Impact of Dividends Announcements on Stock Returns: Evidence from Casablanca Stock Market, NAIT BOUZID, K.¹ and EKOUALA MAKALA, U.²

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Summary:

According to Efficient Market Hypothesis (EMH), stock prices reflect all available information, therefore, in an efficient market, no abnormal returns can be earned from this information since current prices already incorporate all existing information. Hence, the purpose of this study is to investigate the semi-strong form of market efficiency by examining the reaction of stock prices to dividend announcements in the Casablanca Stock Market.

Thus, the basic question of this study is: Do dividend announcements affect stock prices? We used the Event Study approach to measure the impact of dividends announcement on stock prices by computing the average abnormal return (AAR) and cumulated average abnormal return (CAAR), so as to evaluate their impact on the stock performance around the announcement day (for a period of 20 days prior and post-announcement).

The empirical results indicate that the (AARs) and (CAARs) are statistically insignificant for the whole event window, implying that dividend announcements do not convey any information content, therefore, the results do not confirm the information content of the dividend hypothesis. Furthermore, the empirical results support the dividend irrelevance theory introduced by Miller & Modigliani (1961) and contradict the cash flow signaling theory, which argues that dividends are informative. Overall, results confirm the semi-strong form of market efficiency in the Casablanca Stock Market.

Key words: Dividend announcements, Abnormal returns, Casablanca Stock Market, Event study, EMH.
Impact des annonces de dividendes sur les rentabilités boursières :
Cas de la Bourse de Casablanca

Résumé :
Selon l’hypothèse de marché efficient (EMH), les cours des actions incorporent déjà toutes les informations disponibles sur le marché, de ce fait, dans un marché efficient, il n’est pas possible d’obtenir des rentabilités anormales sur la base de ces informations, puisque les prix actuels intègrent déjà toute l’information disponible.

Ainsi, la question fondamentale de cette recherche est la suivante : les annonces de dividendes affectent-elles le cours des actions ? A cet effet, l’objectif de cette étude est de tester l’hypothèse de marché efficient sous sa forme semi-forte à travers l’observation de la réaction des cours des actions aux annonces de dividendes de la Bourse de Casablanca.

Nous avons utilisé l’approche d’Étude d’événements pour mesurer l’impact de l’annonce des dividendes sur les cours des actions à travers le calcul de la rentabilité moyenne anormale (RMA) et la rentabilité moyenne anormale cumulée (RMAC), ceux-ci pour évaluer leur impact sur la performance des actions autour de la date l’annonce (pour une période de 20 jours avant et après l’annonce).

Les résultats empiriques indiquent que les (RMAs) et (RMACs) sont statistiquement insignifiants pour l’ensemble de la fenêtre de l’événement, ce qui implique que les annonces de dividendes ne transmettent aucun contenu d’information, par conséquent, nos résultats ne supportent pas l’hypothèse du contenu informatif des dividendes. En outre, les résultats confirment la théorie de la neutralité des dividendes avancé par Miller & Modigliani (1961) et contredisent la théorie de la signalisation des cash-flows, qui soutient que les dividendes sont informatifs. En général, les résultats confirment la forme semi-forte d’efficacité du marché pour le cas de la Bourse de Casablanca.

Mots-clés : Annonces de dividendes, Rentabilités anormales, Bourse de Casablanca, Etude d’événements, EMH.
Introduction:

Under the efficient market hypothesis (EMH), the classical finance framework supposes that information is available, similar, and accessible for all the market participants, thus collecting and processing information doesn’t incur costs, which allows investors to be able to price correctly financial assets based on rational expectations. As a result, the price of the financial assets will reflect all available information, in the sense that no investor can repeatedly earn abnormal returns, *Fama (1991)*. The concept of market efficiency is frequently expressed in terms of several types of efficiencies, namely the weak, semi-strong, and strong forms of efficiency *Fama et al. (1969)*.

Particularly, this study, however, focuses on investigating for the semi-strong form efficiency by considering the reactions of stock prices to the information content of the dividend announcements on the Casablanca Stock Market, from which, we will provide the empirical evidence of the notion of market efficiency using the event study developed by *Dolley (1933)*.

