# Dividend Increase Announcements and Stock Market Reaction (Evidence from Canadian Stock Market) <br> By Sameer Mohammed Sindi 

A research project submitted in partial fulfillment of the requirement for the degree of Master of Finance

Saint Mary’s University<br>© Copyright Sameer Sindi 2013

Witten for MFIN 6692.0 Under the direction of Dr. J. Collin Dodds

Approved: Dr. J. Colin Dodds<br>Faculty Advisor<br>Approved: Dr. Francis Boabang<br>MFIN Director<br>Date: $\quad$ April 8, 2013

## Table of Contents

Acknowledgments ..... ii
Abstract ..... iii
Chapter 1: Introduction. ..... 1
Chapter 2: Literature Review ..... 5
2.1 Dividend Theories ..... 5
2.2 Information signaling hypothesis ..... 8
2.3 Free cash flow hypothesis ..... 10
2.4 Stock markets reaction among different countries ..... 11
Chapter 3: Data and Methodology ..... 13
3.1 Data Selection \& Sources ..... 13
3.2 Methodology ..... 13
3.3 Statistical Hypothesis Testing ..... 15
Chapter 4: Results and Interpretation ..... 17
4.1 Individual Abnormal Return ..... 17
4.2 Cumulative Abnormal Returns. ..... 22
Chapter 5: Conclusions and Recommendations. ..... 26
Appendix A. ..... 28
Appendix B. ..... 30
References ..... 32

## Acknowledgments

I would like to thank Dr. J. Colin Dodds for his guidance and assistance through this study. Also, I would like to thank Dr. Francis Boabang, MFIN director, for his support and assistance during the Master of Finance program. Lastly, I would like to thank my family, especially my mother and my wife, for their support and encouragement through my studying in the Master of Finance program.


#### Abstract

Dividend Increase Announcements and Stock Market Reaction


## By

Sameer Mohammed Sindi
April 8, 2013

This paper examines and analyzes the effect of the increase in dividend announcements on the stock price on the Toronto Stocks Exchange, by selecting 50 firms from different sectors which announce increases in dividends during the period of 2001 to 2010. The focus in this study is analyzing the effect of the event in short periods of time ( 3 days, 7 days and 11 days). As expected, the study finds that most firms have a positive relationship between the increase in dividends and stock price. However, there was a negative relationship between the stock price of some firms and the increase in dividends. In conclusion, this study finds that the increase in dividend announcements does affect stock prices. However, investors cannot make abnormal returns due to this event.

## Chapter 1

Introduction

## - Purpose of study

This paper will examine the effects of the announcement of dividend increases on the Canadian stock market (Toronto exchange market) and explain how the stocks prices react (positively or negatively) to this event among different sectors.

## - Introduction

The dividend decision is one of the most important strategic decisions for all firms. They have to decide whether they will pay dividends and if so, how much. This can be in form of cash or stock. On the other hand, other firms decide that they will save the cash as available funds to finance present and future investment opportunities. Dividends are defined as a portion of firm's earnings which is distributed to the shareholders in the form of cash or stocks. This decision is made by the board of directors.

There are many distinguishing features for dividends. Damodarn (2001) stated that dividends can be distinguished by characteristics such as it can be sticky since the firm's management avoids cutting dividends for any reasons after following a specific pattern. Another feature is that in most cases dividends tend to follow earnings which mean an increase in earnings will be followed by an increase in dividends and a decrease in earnings will likely be followed by cut in dividends.

## - Background

1. Dividend policy

Damodarn (2001) discussed that there are three different schools of thought related to dividend policy: First, those who believe dividends are good for investors; they believe that investors tend to prefer receiving a dividend rather than capital gains. Therefore, when the firms have excess cash, they should distribute it to shareholders in the form of dividends to satisfy some of the investors' preferences (clientele effect) and attract them to hold and buy the stock. Secondly, there are some who believe that dividends are bad for investors since the rate of tax on dividend is much higher than the capital gains (tax disadvantage for investors). Thirdly, others believe that investors are indifferent between receiving dividends or capital gains, because from one side there is no tax disadvantage for investors if they received dividends, and from another side the firms can use the funds to finance new investment opportunities without the needing of external finance sources which will be higher in cost compared to internal sources.

## 2. Efficient-market hypothesis

The efficient-market hypothesis (EHM) states that securities prices should adjust to any new information (positive or negative) quickly and accurately. As a result of that, abnormal returns cannot exist in the stock market. Therefore securities trade at their fair value in the market. There
are three forms of market efficiency which are strong, semi-strong and weak form.
I. strong-form efficiency

Securities prices reflect all public and private information and there is no chance of making abnormal returns.
II. semi- strong form efficiency

Securities prices reflect public information and there is no chance of making abnormal return through the fundamental or technical analysis methods.

## III. weak-form efficiency

Securities prices reflect all previous public information and there is no chance of making abnormal return in the long run through the technical analysis methods.

