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The Signaling Effects and Predictive Powers of Dividend Announcements: Evidence from Kingdom of Saudi Arabia

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Abstract: The objective of this study is to see how the signaling hypothesis manifests itself in a small market, such as KSA, characterized by concentrated family-ownerships, non-taxability of dividends, and high degree of information asymmetry. In this context, we hypothesize that there is a positive relationship between dividend announcement and stock prices in the Saudi market. This study tests this hypothesis using all publically traded firms listed on the Saudi Exchange Market (Tadawul). We use event study to test stock market responses to dividend announcements. To test the signaling hypothesis we used our cross section data to calculate accumulated average abnormal returns using 100 days as estimation period and 21 days as window period. We used parametric CAAR (t test) and nonparametric (G sign) significance tests to verify that our results are significant and not due to pure chance. Our results show no significant reaction of prices to the dividend announcements, which means that signaling hypothesis cannot be generalized to all types of markets and that each market own characteristics have significant effect on the applicability of the signaling hypothesis. Further research is suggested to include earnings in the analysis.

Key words: signaling hypothesis; dividend policy; event study; Saudi stock market
JEL codes: G2, G3

1. Introduction

This study examines the implications of dividend announcements in the market of Kingdom of Saudi Arabia (KSA). The research analyzes dividends within the context of signaling hypothesis. It examines the abilities of dividends to predict stock prices of Saudi firms. Financial economists have explored various aspects of changes in dividends and earnings for well developed markets such as North America and Europe. The objective of this study is to see how the signaling hypothesis manifests itself in a small market, such as KSA, characterized by concentrated family-ownerships, non-taxability of dividends, and high degree of information asymmetry.

Signaling hypothesis, initially formulated by Miller and Modigliani (1961), suggests that dividend changes convey material information and that share prices react positively to the announcements of dividend changes. Signaling hypothesis was further generalized to include other factors such as the information content of earnings announcements. Further development of the signaling hypothesis includes the association between dividend and

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earnings changes and future cash flows of the firms. In this context, it is suggested that there is a positive relationship between dividend and earnings changes and future performance of a firm. This study will test these propositions for all publically traded firms listed on the Saudi Exchange Market (Tadawul) that announced dividends in the third quarter of year 2013.

2. Literature Review

2.1 Dividend and Earnings Changes Announcements and Market Reaction

A significant number of studies test the relationship between dividend announcements and share prices. The signaling hypothesis is tested for both developed as well as emerging markets and the results are mixed. Studies by Pettit (1972, 1976), Aharony and Swary (1980), Benesh, Keown, and Pinkerton (1984), Dhillon and Johnson (1994), Nixon and Pilotte (2000), Nissim and Ziv (2001), Travlos, Trigeorgis and Vafeas (2001), Madjosz and Mestel (2003), and Cheng, Fung, and Leung (2007) provide support of information content of dividend announcement hypothesis. These studies provide evidence of significant positive stock prices reaction to the dividend changes surrounding the announcement date. These findings are further supported by Asquith and Mullins (1983) who studied dividend initiations and Lee and Ryan (2000, 2002) who studied dividend initiations and omissions.

In contrast, studies by Lang and Litzenberger (1989), Benartzi et al. (1997), Conroy, Eades and Harris (2000), Chen, Firth and Gao (2002), Abeyratna and Power (2002), and Vieira and Raposo (2007) find weak or no evidence of a relationship between dividend announcements and share price reaction surrounding the announcement date.

In addition to the effects of dividend changes, the literature investigates the wealth effects of earnings change announcements. The results are not all conclusive. Early studies by Beaver (1968) and Ball and Brown (1968) document the information content of earnings announcements and find that stock prices react positively to the unexpected earnings announcements. Later studies mainly suggest that the relationship between unexpected earnings announcements and security prices is basically intertemporal. For example, a study by Rendleman et al. (1982) and a follow-up by Jones et al. (1985) indicate that in a window of 20 days before and 90 days after the announcement day, only 18 percent of the total stock returns of 100 percent came on the announcement day. This phenomena of post-earnings announcement price drift is observed by other researchers including Rendleman et al. (1987), Bernard and Thomas (1989, 1990), Freeman Tse (1989), Brown and Pope (1995), Battalio and Mendenhall (2005), and Ball and Shivakumar (2008), among others. This study explores this issue as well.