Many previous studies argue that dividend increase announcements were associated with positive abnormal returns and dividend decrease announcements were associated with negative abnormal returns around dividend announcements date. Afterward, the semi-strong Form Efficient Market Hypothesis, *Fama et al. (1969)* suggests that such an announcement of information should be reflected immediately and correctly on the share price. Therefore, the main purpose of this study is to consider the effects of dividend on stock returns in the Casablanca Stock Market by inspecting the information content of dividend announcement and testing the semi-strong form of efficient market hypothesis. Hence, the basic question of this study is: Do dividend announcements affect stock prices in the context of Casablanca Stock Market?

This study will employ the standard event study methodology for this purpose. More particularly, the market model is applied in generating abnormal returns surrounding the dividend announcements. Numerous studies have been done in the developed markets but little evidence exists for frontier and emerging markets, *Glen et al. (1995)* and *Mansor & Subramaniam (1992)*. The consequence of these announcements could either be positive or negative depending upon investors’ interpretation of the information content brought by the dividend announcements.

There have been several studies conducted on dividend announcements in different stock markets. However, this study attempts to fill the gap in the literature by testing the impact of the dividend announcement under the context of the frontier market. To the best of our knowledge, this is the first study on this matter in the context of the Casablanca Stock Market. Therefore, it is to believe that this study would be able to provide valuable insights to the existing knowledge of this particular topic.
Our study will be organized as follow: Section 2 discusses the literature review of previous studies. Section 3 describes the methodology that will be used, the data collection, and the hypothesis development, while Section 4 presents and discusses the empirical results. Finally, conclusion.

1. Literature Review

The first section of this literature review consists of a theoretical review and the next section consists of the empirical review of literature which studies the previous reviews on the stock prices response to dividend announcements.

1.1. Theoretical Literature Review

Many researchers have advanced various theories, explanations, and models to know the relationship between the dividend announcement and the stock prices. Some researchers argue that stock prices are not affected by dividend announcement whereas some are of a completely contrary view. More particularly, some researchers claim that dividend payment will increase the stock prices while others claim that when some firms are continuously giving the dividend on regular basis, the value of stock prices is not affected. The following are the theoretical arguments that play a leading role in the era of dividend policy.

1.1.1. Dividend Irrelevance Theory

Before this theory, it was assumed that stock performance is affected by the dividend announcement and dividend payments have an effect on the value of stock prices Graham & Dodd (1951). However, the Dividend Irrelevance theory which is initiated by Modigliani & Miller (1961) and based on a fundamental hypothesis of a perfect market condition (no personal and corporate income taxes, no stock flotation or transaction costs ...) suggests that a firm’s dividend payments do not add value to firm’s stock price and asserts that dividends can actually harm a firm’s ability to be competitive and its financial health in the long run since the money would be better off reinvested in the firm to generate and improve its earnings.

1.1.2. Signaling Theory of Dividend

The signaling effect suggests that every information about a firm's dividends has a positive effect on the stock price volatility. Many further types of research have been done by endorsing this theory and currently it's seen as the most influential theory. According to this theory, the firm's announcements of dividend increases are an indication of positive future performance of the firm’s stock prices, while, decreases in dividend payments indicate negative future performance by the firm. Because of the particular nature of the dividend, several studies support the
hypothesis that dividend carries information about the future earnings of the firm *Easterbrook (1984)* and *Deeptee & Roshan (2009)*.

1.1.3. **Bird in Hand Theory**

This theory was advanced by *Gordon (1963)* and *Lintner (1962)* as a response to Modigliani & Miller’s dividend irrelevance theory. They suggested that investors prefer the certainty of dividend than the uncertainty of capital gains if they let the firm retain its earnings. In other words, dividend payments diminish uncertainty and results in a higher value of a firm’s stock price.

1.1.4. **Agency Cost Theory**

This theory was advanced by *Jensen & Meckling (1976)*. This theory arises from conflicts associated with the separation of management and ownership, and the differences in managerial and stockholder priorities. It further posits that the dividend payments encourage managers to reduce the costs associated with the agent-principal relationship by increasing dividends, *Baker & Powell (1999)*.

1.1.5. **The Catering Theory**

This theory claims that the dividend policy of many firms is affected by investor preferences for dividends. This concept was initially explained by *Baker & Wurgler (2004)*, as they contend that the driving force of managers decision to pay the dividends to the investors is investor’s sentiments. Hence, managers pay dividends when investors’ demand is high and don’t pay the dividend when investors’ demand is low. The root of this theory is that managers give the investors what they want at a specific time period.

