surrounding the announcement day. Research results indicate that most average abnormal returns are statistically insignificant, whereas the cumulative average abnormal returns are statistically significant for the whole event window. The downward drift of the cumulative average abnormal returns six days after the announcement suggests that prices don't adjust immediately to dividend information. The stock reactions appear within post-event window gradually in response to the dividends announcement.*

Key words   Dividend Announcement, Abnormal Return, Price Reaction, Event Study, Damascus Securities Exchange

1. Introduction

It is generally accepted that a dividend announcement affect the stock price around the announcement day. Most existing theories imply that dividend announcements convey information and, consequently, affect share prices**.** In an informational inefficient market, managers have more information than investors regarding the future prospects of the firm, therefore, dividend announcement may serve as a signal to communicate this information and thereby reducing the level of information asymmetry; this is known as dividend signaling hypothesis.

However, it is probable that the stock prices don't adjust in an efficient manner to the new dividend information. Based on the dividend announcement, when information takes a period of time to be incorporated into the stock price, investor can make use of this inefficiency and earn abnormal return, which continue to exist over a period of time after the announcement. Studies that investigate the price effect of dividend announcements are mainly based on developed capital markets data. There are very limited studies on this issue in a nascent market such as Damascus Securities Exchange (DSE). The current research provides evidence on the relation between stock returns and dividend announcements by companies during the period from 2010 to 2014. It investigates whether dividend announcements result in an abnormal return around the announcement day in the DSE. Since Damascus Securities Exchange is inefficient market (Al-Ahmad, 2012; Abbas, 2014) the stock prices behavior wouldn't reflect fully and immediately all published information. Therefore, there will be an opportunity for the investors to earn consistently abnormal returns over a period of time after the announcement.

2. Literature review

The stock prices reaction to dividend announcement has attracted much attention among accountants and financial economists. In a pioneering article Lintner (1956) investigated dividends policy. He suggests that firms prefer to smooth their dividend and because they believe that investors prefer stable dividends with sustained growth. The management is hesitant to reduce dividend because it might

send negative signal to investor and unwilling to increase payout for fear that it might not sustainable in the future.

Indeed, empirical studies have found that firms change their dividend payout to signal future performance. When a firm increases its dividend, it sends a positive signal to investor that management expects to be able to afford the higher dividend for the foreseeable future. Conversely, when managers decrease the dividend, it may signal management pessimism regarding future cash flows. However, reducing the dividend is costly for managers in term of their reputation and the reaction of investors Therefore it will be reflected in the share prices after the announcement of the information. The signaling or information content hypothesis is confirmed by (Bhattacharya, 1979; Asquith and Mullins, 1983; Miller and Rock, 1985; John and Williams, 1985; Healy and Palepu, 1988; Michaely *et al.*, 1995).

The impact of dividend announcement on stock prices depends on the information content. If the firm announces a dividend increase, the market price of the shares will be positively affected. Whereas, if the firm announces a dividend reduction, the market price of the shares will be negatively affected. Investors will react to a firm's dividend announcement depending on how they perceived the firm's performance on the market. Additionally, the average size of the stock price reaction increases with the magnitude of the dividend changes, and is large for dividend decreases.

Several studies tried to investigate the announcement effect of dividends announcement by testing whether the dividend has information content, most of these studies were conducted in the USA and UK. Genodes (1978) report that an unexpected changes in dividends cause little announcement effect. Watts (1973) did not find any abnormal returns following dividend announcements. On the other hand, Bernartzi *et al.* (1997) found evidence that the announcement of dividends increases result in positive abnormal returns whereas the announcement of dividends decreases result in negative abnormal returns. Aharony and Swary (1980) and Allen and Michaely (2003) found that the dividend has a significant price effect and stock prices reaction is positively correlated to the dividend changes announced by the firm, since dividend has information content. Gordon (1962) demonstrates that stock prices react significantly to dividend announcements; the announcements of dividend increases have a positive excess return around the announcement day. Lonie *et al.* (1996) find that investors responded to the increase or decrease in dividends. However, their findings also reveal that, even for companies with no change in dividends, the average abnormal returns one day prior to the announcements were significantly different from zero. Charest (1978) found that excess returns are positive in the months following the announcement of a dividend increase, but are negative in the month following the announcement of a dividend decrease. Similar results are obtained by Pettit (1972), Eades *et al.* (1985), Christie (1990), and Travlos *et al.* (2001). On the other hand, Beer (1993) show that investors obtained positive abnormal return from both increased and decreased dividend.