Will the stock market consider an increase in dividends as a good or bad signal and therefore respond positively or negatively? Also, how will stock prices in different sectors in the Toronto exchange market react to the event of an increase in dividend cash payment? This paper will investigate this issue based on the theories and some of the past research related to this topic and try to help the decision makers in making the best possible decision in order to achieve their goals.

In this study, there are 50 stocks selected randomly from 5 sectors (energy, industries, financial, utilities and materials) of the TSE composite index. This study will examine the effect of the announcement of dividend increase on these stocks during the period from 2001 to 2010 . We will be using the event study methodology to examine the stock performance pre and post the announcements of increases in dividend and whether the investors were able to make abnormal return because of this event or not. Also this paper will show and explain how stocks from different sectors will react to this event and whether their responses are different or the same. The semi-strong form of the efficient market will be tested and if it holds, that means there is no chance of making abnormal returns in the stock market after the announcement.

I would expect to find a positive relationship between the announcements of dividend increase and the Canadian stock market reaction. This means when the firm announces an increase in dividends, its stock price will increase in the stock market as a response to this event.

This paper includes five chapters. This current chapter is an introduction which includes some background information about the dividends, the dividend policy and the Efficient-market hypothesis. Chapter 2 provides a literature review and it covers the dividend theories: the Information signaling and free cash flow hypotheses and stock markets reaction among different countries. Chapter 3 gives an explanation of data and methodology. Chapter 4 presents the results which will explain, interpret and analyze the results. The fifth and final chapter gives conclusions and recommendations.

## Chapter 2

## Literature Review

This chapter will cover in detail the four main basic points which are dividend theories, Information signaling hypothesis, free cash flow hypothesis, and Stock markets reaction to the increase in dividend among different countries.

### 2.1 Dividend theories

There are many theories about the impact of the dividend policies of firms on their stocks prices. In this paper, we will discuss some of the most important theories in the dividend policy area which are the Irrelevance dividend theory, Tax differential theory and Bird in the hand theory.

## a. Irrelevance dividend theory

There are some theorists in finance who believe that investors should not care whether they receive dividends from the stock because dividends are irrelevant. Miller and Modigliani (1961) have studied the dividend policy and the valuation of shares, and the basic assumptions in their study were perfect capital market, rational behavior and perfect certainty. They state that according to their first assumption in the study, which is a perfect capital market, information should be available to all traders with no cost and also there are no taxes and transaction costs. Based on the second assumption in their study, which is rational behavior, even though investors tend to prefer receiving cash dividends rather than capital gains, with the assumption of no tax, they are indifferent between receiving dividends or capital gains. According to the third assumption, which is perfect certainty, investors and firms should be assured for the future
investment outcomes. Based on the three basic assumptions in the study, they conclude that dividend payout policy should not affect the stock price and shareholders' wealth.

Damodarn (2001) stated that, according the irrelevant dividend school, the operating cash flow of a firm will not be affected under any dividend payment policy, and as a result the firm's value and the shareholders wealth will not change and investors should be indifferent with any dividend payment policy. Moreover, he said that in the long run, there is no relationship (no correlation) between the stock return of a firm and its dividend payout policy.

## b. Tax differential theory

There are some investors who prefer cash dividends rather than capital gains. On the other hand, there are other investors who prefer capital gains rather than cash dividend because the tax rate on the cash dividend is higher than the tax rate on the capital gains. As a result, investors can be better off by not receiving cash dividends and letting the firm use the amount of dividends to finance its current and future investment opportunities to maximize the firm's value and the shareholders' wealth.

In the U.S and some other countries, capital gains have been taxed at a lower rate than cash dividends. As a result many individual investors in these countries preferred capital gains rather than cash dividends. For those who prefer capital gains, they usually receive the news of increases in dividends as a negative signal. However, in general the market receives the news of increasing dividends as a positive signal.

## c. Bird in the hand theory

There are investors who prefer receiving cash dividend payments rather than capital gains for some reasons. One of these reasons is that if the investors are risk averse. They prefer cash dividends because they believe that cash dividends are less risky than capital gains. Another reason is that for the investors who are tax-exempt, such as retired people and others, receiving cash dividend payments is better for them because they do not pay tax on dividends. Bailey (1988), in his study about cash dividend and capital gains offered by the utilities companies in Canada, found that on average there is a premium of $7.54 \%$ to buy the stocks which offer cash dividend to the investors. This indicate that some investors are ready to pay an extra cost as a premium and expose themself to tax disadvantages in order to buy shares which provide cash dividends.

On the other hand, there are firms who believe that investors are worse off by receiving cash dividends rather than capital gains. Because of that, these firms believe that paying or increasing cash dividends will lead to decreasing the present value of the investor's shares by that same amount of increasing in the cash dividends on the stock price. Moreover, some firms are distributing cash dividends to the investors and looking to finance their investment projects from an external financing source such as issuing new stock. They are doing this rather than using the dividend funds to finance their investment projects. This will make them pay extra costs for using an external financing source. As a result this
will not help the firms achieve one of the most important goals for the firm which is maximizing the firm's value and the shareholders' wealth.