1.1.6. **Maturity (Firm Life Cycle) Theory**

Following this theory, dividends are paid by the firm accordingly to the firm’s life cycle. Higher dividend increases are a sign of change in a firm’s life cycle. A firm is likely to pay higher dividends as it transits from a growth to a more mature phase.

1.1.7. **Tax Preference Theory**

It was first advanced by *Litzenberger & Ramaswamy (1980)*. This theory claims that dividend policy affects investor behavior due to the difference in taxation of capital gains and dividends. Hence, investors who receive favorable tax treatment on capital gains may prefer stocks with none or low dividend payments because higher dividend payments increase stockholders’ tax burden.
1.2. Empirical Literature Review

Several empirical researches have been evolved from different angles and have been conducted in different developed and emerging stock markets to explain the relationship between dividend announcements and stock prices. Different stock markets respond differently to such announcements about dividend information. There are stock markets that display efficient behavior and stock markets that display inefficient behavior. Using the event study approach, Adelegan (2003) investigated the semi-strong form of market efficiency in the Nigerian Stock Market. He studied the response of the stock market to the dividend announcement and stated that the Nigerian Stock Market was not efficient with respect to semi-strong form.

More specifically the empirical results show that before 30 days and after 25 days of the announcement of dividend, returns of the market are significantly positive. The non-acceptance of the semi-strong form of the efficient market was similarly confirmed by Kong & Taghavi (2006) under the context of the Chinese Stock Market. Lonie et al. (1996) inspected the U.K. Stock Market response to earnings and dividend announcements. They advocated that the influence of the combination of dividend and earnings news plays a crucial role in explaining the share price reaction on the announcement day.

They also noticed that investors are sensitive to the increase and the decrease of dividends and disclosed that on average, firms’ abnormal returns even one day before the announcement of dividends were significant even for those firms in which dividend remained unchanged. Also, a positive effect of dividend announcements on abnormal returns has been detected by Foster & Vicky, (1978) and Lee, (1995).

Similarly, Travlos et al. (2015) examined the effect of stock and cash dividend on the Cyprus Stock Exchange and found that when firms announce dividends, whether it is cash or stock dividend, a signal is formed in the market which affects firms’ returns. Moreover, when it comes to the utmost dividend variations which are referred to as dividend initiations and dividend omissions, the results of Asquith & Mullins (1983), Healy & Palepu (1988) and Michaley et al. (1995) show that stock prices react positively with dividend initiations and negatively with dividend omissions.

In the same line, Aharony & Swary (1980) examined quarterly earnings and dividend announcements and their effects on the U.S. Stock Market. They discovered that investors of firms that announced dividend increases earned, on average, positive abnormal returns over the twenty days surrounding the announcement dates, while, investors of firms that reduced their dividends earned, on average, negative abnormal returns during the twenty days surrounding the announcement dates. Finally, investors of firms that did not change their dividends, earned, on average, only normal returns over the twenty days surrounding the announcement dates.
In another perspective, Scott & Keith (1996) investigated the share price reaction to dividend increase and decrease announcements with respect to bull and bear market stage. Their evidence shows that the market stage had a significant impact on abnormal returns surrounding the announcement date, and it seemed that more information was carried by dividend’s change announcements that run counter to the market stage. Besides, their results were consistent with the information content of the dividends hypothesis. In a subsequent study, Dharmarathne (2013) examined information efficiency and the stock price reaction to dividend announcements in the Sri Lankan Stock Market.

The empirical results show that stock price reacts positively to dividend announcements in the Sri Lankan Stock Market. He further concludes that dividend increases announcements support the information content of the dividend hypothesis, whereas, dividend decrease announcements and dividend no change announcements are not aligned with the information content of the dividend hypothesis. Besides, their results support the semi-strong form of the efficient capital market hypothesis, that is, on the average, the stock market adjusts efficiently to new dividend information. Hu & Ahmed (2010) studied the effect of dividend announcements on stock price in the Shanghai Stock Market. They found that on the day of dividend increase announcement, stock prices increased and investors earned abnormal returns. Nevertheless, as for the result on the day of the dividend decrease announcement, the market did not undergo any negative abnormal returns, which implies that investors in the Shanghai Stock Market did not interpret dividends decrease as bad information. Also, large dividend increases announcements tend to have more effect on the abnormal returns’ value, suggesting that the investors consider more the amount of the dividend increase. Similarly, the empirical results found by Dasilas & Leventis (2011), support the dividends signaling hypothesis.