Some studies such as Penman (1983), Chang and Chen (1991), Leftwich and Zmijewski (1994), Berartzi et al. (1997), Conroy et al. (2000), investigate the security price effects of simultaneous announcements of earnings and dividends. Almost all of these studies indicate that both dividends and earnings announcements have significant information content. However, they suggest that earnings announcements have stronger price effects than dividends. In contrast, Cheng, Fung, and Leung (2006) in their study of Hong Kong market provide some striking evidence that dividends appear to play a dominant role over earnings in pricing.

2.2 Earnings and Dividend Changes and Future Cash Flows

The association between dividend changes and subsequent earnings has been investigated in many studies. Again the results are mixed. Studies by Aharony and Dotan (1994), Nissim and Ziv (2001), Baker, Mukherjee and Paskelian (2006), and Stacescu (2006) provide evidence of a strong relationship between dividend changes and future earnings.

On the other hand, studies by DeAngelo, DeAngelo and Skinner (1992, 1996), Benartzi, Michaely and Thaler (1997), Grullon, Michaely and Swaminathan (2002), Benartzi et al. (2005), and Vieira and Raposo (2007) suggest that there is no clear relationship between dividend changes and future earnings.

The studies of the association between earnings (cash flows) and subsequent earnings (cash flows) mainly use the current level of these measures rather than unexpected changes of these values. See, for example, Collins and Kothari (1989), Finger (1994), Dechow (1994), Collins et al. (1997), Lamont (1998), Kim and Kross (2005), Kim (2005), Livnat and Santicchia (2006), Bandyopadhyay et al. (2008), among others. In general, these studies confirm the predictive powers of current earnings and cash flows regarding a firm's future performance.

Further tests are also conducted to answer the question of whether current earnings or current cash flows are better predictors of future earnings and cash flows. Collins et al. (1997), Kim and Kross (2005), Bandyopadhyay et al. (2008), among others, find that the ability of current earnings to predict future cash flows has increased over time while the predictive power of current earnings to predict future earnings has declined. They attribute this phenomenon to an increasing level of accounting conservation.

The predictive power of dividends is tested in this study. In Saudi market dividend announcements were used as signals about firm's future prospects.

3. Methodology

3.1 Hypotheses

The primary motivation of this research is to see how the signaling hypothesis manifests itself in a relatively imperfect market such as Saudi Arabia. Saudi Exchange (Tadawul) is a young and thin but growing market. As of June 2014, 164 firms are listed on the Exchange. On average 2 to 3 firms join Tadawul each year. Dividends in Saudi market are not taxable and there are no income taxes. Taxes are usually levied on properties called Zakat which is about 2.5 percent of the total values of current assets held by an entity. Further, Saudi firms do not follow a consistent dividend payment strategy. Dividends are usually paid once or twice a year. But it happens that a company in one year pays only one time and then pays twice a year next period. This may limit the test of signaling hypothesis. As opposed to developed markets, corporate ownership structure in Saudi is highly concentrated. The same families may hold majority interests of several publicly traded firms. This fact plus loose disclosure requirements causes the Saudi market to suffer from sever information asymmetry.

Given the above market environment with different tax regime relative to developed markets, the following hypothesis is formulated:

Ho: Stock prices of Saudi firms do not react to dividends surrounding the announcement dates ($\mu = 0$).

H1: Stock prices of Saudi firms react to dividends surrounding the announcement dates ($\mu \neq 0$)

Where μ is the cumulated abnormal returns during the event period

3.2 Data, Sample, and Methodology

The data for this study are obtained from Tadawul's web page and Saudi firms' web pages. The analysis covers the daily stock prices surrounding dividend announcements of the third quarter of 2013 for all firms in the stock market that announced dividends in this period. During the study period, 47 firms initiated paying dividends during this period. Therefore, this study uses 47 Saudi firms to test hypothesis Ho.

To test the announcement effects, this study uses standard event study methodology using the single market model. The event window begins on day t = -10 to t = +10 (relative to the announcement day, t = 0). This allows

testing for the post-dividends announcement drift.