Damodaran (2001), in the part of dividend policy in his book of corporate finance, states that you may find firms which do not pay cash dividends and issue new stock in the same period. However, it is very surprising when firms pay high yields of cash dividends and issue new stock in the same period, and this may indicate that these firms are issuing new stocks to finance paying cash dividends to their shareholders.

### 2.2 Information signaling hypothesis

One of the most important hypotheses related to the stock market reaction to announcements of dividends is the Information signaling hypothesis. Many firms are using a dividend payout policy to convey signals to the investors through the stock market. Some of these signals are considered as positive signals and others are considering negatively. Therefore, investors react negatively or positively to these singles which will affect the stock price negatively or positively.

Johan and Williams (1985) and Miller and Rock (1985) found that many firms are using dividend payout policies as a tool or device to send signals to the investors which reflect their current or future performance and the management may use changing dividend payouts as way to release some of the information to the public which is only known by the insiders. Bhattacharya (1979) supported this point in one of his studies. After assuming the imperfect information about
the firm's profitability and the higher tax rate on the cash dividends compared to the capital gains, he found that dividends work as a signal of future cash flows.

Miller and Rock (1985), in their paper on dividend policy under asymmetric information, found that firms use information which is not known by the outside investors such as dividend or earnings announcements as a tool to send singles to the market.

Aharnoy and Swary (1980) supported the signaling hypothesis theory, and with controlling the contemporaneous earnings announcement, they found that there is a positive relationship between the stock market reaction and the dividend announcements. Moreover, Docking and Koch (2005) found that the relationship between the stock market and the dividend announcement is sensitive to the movement of the stock market. Even for the firms which pay dividends for the first time after a long period of time, they tend to use dividend announcements to send positive or negative signals to the market. Asquith and Mullins (1986) have studied on dividend Initiation after a long period and found that firms which announce a dividend for the first time are sending a strong signal to the investors through the stock market.

On the other hand, there are some firms which use dividends as a tool to force the management to invest in profitable projects and prevent them from investing in negative NPV projects. Jensen (1986) suggests firms may use dividends as a tool to discipline the managers. This indicates that the stock market may react positively in cases of announcing an increase in dividends since the management of these firms will invest in profitable projects to make
profit and afford the cost of dividend payment. However, if the firm announces dividend cuts, the stock market might react negatively since this indicates the firm's inability to invest in profitable businesses.

In the efficient market, the Information signaling hypothesis indicates there is a positive relationship between the dividend payment and the stock market reaction, which means that in cases of announcing an increase in dividends, the stock market reacts positively, but if there is an announcement of dividend cuts the stock market reacts negatively.

### 2.3 Free cash flow hypothesis

Under the free cash flow hypothesis, firms can pay the free cash flow to the shareholders in the form of cash dividends to prevent the managers from doing actions or making decisions which are in their interest and not in the shareholders' interest.

Lang and Litzenbergr (1988) looked into the relationship between the cash flow hypothesis and dividend announcements in their effects on stock price. They found that for the overinvested firms, an increase in dividends, will cause a decrease the overinvestment and increase the firm's present value. However cuts in dividends will lead to a negative NPV for future projects.

The firm's size also can affect the dividend announcements, Kato et al. (2002) investigated the relationship between the characteristics of the firms in Japan and the dividend announcement, and one of their findings is that the larger firms tend to use dividend announcements as a channel to reveal some of their information to the shareholders more than the smaller firms.

In summary, the Information signaling hypothesis and free cash flow hypothesis are consistent with the positive relationship between the stock price and the announcements of increase of dividend, and the negative relationship between the stock price and the announcements of cut of dividend.

### 2.4 Stock markets reaction among different countries

In this part, we will examine the stocks market reaction to the dividend announcements in different counties such as U.S, U.K, Japan and Malaysia.

Aharony and Swary (1980), looked into the quarterly dividend and earnings announcements and their effects on the U.S stock market. They found that on average investors can earn normal returns during twenty days surrounding the announcements of dividend if the firms do not change their dividends. They also found that investors can earn significant abnormal returns if the companies announce an increase in dividends. On the other hand, in the case of the announcement of cut in dividend, they found that there is negative abnormal return during twenty days surrounding the announcements. Even in case of special dividends, dividends announcements have some effects on the stock price, Brickley (1983) looked into the relationship between the special dividends announcement and the U.S stock market reaction and he found that there is a positive relationship, with taking into account the improving in earnings.

Lonie et al. (1996) investigated the reaction of the U.K stock market to the dividend announcement. They found that stock markets reacted positively to the increase in dividend announcements and negatively to the cut in dividend announcements.

Jais et al. (2010) looked into the relationship between the dividend announcements and the Malaysian stock market reaction. They found that if firms announce an increase in dividend, the shareholders receive it as a positive signal and the stock market reacts passively. However, when firms announce a cut in dividend, the shareholders receive it as negative signal and react negatively.

Fukuda (2000) investigate the relationship between the dividends announcements and the stock market in Japan; finding that there is a positive relationship between the dividend announcements and the stock market. The stock market and dividends move in the same direction.