They argue that the Greek Stock Market reacts positively when there is an increase in dividends, and reacts negatively when there is a decrease in dividends. In a recent study, Kadioglu et al. (2015) examined the Borsa Istanbul Market reaction to cash dividend announcements by investigating abnormal returns around the announcement date. They found a negative and significant relationship between abnormal returns and cash dividends. They further conclude that these results support the tax-clientele effect hypothesis, that is when a firm announces cash dividends, investors tend to diminish their holdings by selling more shares in order to avoid more taxation in the future, consequently, market prices decrease.

Furthermore, the empirical results show that there is no significant information leakage before the announcement date, indicating that market inefficiency decreases over time as new information adapts quickly and reflects stock prices. Uddin (2005) investigated the impact of
dividend announcements on stockholders' value. Based on 137 samples of firms listed on Dhaka Stock Market, he found that investors do not gain any value from dividend announcements. Moreover, stockholders lose about twenty percent in a period of 30 days prior to the dividend announcement through 30 days after the announcement.

The empirical findings tend to support the dividend irrelevancy hypothesis. In other words, there is no information contained in the dividend for the Dhakan Market’s stock prices and returns. In the same way, Hoque & Mamun (2013) found no effect of pre- and post-announcement of dividend on stock prices in the Dhaka Stock Market. In the context of the Pakistan Stock Market, Irum et al. (2012) investigated the market response to dividend announcements. Their study was conducted in four sectors of the Pakistan economy.

The empirical evidence shows that the dividend announcement has no positive and significant impact on stock prices. Hence, the Karachi Stock Market exhibited efficient behavior with respect to these four sectors. In the same line, Akbar & Baig (2010) concluded that the reaction of stock prices to the cash dividend announcement is statistically insignificant. However, the average abnormal return and cumulative abnormal returns were statistically significant, displaying a positive reaction.

2. Data Collection & Methodology

2.1. Data Collection

The dataset used in this study is obtained from the Thomson DataStream database and comprises of both firm-specific and market-level data listed on the Casablanca Stock Market over the period from September 1, 2017, to December 31, 2018. In addition, data of dividend announcement dates are also collected for all firms included in the sample. This will allow us to conduct Event analysis. According to the period of focus in this study, we select firms that have been listed continuously during the sample period with all relevant data available.

Therefore, daily updated constituent lists of the Madex Index (Moroccan Most Active Shares Index) are used when retrieving the firm-specific data. To calculate individual stock returns, daily data on stock prices for firms listed on the Madex Index (Moroccan Most Active Shares Index) over the period from September 1, 2017, to December 31, 2018, are collected. Log returns are calculated as follow: \( R_{it} = 100 \times \left( \log(P_t) - \log(P_{t-1}) \right) \), and Log market returns are calculated as follow: \( R_{mt} = 100 \times \left( \log(P\text{Madex}_t) - \log(P\text{Madex}_{t-1}) \right) \).

Madex index comprises 62 most active firms in the Casablanca stock market. We filtered out all firms that haven’t been listed continuously during the sample period and without dividend announcement dates. By doing this, our final sample consists of 42 most active firms in the Casablanca stock market.
2.2. Event Studies

The methodology used in this study is the Event Study methodology. The history of the event studies dates back to Dolley (1933), cited in MacKinley (1997), which is stated as possibly the first published study. As per MacKinley (1997), Dolley (1933) examined the effect of stock-splits on stock prices by using a total of 95 splits over the period 1921 to 1931 and found an increasing effect of the stock prices in 60% of the cases. MacKinley (1997) further argues that the methodology of event studies spanning over the period from the 1930s to the late 1960s has been enhanced in the context of identifying biases, where Myers & Bakay (1948) and Barker (1956) are the examples cited at that time. Nevertheless, it was Ball & Brown (1968) and Fama et al (1969) who described the procedure for studying events in the methodology that is more applied nowadays.