The estimation period used for market model is 100 days before the event window, upon which α and β are calculated. CAAR are calculated as the average cumulative abnormal returns, where abnormal returns using the market model are calculated as:

$$AR_i = R_{iT} - (\alpha + \beta_i (R_{mT}))$$

Where T represents the days of estimation as well as event window period (i.e., t-100 to t+10, given that t is the announcement date, and so

$$CAR_i = \sum_{t-10}^{t+10} ARi \text{ and}$$

$$CAAR = \text{average } (CAR_i)$$

The average cumulative abnormal returns (ACAR) will be tested using standard t test as a parametric test, where

$$\text{t statistic value} = ACAR/\sigma \text{ and } \sigma = \sqrt{\frac{1}{N(N-d)} * \sum(CAR_i - ACAR)^2}$$

In addition, the parametric test is complemented with a nonparametric test to verify that the research findings are not due to outliers (Schipper & Smith, 1983). Nonparametric test abandons the assumption that firm's abnormal returns are normally distributed.

Since our study focuses on an event which happened for multiple firms at the same period (3rd quarter of 2013), this is expected to cause a downward bias in the standard deviation and thus overstate the t-statistic, leading to possible over-rejection of the null hypothesis.

To deal with this problem, we use the GSIGN (generalizes sign) test. In general, sign tests developed by Cowan (1992) compare the share of positive abnormal returns (ARs) close to an event to the proportion from a normal period. Using the GSIGN test, when the number of positive cumulative abnormal returns is significantly higher than the number expected from the estimated fraction, it is suggested to reject H0. The test statistic is calculated as

$$Z_G = (w - np\hat{}) / [n(p(1 - p\hat{}\,)\hat{}\,]^{0.5}$$

Where w is the number of positive CAR stocks, n is the number of firms, p is the number of positive ARs during estimation period for a firm, and p hat is the average p.

The following table shows the abnormal returns, cumulative up normal returns and signs for the firms in the study:

Table 1 Cumulative Abnormal Returns, Share of Positive ARs to the Total, and CAR Signs

Firm	CAR	Positive share to all ARS	CAR sign
Advanced Petrochemical Company	-0.0766	0.435643564	-
Arab National Bank	0.032165	0.504950495	+
Al Rajhi Bank	0.06143	0.425742574	+
Al-Tayyar Travel	0.20704	0.415841584	+
ALABDULLATIF INDUSTRIAL	-0.02776	0.396039604	-
Arabian Cement Co	-0.02195	0.425742574	-
Aseer Trading, Tourism &	-0.06634	0.405940594	-
Banque Saudi Fransi	0.036165	0.435643564	+
City Cement Co	-0.03566	0.514851485	-
Etihad Etisalat Co	0.034391	0.485148515	+
Fawaz Abdulaziz AlHo	-0.01693	0.475247525	-
Halwani Bros	-0.03627	0.495049505	-
Herfy Food Services Co	-0.14362	0.415841584	-

(Table 1 to be continued)

(Table 1 continued)

Jarir Marketing Co	0.025105	0.396039604	+
Mouwasat Medical Services	-0.08571	0.465346535	-
Samba Financial Group	0.017643	0.392156863	+
Northern Region Cement Comp	0.032506	0.441176471	+
Sahara Petrochemical Co.	0.010414	0.421568627	+
Saudi Airlines Catering Company	-0.03082	0.470588235	-
United Electronics Company	0.118988	0.490196078	+
National Gas & Industrializ	0.034773	0.441176471	+
The Qassim Cement Co	0.005834	0.421568627	+
Riyad Bank	-0.00801	0.480392157	-
The Saudi British Bank	0.055097	0.509803922	+
Saudi Arabia Fertilizers Co.	-0.00253	0.382352941	-
Saudi Chemical Company	0.035565	0.445544554	+
Saudi Hotels & Resort	-0.022	0.450980392	-
Saudi Hollandi Bank	0.077476	0.421568627	+
Saudi Industrial Investment Gro	0.053174	0.509803922	+
Saudi Real Estate Co.	-0.00759	0.450980392	-
Saudi Steel Pipe Company	-0.01781	0.421568627	-
Saudi Telecom	0.027943	0.607843137	+
Saudi vitrified clay pipes	0.008707	0.490196078	+
Savola Group	0.032408	0.431372549	+
Saudi International Petrochem	0.023477	0.470588235	+
Tabuk Cement Co.	-0.16449	0.343137255	-
Taiba Holding Co	0.016711	0.352941176	+
Yanbu National Petr	-0.05908	0.450980392	-
Yanbu Cement1 Co.	0.029598	0.441176471	+
Yamama Cement Company	-0.0039	0.441176471	-
Zamil Industrial Inves	0.039967	0.441176471	+
The National Co. for Gl	-0.05864	0.401960784	-
The Saudi Investment Bank	0.042642	0.470588235	+
Southern Province Ceme	-0.02872	0.450980392	-
United Wire Factories Company	-0.03634	0.535353535	-
The National Shipping Co	0.031958	0.37254902	+
Najran Cement Company	-0.04788	0.460784314	-