Dasilas and Leventis (2011) examined the dividends announcements and its effects in the Greek stock market. They found that the stock market reacts positively in the case of an increase in dividends. However, it will react negatively in the case of cut in dividends, and their results supported the dividends signaling hypothesis.

In general, the stock markets in different counties such as U.S, U.K, Japan, Malaysia and Europe, have reacted positively to the announcement of an increase in dividends and negatively to the announcement of a cut in dividends.

## Chapter 3

## Data and Methodology

This chapter will discuss in detail three main points which are data selection and sources, the methodology and statistical hypotheses.

### 3.1 Data Selection \& Sources

The data set in this study includes the daily stocks returns calculated from the daily stock price of 50 firms, which are announced quarterly, semi-annually and annually dividend increase from 2001 to 2010. These firms are from 5 sectors of the Toronto stock exchange (TSE) which are energy, industries, financial, utilities and materials (Appendix A). The data set also include the daily market returns of the Toronto index composite S\&P/TSX during the same period which will be used as the benchmark in this study. All the data are obtained through the DataStream \& Bloomberg database.

The reason of choosing firms from different in sectors is to determine wither the effect of the increase in dividends announcement in different section of the market is same or not.

### 3.2 Methodology

In this study, the event study method is used to analyze the stock market reaction on the effects of the increase in dividend announcements. The announcement day is represented by $t=0$, and the event window is 3 days, the
period from $t=0$ to $t=-1$ is defined as pre-event date, and the period from $t=0$ to $t=$ 1 is defined as post-event date. The estimated window is -90 to -10 days before the announcement date (Figure 3-1).

Figure 3-1


In order to examine the effects of increase in dividends announcement, we will perform the following procedures:
a. First, we will use the market model to calculate the abnormal returns through the following equations:

$$
\begin{equation*}
E(R i t)=\alpha i+\beta i R m t \tag{Equation3.1}
\end{equation*}
$$

$$
\begin{equation*}
\text { ARit }=\text { Rit }-(\alpha i+\beta i R m t) \tag{Equation3.2}
\end{equation*}
$$

## where: ARit: abnormal return for stock i in period t

Rit: rate of return of stock i on day $t$

Rmt: rate of return on the TSX index on day $t$
$\boldsymbol{\alpha}$ : intercept regression coefficient
$\beta$ i: slope regression coefficient
b. Secondly, in order to measure the total impact of the event, we need to calculate the cumulative abnormal return through the following equation:

(Equation 3.3)
where: CAR it: cumulative abnormal return
$\boldsymbol{\Sigma A R}$ it: sum of individual abnormal returns

### 3.3 Statistical Hypothesis Testing

In order to determine if the abnormal return, which may be caused by the effects of dividend increase announcements, is significant or not; we have to do a hypothesis testing (t-test). To conduct a hypothesis test, we will define the null hypothesis and the alternative hypothesis as the following:

- The null hypothesis $(\mathrm{H} 0: \mu=0)$ which indicates that there is no effect on the stock performance from the dividend increase announcement.
- The alternative hypothesis $\left(\mathrm{H}_{1: \mu} \mu \neq 0\right)$ is indicating that there is an abnormal return as effect from the event of increasing in dividends.
TEST= ((SAR)/N) / (AR_SD/sqrt(N))
where: $\mathbf{A R}$ is the abnormal return.
AR_SD is the abnormal return standard deviation.

The result of the $t$ test will determine the significance of the abnormal return as follows:

- If the absolute $t$-value $>1.96$, we reject the null which means there is an abnormal return as an effect from the event of increasing in dividends and the average abnormal return for that stock is significantly different from zero at the 5\% level.
- If the absolute t-value $<1.96$, we accept the null which means there is no effect on the stock performance from the dividend increase announcement.

Note: The value 1.96 is the standard normal distribution with a mean of 0 and a standard deviation of $1.95 \%$ of the distribution is between $\pm 1.96$.

## Chapter 4

## Results and Interpretation

In this research, we have selected 50 firms (Appendix A) from different sectors from the TSX index, which announced increases in dividends during the period 2001 to 2010, to examine the effect of this event on the stock price. We are taking into consideration a short event window of 3 days, which is one day -1 before and on day +1 after the event window and event date which represent by day 0 , however we will show the effect of this event if we expand the event window to 7 days and 11 days.

In this chapter we will discuss the results and findings of the model presented in Chapter 3. We will be focusing on two main points which are the individual effect of abnormal return caused by the increase in dividends on the stocks and the cumulative abnormal returns which may be caused by the event.

### 4.1 Individual Abnormal Return

We examine the effects of the event on the stocks based on the following three scenarios:

## a. Based on 3 days event window

According on our results from the tests which were defined in Chapter 3, we find that based on a 3 day event widow 11 stocks out of 50 stocks have a tvalue of greater than 1.96 (Table 4.1). Therefore, the average abnormal
returns, which were caused by the event, for those stocks are significantly different from zero at the $5 \%$ level.