Furthermore, Grullon *et al.* (2002) documented that firms that increased their dividend by 10%, their stock prices raised by 1.34% after the announcement. While those that decreased their dividend by 10% or more experienced a price decline of -3.71%. According to Michaely *et al.* (1995) the effects are even larger for dividend initiations with a price increase of 3.4% and omission with a mean price decrease of about -7% around the vent day. Healy and Palepu (1988) found significant two–day abnormal stock returns of 3.95% for companies that initiated dividend payments and –9.5% for those that omitted their dividend payments. These studies find support for the information content of dividend.

3. Sample selection and research methodology

3.1 *Sample selection*

The sample is drawn from all dividend announcements during the period 2011-2014. The dividend announcement dates of listed companies are manually collected from the website of Syrian Commission on Financial Markets and Securities (*SCFMS)*. The following criteria are used to select the firms for the study: The firm must have announced dividend payment. The company must have at least 140-day trading share prices before and at least 20-day trading share prices after the dividend announcement. Stock prices are adjusted for the stock split. All companies that have any price sensitive information during the event window are excluded from the study. The final observations consist of 18 dividend announcement for 11 companies.

3.2 *Research Methodology*

The event study method, proposed by Brown and Warner (1985) and Binder (1998), is used to analyze the stock market reactions on the dividend announcements. The estimation period is from day -120 to day -21 relative to the announcement date. Since the irregular nature of the information environment in DSE stock markets, it is possible that the market reaction starts before the announcements. The choice of a broad event window (of -20, +20) is made in order to capture this possible pre-event reaction, that is, from 20 trading day before the dividend announcement to the 20 trading day after the event. Day 0 is defined as the day on which the company announces its dividend and the same announcement appears in the SCFMS website.

The daily closing prices were used to calculate the actual return for each stock and for the market index using the following formula:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \tag{1}$$

Where: R_{it} is the actual rate of return on stock (i) at day (t), P_{it} and P_{it-1} denote the closing stock prices at days t and t-1.

The rate of returns for each stock during the estimation period is used to estimate the market model:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_t \tag{2}$$

Where: $E(R_{it}), R_{mt}$ are the expected returns on the stock (i) and on the DSE index at day t, respectively.

Then, the market model was used to estimate the expected rate of returns during an event window of 41 day, that is, 20 day before the dividend announcement, the announcement day and 20 day after the announcement.

Abnormal returns (AR_{it}) are calculated on each of the 41 days for each stock as:

$$AR_{it} = R_{it} - [E(R)_{it}] \tag{3}$$

Further, average daily abnormal returns (AAR_t) for each day during the event window (n) are calculated as:

$$AAR_t = \sum_{i=1}^{n} \frac{AR_{it}}{n} \tag{4}$$

When information regarding dividend payment is leaks out before the official announcement date, stock price might change days or weeks prior to the event day. Under such a circumstance, abnormal return on the announcement date is then a poor indicator of the total impact of the information releases; therefore, the cumulative abnormal returns would be a better indicator (Bodie et al. 2008). Further, cumulative average abnormal returns *(CAAR$_j$)* are calculated as:

$$CAAR_j = \sum_{j=1}^{J} AAR_{i,t} \tag{5}$$

A parametric test is performed to determine the statistical significance of the *AARt and CAARt*, i.e., the *t*-test. The *t*-test utilizes the cross-sectional standard deviation of abnormal returns *(ARt)*.

$$T_{(AAR)} = \frac{AAR_j}{\sigma_{AAR}/\sqrt{n}} \tag{6}$$

$$T_{(CAAR)} = \frac{CAAR_{jt}}{\sigma_{AAR}/\sqrt{d}} \tag{7}$$

Where σ (*AAR*) is the estimated standard deviation, *d* is the total number of days for which CAAR is calculated.