The event study approach has been widely applied to the researches of the stock markets' reaction to important financial events. In another world, event study methodology analyses the effect of corporate or economic events such as merger/acquisitions, dividend announcements, stock splits, and stock repurchase on the behavior of firms' stock price. In our study, we will evaluate the impact of dividend announcements on stock returns. To establish an event study, the event window, and the estimation window should be determined. The window period refers to a specific time period in calendar years selected to study a specific event, which is the announcement of dividends in this case. The event window is used to illustrate the impact before and after the event day, to examine how much the news can affect the stock returns. The estimation of return parameters is performed over an estimation window period, which is the period that precedes the event window period. The estimation window in this study is fixed to 181 days before the event window.

In this study, we set the event window at twenty (20) days before and twenty (20) days after the dividend announcement day (t1 to t2). The selection of the event window (of -20, +20) is made in order to highlight the potential pre- and post-event reaction. The announcement day is represented by day zero (t=0).

-20, -19, -18, -17, -16, ...... -4, -3, -2, -1, 0, +1, +2, +3, +4 ... +16, +17, +18, +19, +20

Due to the institutional characteristics and the abnormal nature of the information environment in frontier stock markets, it is unlikely that the market reaction starts long before the real announcements which can be a sign of leakage of information and insider trading. (Figure 1) illustrates the window period, which is described below. In this figure, the period between T1-T2 characterizes the estimation window and this period designates the dates before the event existence. The interval t1-t2 represents the event window period indicating the days surrounding
the event date, while, the interval t1'-t2 denotes the period after the event date. The time t = 0 designates the actual event date on the calendar year.

![Figure 1: Illustration of the window period](image)

### 2.3. Hypothesis Development

In order to shed the light on the frequent argument of the dividend signaling effect and the information content of the dividend hypothesis, the current study attempts to inspect whether the dividend announcements by the listed firms on the Casablanca Stock Market convey information to the market which can be assessed by the investors, to gain abnormal returns. Therefore, based on the previous studies and given the depth of information available about the stock returns of the Casablanca Stock Market, the following hypotheses are developed:

- **The null hypothesis** tested in this study is specified as follows: Dividend announcements do not convey new information to the market, therefore, no abnormal returns in the stock prices. Accepting null hypothesis implies no significant abnormal activity during the investigated period and therefore, the semi-strong form of the efficient capital market hypothesis is accepted, and the irrelevance theory introduced by Miller & Modigliani (1961) remains true.

- On the other hand, accepting the alternative hypothesis implies that dividend announcements have a significant impact on stock returns. Therefore, both the dividend signaling effect theory and the information content of dividend hypothesis stand true.

### 2.4. Methodology

This study adopts the event study technique to detect the market reaction during the event of dividend announcement. In addition, the study uses the market model of MacKinlay (1997) instead of (CAPM) and multiple factors model, since it is the more convenient model to predict the stock normal return in the event window. Brown & Warner (1985) argue that the market model is regarded as the most flexible, for the reason that it gives the most reliable and well-
specified results in most of the conditions, and daily stock return data. Hence, the market model is used to predict stock normal returns.

2.4.1. Calculation of Expected Returns

We use the Market Model approach, to estimate the expected rate of returns during the event window of 41 days.

\[ ER_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \]  \hspace{1cm} (4.1)

Where: \( \alpha_i \) is the intercept term, \( \beta_i \) measures the marginal effect of the market return on return of stock \( i \), \( ER_{it} \) expected returns on a stock \( i \) at time period \( t \), \( R_{mt} \) market return at time \( t \) (Madex index) and \( \epsilon_{it} \) error term; where \( E(\epsilon_{it}) = 0 \)

2.4.2. Abnormal Returns

Abnormal returns (\( AR_{it} \)) are calculated as the difference between actual returns and the returns estimated by the market model on each of the 41 days for each stock \( i \):

\[ AR_{it} = R_{it} - E(R_{it}) \]  \hspace{1cm} (4.2)
\[ AR_{it} = R_{it} - \alpha_i - \beta_i R_{mt} \]  \hspace{1cm} (4.3)

2.4.3. Calculation of Cumulative Abnormal Return (CAR)

After obtaining abnormal returns of each period of the stock, we calculate the cumulative abnormal returns (CAR): CARs are computed by aggregating daily ARs over the period before the dividend announcement date to after the dividend announcement date.