## Table 4.1

| company_id | announcement date | cumulative abnormal return | t.test |
| :---: | :---: | :---: | :---: |
| 6 | 17-Sep-03 | -0.0641315 | -4.664347 |
| 7 | 12-Mar-08 | 0.0368419 | 3.411697 |
| 12 | $02-$ Dec-03 | -0.0135768 | -3.26884 |
| 15 | $04-$ Dec-03 | -0.0880905 | -7.167041 |
| 18 | 20-Apr-05 | 0.0748941 | 2.15573 |
| 24 | 03-May-07 | 0.060398 | 3.290663 |
| 25 | 02-Mar-04 | -0.009172 | -1.976136 |
| 31 | 28-Jul-04 | 0.0489464 | 2.391806 |
| 35 | 17-Nov-10 | -0.0376905 | -2.16687 |
| 42 | 18-Dec-01 | 0.0211804 | 3.517122 |
| 45 | 10-May-07 | 0.0382432 | 3.210638 |

## Figure 4.1



As indicated early in Chapter 3, our data were obtained from five different sectors: energy, industries, financial, utilities and materials. When we analyze the abnormal return for the stocks in case of a 3 day event window, we find that four firms from the financial sector, and three from the industrial sector, and two from energy and, one from the material sector and one from the utility sector, as indicated in Table 4.2.

## Table 4.2

| company_id | sector | cumulative abnormal return | t.test |
| :---: | :---: | :---: | :---: |
| 6 | Energy | -0.0641315 | -4.664347 |
| 7 | Energy | 0.0368419 | 3.411697 |
| 12 | Financial | -0.0135768 | -3.26884 |
| 15 | Financial | -0.0880905 | -7.167041 |
| 18 | Financial | 0.0748941 | 2.15573 |
| 24 | Industries | 0.060398 | 3.290663 |
| 25 | Industries | -0.009172 | -1.976136 |
| 31 | Industries | 0.0489464 | 2.391806 |
| 35 | Materials | -0.0376905 | -2.16687 |
| 42 | Utilities | 0.0211804 | 3.517122 |
| 45 | Financial | 0.0382432 | 3.210638 |

## b. Based on 7 days event window

We have expanded the event window to 7 days; 3 days before the event and 3 days after the event day, to see if there are different results. We find that only 8
stocks out of 50 stocks have $t$-values greater than $1.96 \%$ (Table 4.3) which indicates the average abnormal return for those stocks is significantly different from zero at the $5 \%$ level.

Table 4.3

| company_id | announcement date | cumulative abnormal return | t.test |
| :---: | :---: | :---: | :---: |
| 6 | 17-Sep-03 | -0.0732022 | -2.577 |
| 15 | 04-Dec-03 | -0.1267926 | -2.6169 |
| 29 | 07-Dec-01 | -0.0432887 | -2.4829 |
| 35 | 17-Nov-10 | -0.118936 | -2.8705 |
| 42 | 18-Dec-01 | 0.0396642 | 2.32022 |
| 43 | 30-Jan-01 | 0.0692284 | 2.46489 |
| 45 | 10-May-07 | 0.0446829 | 2.29785 |

Figure 4.2

c. Based on 11 days event window

When we consider an 11 day event window, 5 days before the event and 5 days after the event day, we find that only 7 stocks out of 50 stocks have tvalues greater than 1.96 (Table 4.4), which indicates the average abnormal return for these stocks is significantly different from zero at the 5\% level.

Table 4.4

| company_id | announcement date | cumulative abnormal return | t.test |
| :---: | :---: | :---: | :---: |
| 1 | 12-Jan-05 | -0.0756862 | -1.99579 |
| 2 | 29-Jan-07 | 0.1358131 | 2.233972 |
| 15 | $04-$ Dec-03 | -0.1671368 | -3.80819 |
| 18 | 20-Apr-05 | 0.1157405 | 3.671543 |
| 27 | 16-Dec-05 | -0.1440145 | -2.28001 |
| 35 | 17-Nov-10 | -0.1562763 | -3.34799 |
| 37 | 08-May-08 | 0.2199845 | 2.805555 |
| 40 | 10-Dec-08 | 0.0732999 | 2.1195 |
| 43 | 30-Jan-01 | 0.1245749 | 1.977203 |
| 45 | 10-May-07 | 0.0611062 | 2.202996 |

Figure 4.3


### 4.2 Cumulative Abnormal Returns

We considered the total effect of the announcement for the increase in dividends based on the following scenarios:

## a. Based on 3 days event window

According to a 3 day event window, the $t$-value of the overall model is high (2.06) and this lead us to reject the null hypothesis and conclude that the average abnormal return for these stocks are significantly different from zero at the $5 \%$ level. Therefore, our result showed that there is evidence of positive and negative abnormal returns, within the event widow as indicated in Figure 4.4, which is caused by the announcement of increases in dividends.

Table 4.5

|  | Robust <br> Cumulativen |  |  | Coef. | Std. Err. | t |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Cons $\|t\|$ | .0159509 | .0077565 | 2.06 | 0.046 | .0003285 | .0315732 |

Figure 4.4

b. Based on 7 days event window

When we examine the effect in case of a 7 day event window, we find that the overall t-value is low (1.36) which indicates that we can reject the null hypothesis, therefore there is no significant abnormal return at $5 \%$ level of significance (Figure 4.5).