If the average abnormal return or the cumulative abnormal rate of return is significantly different from zero, then the announcement provides abnormal return. If the average abnormal return is significant before the announcement date as well, this means that the information was leaked before the announcement date. If the average abnormal return is significant after the event, this means investors can earn an abnormal return after the information release.

4. *Results and discussion*

The Average Abnormal Return and the Cumulative Average Abnormal Return for 41 days window are reported in Table 1. The values are represented in percentage.

The Average Abnormal Return 20 day after the dividend announcement is (0.28%), while it is (−0.015%) 20 days before the announcement. The table shows presence of positive and negative abnormal returns throughout the event window. There are 25 positive and 16 negative price reactions during the window period, that is, positive reactions are more that negative. The highest average abnormal return is on day t+10 which is (0.96%), whereas the lowest average abnormal return is on day t-1 which is -0.82%. In addition, it is obvious that the market reaction occurs on the event day and abnormal return exists. The average abnormal return for the event day is positive and statistically significant (0.58%). The standard deviation of the abnormal return lies between (0.67%) and (4.73%). Results indicate that the AAR on day -1 is negative and statistically significant. The abnormal return for days -15, 0, 7 and 9 are significantly positive. However, one interesting aspect of the stock price behavior should be noticed that the only 5 out of 41 days in the considered window showed statistically significant. This may be a result of other factors affecting investors' behavior such as economic, political…etc. It is showed in Figure 1 that the AAR reaches its minimum at day -1 and trended up considerably. There is a quick and positive response of stock prices to dividend announcement on the event day. This evidences that dividend information reflects on stock prices. The average abnormal return fluctuates surrounding zero in alternating days giving uncertain indication of investors gain or loss both in the pre and post dividend announcement days.

When it comes to cumulative average abnormal return (CAAR) over different time periods during event window, results reported in table (1) also shows that the cumulative average abnormal returns are significantly different from zero and positive except for days -20,-19,-18 where the CAARs are negative. Therefore, the returns reveal that the market fails to fully anticipate public information. Figure (1) shows that the CAAR starts declining steadily from day -10 up to day +6. This could be explained by the fact that the AAR earned during this period was mostly negative. This trend could be interpreted to indicate that on the days before the dividends announcement date, the public anticipated that the announcement will contain some negative information. This is reflected by the decreasing CAAR on the days preceding the announcement.

Table 1. Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) in an event window of 41 days

Day	AAR%				Std. Dev%	T(AAR)	Sig. (2-tailed)	CAAR%	T(CAAR0	Sig. (2-tailed
	Min	max	mean	SE						
t+20	-5.57-	7.75	.3036	.7598	2.8429	.400	.696	6.5243	-2.180-	.048
t+19	-5.96-	5.15	.2126	.7482	2.7997	.284	.781	6.2207	-2.335-	.036
t+18	-6.24-	6.04	-.1690-	.7389	2.7650	-.229-	.823	6.0081	-2.881-	.013
t+17	-4.67-	7.03	.9435	.6938	2.5960	1.360	.197	6.1771	-1.465-	.167
t+16	-1.17-	3.63	.3181	.3826	1.4317	.831	.421	5.2335	-4.291-	.001
t+15	-2.78-	3.96	.1441	.4700	1.7587	.307	.764	4.9154	-3.863-	.002
t+14	-2.45-	2.16	-.2601-	.3197	1.1953	-.814-	.430	4.7713	-6.949-	.000
t+13	-2.52-	1.49	.2373	.2911	1.0922	.813	.431	5.0314	-5.901-	.000
t+12	-2.71-	3.83	.6813	.4642	1.7373	1.467	.166	4.7941	-2.754-	.016
t+11	-1.60-	4.43	.5548	.4283	1.6026	1.295	.218	4.1128	-3.281-	.006
t+10	-1.36-	5.62	**.9676**	.5772	2.1609	1.675	.118	3.5580	-1.718-	.109
t+9	-1.45-	5.92	.9031	.4841	1.8109	1.866	**.085**	2.5904	-2.184-	.048