Note: Created by authors using Tadawul data

The following graph shows that most of the cumulated abnormal returns are not positive which indicates that signaling theory is not significantly represented in the Saudi market

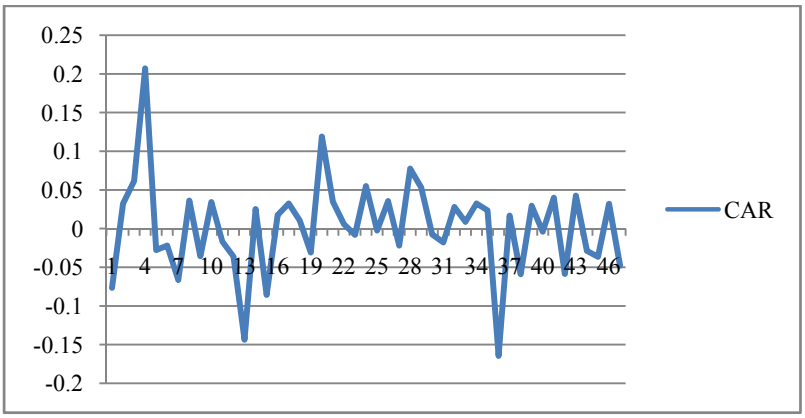

Figure 1 Cumulated Abnormal Returns from Dividend Announcements (3rd Quarter of 2013) for the Saudi Stocks

4. Results and Discussion

First: the parametric t test shows that the absolute value of t-statistic is 0.21, which indicates that at 95% significance level we fail to reject the null hypothesis that abnormal returns are not significantly different from zero. Second, the nonparametric generalized sign test confirmed our results with t statistic value of 1.17.

The above results give evidence that the dividend announcements in the Saudi market do not send significant signals to the investors and consequently are not well presented in the stock prices.

To understand the reasons for these results we will shed some lights on the Saudi stock market structure to see how it is functioning.

The Saudi stock market is characterized with the following:

- Absence of taxes (there is no corporate tax, dividend tax, or capital gains tax), which means that taxes are not a factor in setting investor preferences for dividends.
- Vague and general bankruptcy law, which means that bankruptcy concerns are not well presented in investor's decisions.
- Undersized and illiquid bond market and hence the only sources for corporate loans are banks. This results in limited alternative investments.
- In KSA dividend police is affected by other than financial reasons. Since many of the board of directors members are of the royal family, it is difficult to exclude the political dimension in their decisions.
- Also, family firms are very common in Saudi firm's ownership structure. In such cases, there is always non separation between management and ownership. This structure makes dividend policy more oriented toward the interests of the family members.
- Many of the firms in the stock market are almost owned by the government, which means that dividend policy is affecting only small portion of the firm owners
- Restrictions on foreign ownership in the Saudi stock market limit the effect of dividend policy.

5. Conclusions and Recommendations

According to the signaling theory, the managers should convey the positive information they have to the outside investors. So if the firm does not have good future prospects, managers do not decide to increase dividends since this will be a false signal. However, if future earnings are forecasted, this information can be conveyed through dividend announcements or increase in dividends.

However, to test this hypothesis in the Saudi stock market we conducted event study on the third quarter dividend announcements of the listed Saudi firms, and used parametric as well as nonparametric tests of significance. We found that dividend announcements are not significantly reflected in the stock prices.

Given the characteristics of the Saudi market, these results show that the market understands that the dividend announcements are not sending significant positive signals but rather they send mixed signals that are interpreted on individual basis. Accordingly, it is not reflected over the stock prices.

In conclusion, we think that the signaling theory cannot be applied on markets that have many limitations on dividend policy.

To confirm this result we recommend further research on the signaling effect of other events such as earning announcements, changes in dividend policy, and capital structure.

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