## Table 4.6

| cumulativern | Coef. | Robust |  |  |  | Interval] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| _cons | . 0129522 | . 0095042 | 1.36 | 0.180 | -. 0061902 | . 0320946 |

## Figure 4.5


c. Based on 11 days event window

In the case of an 11 day event window, we find that the overall $t$-value is very low (0.79) which indicates no significant abnormal return can be achieved during the event window as a result of the announcement of increasing in dividends (Figure 4.6).

Table 4.7

|  | Robust <br> Cumulative-n |  |  | Coef. | Std. Err. | t |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\mathrm{P}\rangle\|\mathrm{t}\|$ | [958 Conf. Interval] |  |  |  |  |  |
| cons | .009382 | .0119512 | 0.79 | 0.437 | -.014689 | .0334529 |

Figure 4.6


## Chapter 5

## Conclusions and Recommendations

This study examined and analyzed the effect of the increase in dividend announcements on the stock price in the Toronto Stocks Exchange market. We applied the market model on data of 50 stocks, which were chosen from different sectors of the TSX index, to determinate the possibility of effects such as achieving abnormal return which can be caused by the announcement of increase in dividends. In our study we focused on short period event windows (3 day, 7 days and 11 days), and we compared different results among these different event period. We also preformed statistical tests such as at-test to determine the significance of the effects which were caused by the event.

Our results indicate that only in the case of a 3 day event window (one day before the event and one day after the event) some stocks exhibit abnormal returns, and these returns can be positive or negative. This may suggest that when the investors receive the announcements of change in dividends, they overreact to this news positively or negatively, which caused the abnormal return. However, these abnormal returns last for one day, after that the stock price corrects itself and returns to its normal level of price. However, our results indicate that in the cases of 7 and 11 days event windows, there is no abnormal return that can be generated by investors from the announcements of increase in dividends. This indicates the semi-strong form of the efficient market hypothesis
is supported. This may suggest that investors were expecting the increase in dividends before the announcement is made. Therefore they react positively or negatively based on their expectations before the event day.

We conclude this study by indicating that the increase in dividend announcements does affect the stock prices. However, investors cannot make abnormal returns due to this event.

In future research, we suggest more data are used to study the effects of the increase in dividends announcements, and longer periods of event widows to examine and analyses the effects of this event.

## Appendix A

| Company id | Name | Sector |
| :---: | :---: | :---: |
| 1 | Advantage Oil \& Gas Ltd | Energy |
| 2 | ARC Resources Ltd | Energy |
| 3 | Bonavista Energy Corp | Energy |
| 4 | Husky Energy Inc | Energy |
| 5 | Suncor Energy Inc | Energy |
| 6 | Talisman Energy Inc | Energy |
| 7 | Baytex Energy Corp | Energy |
| 8 | Bonterra Energy Corp | Energy |
| 9 | Calfrac Well Services Ltd | Energy |
| 10 | Enbridge Inc | Energy |
| 11 | Bank of Montreal | Financial |
| 12 | Bank of Nova Scotia | Financial |
| 13 | Boardwalk Real Estate Investment Trust | Financial |
| 14 | Canadian Imperial Bank of Commerce/Canada | Financial |
| 15 | Canadian Western Bank | Financial |
| 16 | Royal Bank of Canada | Financial |
| 17 | Toronto-Dominion Bank/The | Financial |
| 18 | Calloway Real Estate Investment Trust | Financial |
| 19 | Canadian Imperial Bank of Commerce/Canada | Financial |
| 20 | Cl Financial Corp | Financial |
| 21 | Cominar Real Estate Investment Trust | Financial |
| 22 | Emera Inc | Utilities |
| 23 | Allied Properties Real Estate Investment Trust | Financial |
| 24 | Russel Metals Inc | Industries |
| 25 | Superior Plus Corp | Industries |
| 26 | Wajax Corp | Industries |
| 27 | Westshore Terminals Investment Corp | Industries |
| 28 | CAE Inc | Industries |
| 29 | Canadian Apartment Properties REIT | Industries |
| 30 | Canadian National Railway Co | Industries |
| 31 | Canadian Pacific Railway Ltd | Industries |
| 32 | Harry Winston Diamond Corp | Materials |
| 33 | Yamana Gold Inc | Materials |
| 34 | West Fraser Timber Co Ltd | Materials |
| 35 | Sherritt International Corp | Materials |
| 36 | Labrador Iron Ore Royalty Corp | Materials |


| Company id |  | Name |
| :--- | :--- | :--- |
| 37 | CCL Industries Inc | Materials |
| 38 | Atco Ltd/Canada | Utilities |
| 39 | Algonquin Power \& Utilities Corp | Utilities |
| 40 | Fortis Inc/Canada | Utilities |
| 41 | Just Energy Group | Utilities |
| 42 | Northland Power Inc | Utilities |
| 43 | Canadian Utilities Ltd | Utilities |
| 44 | Brookfield Asset Management In | Financial |
| 45 | Power Corp of Canada | Financial |
| 46 | National Bank of Canada | Financial |
| 47 | Intact Financial Corp | Financial |
| 48 | Canadian Oil Sands Ltd | Utilities |
| 49 | Veresen Inc | Energy |
| 50 | TransForce Inc | Industries |