\[ CAR = \Sigma AR_t \]  \hspace{1cm} (4.4)

2.4.4. Calculation of Average Abnormal Return (AAR)

To improve the scope of explanatory analysis of the abnormal returns, we compute the AARs by averaging abnormal returns at day “\( t \)” across overall the stock returns.

\[ AAR_t = \frac{\Sigma AR_t}{N} \]  \hspace{1cm} (4.5)

Where: \( \Sigma AR_t \) is the Sum of all Abnormal Returns

2.4.5. Calculation of Cumulative Average Abnormal Return (CAAR)

The cumulative average abnormal return (CAAR) is also computed by aggregating and averaging the cumulative abnormal returns over the event window period.

\[ CAAR_t = \frac{\Sigma CAAR_t}{N} \]  \hspace{1cm} (4.6)

Where: \( \Sigma CAAR_t \) is the Sum of all Cumulative Abnormal Returns.

2.4.6. The test for statistical significance using the t-statistic

T-test is performed to test the statistical significance of the \( AAR_t \) and \( CAAR_t \).
• **T-Statistics for Average Abnormal Return (t-AAR):** T-statistics is used to test the significance of the Average Abnormal Return on event day “t”. The t-statistics is applied as follow: 
\[
t_{AAR_t} = \frac{AAR_t}{SD} \times \frac{1}{\sqrt{N}}
\] 
Where, N: the number of days in the event window and SD: the standard deviation of AR 
(4.7)

• **T-Statistics for Cumulative Average Abnormal Return (t-CAAR):** and similarly, to test the significance of the Cumulative Average Abnormal Return on event day “t”. The t-statistics is applied as follow: 
\[
t_{CAAR_t} = \frac{CAAR_t}{SD} \times \frac{1}{\sqrt{N}}
\] 
Where, N: the number of days in the event window and SD: the standard deviation of CAR 
(4.8)

3. **Empirical Findings**

<table>
<thead>
<tr>
<th>EVENT WINDOW</th>
<th>Gains</th>
<th>Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Pre-announcement</td>
<td>0.745(-1)</td>
<td>0.084(-13)</td>
</tr>
<tr>
<td>Post-announcement</td>
<td>0.375(+4)</td>
<td>0.007(+3)</td>
</tr>
</tbody>
</table>

**Table 1: Gain and Loss Statistics of AAR during the Pre and Post Event Window**

Notes: This table presents the gains and losses statistics of AAR during the pre and post-event window in the Casablanca Stock Market. The Min and Max are the minimum and maximum (gains or losses), respectively, during the pre and post-event window. The Average is the mean value of AAR (gains or losses) during the pre and post-event window. Numbers in parentheses are days surrounding the event. The sample consists of daily data from September 1, 2017, to December 31, 2018. AAR is obtained by this equation: 
\[
AAR_t = \frac{\Sigma AR_t}{N}, \text{ where } \Sigma AR_t \text{ is the Sum of all Abnormal Returns at day } t.
\]

Table 1 presents the gains and losses statistics of AAR during the pre- and post-event window in the Casablanca Stock Market. The empirical results show that on the day of the announcement date, the Casablanca Stock Market has failed to generated excess gains and has recorded a negative average excess return of 0.37. Yet, insignificant.

Looking at the pre-announcement period, the empirical results show that in 20 of the trading days prior to the dividend announcement date in the event window, the average abnormal return gain is with a maximum of 0.745 on day (-1) and with a minimum of 0.084 on day (-13). While, the average abnormal return loss is with a maximum of -0.56 on day (-18) and with a minimum of -0.022 on day (-8). Furthermore, the average gain is 0.342 against 0.253 average loss in the rest of the trading days prior to the announcement date, as a result, recording an insignificant average gain of 0.089 in the whole pre-announcement event window.

This finding suggests that if indeed the information of dividend payment leaks out prior to the announcement date, it is frequently expected that the market will react earlier than the announcement date engendering a significant positive average excess return. However, this is not the case in the Casablanca Stock Market and it could be due to the fact that the dividend...
payment news release made by the firm often leaks out to the market a few days before the announcement date. Therefore, the announcement of dividend usually carries no surprise to the market, which is consistent with the results of Uddin (2011) and Hoque & Mamun (2013). Similarly, looking at the post-announcement period, the average abnormal return gain is with a maximum of 0.375 on day (+4) and with a minimum of 0.007 on day (+3).