t+8	-3.16-	4.17	.6829	.5442	2.0374	1.254	.232	1.6873	-2.345-	.036
t+7	-.33-	3.57	.7091	.3031	1.1367	2.334	**.036**	1.0044	-4.117-	.001
t+6	-2.93-	2.22	.0709	.3973	1.4866	.178	.861	.2953	-4.755-	.000
t+5	-3.08-	2.60	-.1595-	.4911	1.8401	-.324-	.751	.2245	-4.310-	.001
t+4	-3.30-	2.24	-.2973-	.3999	1.4955	-.744-	.470	.3840	-5.648-	.000
t+3	-1.39-	2.47	.1946	.2625	.9808	.742	.471	.6813	-6.734-	.000
t+2	-2.95-	3.28	-.3255-	.4422	1.6550	-.736-	.475	.4867	-5.167-	.000
t+1	-7.93-	8.19	-.0809-	1.260	**4.7387**	-.064-	.950	.8121	-1.611-	.131
<u>t0</u>	<u>-1.20-</u>	<u>2.93</u>	<u>.5842</u>	<u>.3086</u>	<u>1.1530</u>	<u>1.896</u>	**<u>.080</u>**	<u>.8930</u>	<u>-4.465-</u>	<u>.001</u>
t-1	-5.52-	.65	**-.8206-**	.4429	1.6567	-1.853-	**.087**	.3088	-6.280-	.000
t-2	-1.31-	2.85	.1465	.3262	1.2220	.448	.661	1.1294	-5.552-	.000
t-3	-2.43-	3.31	-.2178-	.4666	1.7460	-.467-	.648	.9829	-4.667-	.000
t-4	-2.57-	3.38	.3670	.4024	1.5061	.912	.378	1.2008	-3.957-	.002
t-5	-2.04-	1.40	.1095	.2221	.8310	.493	.630	.8337	-8.331-	.000
t-6	-2.28-	2.08	-.1688-	.3795	1.4212	-.444-	.664	.7242	-5.604-	.000
t-7	-2.13-	2.57	-.0504-	.3389	1.2654	-.149-	.884	.8930	-5.944-	.000
t-8	-3.17-	2.96	-.2236-	.4880	1.8259	-.458-	.654	.9434	-4.475-	.001
t-9	-5.24-	1.52	-.3240-	.4235	1.5855	-.765-	.458	1.1670	-5.390-	.000
t-10	-2.03-	1.56	.0426	.2592	.9714	.164	.872	1.4910	-7.385-	.000
t-11	-3.39-	2.69	.1319	.4370	1.6373	.301	.768	1.4484	-4.178-	.001
t-12	-2.92-	3.72	.5932	.4428	1.6548	1.341	.203	1.3166	-3.090-	.009
t-13	-3.83-	4.38	-.2609-	.5157	1.9279	-.506-	.621	.7234	-4.310-	.001
t-14	-1.61-	5.99	.4731	.4792	1.7956	.986	.342	.9842	-3.098-	.008
t-15	-.43-	2.16	.5111	.2092	.7824	2.444	**.030**	.5111	-6.929-	.000
t-16	-1.73-	2.06	-.1173-	.3163	1.1839	-.371-	.717	.0000	-6.565-	.000
t-17	-.99-	1.37	.1465	.2195	.8222	.667	.517	.1173	-8.252-	.000
t-18	-1.41-	2.84	.2004	.2984	1.1181	.671	.514	-.0292-	-5.888-	.000
t-19	-1.56-	1.05	-.0712-	.1803	**.6766**	-.394-	.700	-.2296-	-11.233-	.000
t-20	-2.96-	2.40	-.1583-	.3042	1.1405	-.519-	.612	-.1583-	-6.949-	.000