## Appendix B

| Company id | Ticker | Name | Sector | Announcment date | DPS t | DPS t-1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | AAV CN Equity | Advantage Oil \& Gas Ltd | Energy | January 12, 2005 | 0.28 | 0.23 |
| 2 | ARX CN Equity | ARC Resources Ltd | Energy | January 29, 2007 | 0.2 | 0.17 |
| 3 | BNP CN Equity | Bonavista Energy Corp | Energy | January 15, 2007 | 0.3 | 0.275 |
| 4 | HSE CN Equity | Husky Energy Inc | Energy | October 22, 2007 | 0.33 | 0.25 |
| 5 | SU CN Equity | Suncor Energy Inc | Energy | April 24, 2003 | 0.05 | 0.0425 |
| 6 | TLM CN Equity | Talisman Energy Inc | Energy | September 17, 2003 | 0.4 | 0.3 |
| 7 | BTE CN Equity | Baytex Energy Corp | Energy | March 12, 2008 | 0.2 | 0.18 |
| 8 | BNE CN Equity | Bonterra Energy Corp | Energy | June 25, 2008 | 0.32 | 0.27 |
| 9 | CFW CN Equity | Calfrac Well Services Ltd | Energy | December 9, 2010 | 0.075 | 0.05 |
| 10 | ENB CN Equity | Enbridge Inc | Energy | January 2, 2001 | 0.35 | 0.3225 |
| 11 | BMO CN Equity | Bank of Montreal | Financial | November 28, 2006 | 0.65 | 0.37187 |
| 12 | BNS CN Equity | Bank of Nova Scotia | Financial | December 2, 2003 | 0.5 | 0.44 |
| 13 | BEI-U CN Equity | Boardwalk Real Estate Investment Trust | Financial | November 9, 2007 | 0.15 | 0.1333 |
| 14 | CM CN Equity | Canadian Imperial Bank of Commerce/Canada | Financial | August 30, 2007 | 0.87 | 0.77 |
| 15 | CWB CN Equity | Canadian Western Bank | Financial | December 4, 2003 | 0.3 | 0.23 |
| 16 | RY CN Equity | Royal Bank of Canada | Financial | August 24, 2007 | 0.5 | 0.46 |
| 17 | TD CN Equity | Toronto-Dominion Bank/The | Financial | August 28, 2003 | 0.32 | 0.28 |
| 18 | CWT-U CN Equity | Calloway Real Estate Investment Trust | Financial | April 20, 2005 | 0.11333 | 0.105 |
| 19 | CM CN Equity | Canadian Imperial Bank of Commerce/Canada | Financial | May 26, 2004 | 0.6 | 0.5 |
| 20 | CIX CN Equity | CI Financial Corp | Financial | July 14, 2004 | 0.15 | 0.125 |
| 21 | CUF-U CN Equity | Cominar Real Estate Investment Trust | Financial | December 18, 2001 | 0.88 | 0.41 |
| 22 | EMA CN Equity | Emera Inc | Utilities | September 24, 2010 | 0.325 | 0.2525 |
| 23 | AP-U CN Equity | Allied Properties Real Estate Investment Trust | Financial | March 3, 2004 | 0.095 | 0.09166 |
| 24 | RUS CN Equity | Russel Metals Inc | Industries | May 3, 2007 | 0.54 | 0.4 |
| 25 | SPB CN Equity | Superior Plus Corp | Industries | March 2, 2004 | 0.3524 | 0.175 |
| 26 | WJX CN Equity | Wajax Corp | Industries | July 12, 2005 | 0.275 | 0.07 |
| 27 | WTE CN Equity | Westshore Terminals Investment Corp | Industries | December 17, 2005 | 0.267278 | 0.17 |
| 28 | CAE CN Equity | CAE Inc | Industries | May 14, 2008 | 0.03 | 0.01 |
| 29 | CAR-U CN Equity | Canadian Apartment Properties REIT | Industries | December 7, 2001 | 0.0875 | 0.0233 |
| 30 | CNR CN Equity | Canadian National Railway Co | Industries | January 23, 2001 | 0.195 | 0.175 |


| Company id | Ticker | Name | Sector | Announcment date | DPS t | DPS t-1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31 | CP CN Equity | Canadian Pacific Railway Ltd | Industries | 28-Jul-04 | 0.1325 | 0.1275 |
| 32 | HW CN Equity | Harry Winston Diamond Corp | Materials | 9-Jun-05 | 0.25 | 0.15 |
| 33 | YRI CN Equity | Yamana Gold Inc | Materials | 7-May-08 | 0.1 | 0.3 |
| 34 | WFT CN Equity | West Fraser Timber Co Ltd | Materials | 14-Sep-10 | 0.06 | 0.03 |
| 35 | S CN Equity | Sherritt International Corp | Materials | 17-Nov-10 | 0.038 | 0.036 |
| 36 | LIF-U CN Equity | Labrador Iron Ore Royalty Corp | Materials | 7-Jun-01 | 0.375 | 0.25 |
| 37 | CCL/B CN <br> Equity | CCL Industries Inc | Materials | 8-May-08 | 0.14 | 0.1257 |
| 38 | $\mathrm{ACO} / \mathrm{YCN}$ <br> Equity | Atco Ltd/Canada | Utilities | 8-Mar-01 | 0.26 | 0.23 |
| 39 | AQN CN Equity | Algonquin Power \& Utilities Corp | Utilities | 18-Dec-09 | 0.06 | 0.02 |
| 40 | FTS CN Equity | Fortis Inc/Canada | Utilities | 10-Dec-08 | 0.26 | 0.25 |
| 41 | JE CN Equity | Just Energy Group | Utilities | 7-May-02 | 0.15417 | 0.1358 |
| 42 | NPI CN Equity | Northland Power Inc | Utilities | 18-Dec-01 | 0.135 | 0.08 |
| 43 | CU CN Equity | Canadian Utilities Ltd | Utilities | 30-Jan-01 | 0.47 | 0.45 |
| 44 | BAM/A CN Equity | Brookfield Asset Management In | Financial | 30-Apr-03 | 0.26 | 0.25 |
| 45 | POW CN Equity | Power Corp of Canada | Financial | 10-May-07 | 0.24125 | 0.1975 |
| 46 | NA CN Equity | National Bank of Canada | Financial | 31-May-07 | 0.6 | 0.54 |
| 47 | IFC CN Equity | Intact Financial Corp | Financial | 15-Feb-07 | 0.27 | 0.1625 |
| 48 | COS CN Equity | Canadian Oil Sands Ltd | Energy | 1-Nov-07 | 0.55 | 0.4 |
| 49 | VSN CN Equity | Veresen Inc | Energy | 21-Nov-07 | 0.0833 | 0.0775 |
| 50 | TFI CN Equity | TransForce Inc | Industries | 26-Feb-07 | 0.1325 | 0.1275 |

## References

Aharony, J. \& I. Swary. (1980). Quarterly dividend and earnings announcements and stockholders returns: an empirical analysis. Journal of Finance, 35(1), 1-12.

Asquith, P. \& D.W. Mullins. (1986). Signaling with dividends, stock repurchases and equity issues. Financial Management, 15(3), 27-44.

Bailey, W., (1988). "Canada's dual class shares: Further evidence on the market value of cash dividends," Journal of Finance, 43 (5), 1143-1160.

Bhattacharya, S. (1979). Imperfect information, dividend policy, and the bird in the hand fallacy. Bell Journal of Economics, 10 (1), 259-270.

Brickley,J. A.(1983). Shareholder Wealth, information signaling and the specially designated: An empirical study. Journal of Financial Economics, 12(2), 187-209.

Damodaran, A.( 2001), "The Dividend Decision", In A. Damodaran, Corporate Finance: Theory and Practice (pp. 657-685). John Wiley \& Sons, Inc.

Docking, D.S. \& P.D. Koch.( 2005). Sensitivity of investor reaction to market direction and volatility: Dividend change announcements. Journal of Financial Research, 28(1), 21-40.

Dasilas, A. \& Leventis, S., (2011), Stock Market Reaction to Dividend Announcements: Evidence from the Greek Stock Market. International Review of Economics and Finance, 20, 302-311.

Fukuda, A. (2000). Dividend changes and earnings performance in Japan. Pacific-Basin Finance Journal, 8, 53-66.

John, K. \& J. Williams. (1985). Dividends, dilution, and taxes: A signaling equilibrium. Journal of Finance, 40(4), 1053-1070.

Jais, M., Karim, B.A., Funaoka, K. \& Abidin, A.Z. (2010). Dividend
Announcements and Stock Market Reaction: Further Evidence. Capital Market Review, Vol 18, No. (1 \& 2), pp. 61-73.

Jensen, M. (1986). Agency costs of free cash flow. American Economic Review, 76(2), 323-329.

Kato, H. K., U. Loewenstein \& W. Tsay. (2002). Dividend policy, cash flow, and investment in Japan. Pacific-Basin Finance Journal, 10, 443-473.

Miller, M. H. \& Modiglian, F., (1961), Dividend Policy, Growth, and The Valuation of Shares, Journal of Business, 4, PP.411-433

Miller, M. H., \& K. Rock. (1985). Dividend policy under asymmetric information, Journal of Finance, 40 (4), 1031-1051.

Lang, L. H.P. \& Litzenbergr, R. H., (1989). Dividends announcement, Cash Flow Signalling vs. Free cash flow hypothesis, Journal of Financial Economics, 24, 181-191.

Lonie, A. A., G. Abeyratna, D. M. Power \& C. D. Sinclair. (1996).The stock market reaction to dividend announcements: A UK study of complex market signals. Journal of Economic Studies, 23(1), 32-52.