The cumulative average abnormal returns continue to decrease even after the dividend information becomes public. The market appears to adjust to the dividend information only gradually, resulting in a sustained period of abnormal returns. This result could be explained by the fact that inexperienced and poorly-informed investors would fail to appreciate the full and correct implications of the announcement (Ng *et al.*, 2008). However the persistent drift of the mean CAAR, 6 days after the announcement day, indicates that the market failed to adjust instantaneously to dividend announcement. It appears that an investor is able to earn an abnormal return by acting on the public announcement of dividend. As of the announcement date, the stock prices had not yet adjusted to the new information embedded in the announcement. However, after the announcement, the CAAR starts rising considerably from day +7 up to the last day of the event window under consideration. This may mean that stock prices response slowly and partially to the dividend information at the event day, but the significant reaction does not occur until sometime in the distant future. This explanation is related to the 'delayed price reaction' argument highlighted by Ball and Kothari (1991).
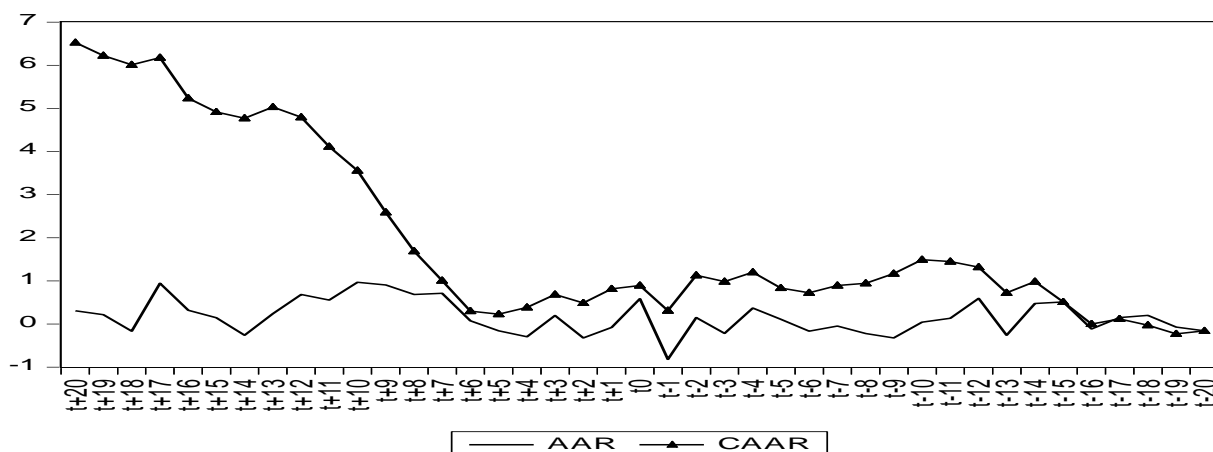

Figure 1. AAR (%) and CAAR (%) around dividend announcement days

5. *Conclusions*

The aim of this study was to contribute to the existing literature regarding stock prices reaction to dividend announcement. Event study was employed to a total sample of 11 listed companies in the DSE for the period from2010 to 2014. While there are many studies that examine dividend signaling in the developed markets, this paper is one of the few investigations of this topic in MENA markets; it is the first of its kind using DSE data.

The findings of this study indicate that there are no significant abnormal returns prior to the announcement day which may imply that there is no information leakage prior to the dividend declaration. This result may also be explained by the impact of other factors external to the study. The stock prices adjustment to dividend information begins 6 days after the announcement, and it continues at least 15 days. Investors can get the abnormal returns by using this dividend information during the post-event window.

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