While, the average abnormal return loss is with a maximum of 0.493 on day (+13) and with a minimum of 0.006 on day (+18). Furthermore, the average gain is 0.161 against an average loss of 0.23, as a result, recording an average loss of 0.069 in the whole post-announcement event window.

This is further evidence that the Casablanca Stock Market again has failed to generate significant excess gains during the post-event window. The results are conflicting with the results of Khanal & Mishra (2017), Al-Yahyaeet al. (2011, 2014) who found positive stock market reactions to stock dividend distributions and consistent with Goyal & Gupta (2019) who evidenced in their study that there is no possibility to gain abnormal returns. It is worthy of mention that for both of the pre- and post-event window, dividend announcements do not bring any significant excess returns to the investors due to a rise in stock prices either in the pre or post-event window, rather the stock prices fell, recording a sharp fall in the post-event window compared to the pre-event window, and thus the results of the study confirm the Modigliani & Millers’ dividend irrelevance theory.

Panel B of Table 2 reports the empirical results of the average abnormal returns (AARs) during three different time periods: the announcement date, pre-dividend announcement date, and post-dividend announcement date. The daily AARs for all dividend announcements are computed over −20 days and +20 days relative to the event day. According to the empirical results, the AARs are negative and statistically insignificant during the announcement date. In such conditions, on the actual event announcement date, if investors find that sufficient return has already been achieved by previous investors and the shares are currently overvalued, on the day of the particular event, the price may drop, and therefore the average excess return as well.

During the pre-announcement period, AARs remain predominantly negative during 14 days periods prior to the announcement date. However, it is found to be statistically insignificant during the whole time prior to the announcement day. Thus, it is obvious that the desire to enjoy the dividend advantages does not carry any surprise to investors prior to the dividend announcement date. All results are statistically insignificant confirming no evidence of stock price response towards dividend announcement at any of the 1%, 5%, and 10% level of significance. Furthermore, during the post-announcement period, the AARs are found to be again negative on most days 1, 5, 7, 8, 9, 12, 13, 15, 16, 17, 18, and 19 days, of which, they are statistically
insignificant. On the other hand, the remaining days have reported positive AARs, yet the results tend to be statistically insignificant.
Table 2: Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR) in an event window of 41 days

Notes: This table presents the Average Abnormal Return (AAR) and the Cumulative Average Abnormal Return (CAAR) in an event window of 41 days. The days surrounding the event is fixed at twenty (-20) days before and twenty (+20) days after the dividend announcement day. AAR is obtained by this equation:  
\[ AAR_t = \frac{\Sigma AR_t}{N} \], where \( \Sigma AR_t \) is the Sum of all Abnormal Returns at day “t”.  
\[ CAAR_t = \frac{\Sigma CAAR_t}{N} \], where \( \Sigma CAAR_t \) is the Sum of all Cumulative Abnormal Returns at day “t”. T-statistics and P-values of AAR and CAAR are also
given ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively. The sample consists of daily data of Casablanca Stock Market from September 1, 2017 to December 31, 2018. Generally, all results are statistically insignificant confirming no evidence of stock price response towards dividend announcement at any of the 1%, 5%, and 10% level of significance. This finding clearly indicates the non-existence of any significant average abnormal stock returns around dividend announcements in the Casablanca Stock Market, which further suggests that the effect of dividend announcement is not strong in the Casablanca Stock Market and investors do not earn any significant value gain based on these announcements.

Panel A of Table 2 reports the empirical results of the cumulative average abnormal returns (CAARs) during three different time periods: the announcement date, pre-dividend announcement date, and post-dividend announcement date. The daily CAARs for all dividend announcements are computed over –20 days and +20 days relative to the event day. Evidence depicts that CAAR had decreased from – 3.5 percent on day 20 prior to the dividend announcement date to a level of -17.92 percent on the day of dividend announcement and had dropped dramatically to a level of -32.67 percent on day 20 post dividend announcement date, which implies that investors in the Casablanca Stock Market do not gain value when dividends are announced.

Although the empirical results tend to suggest that Casablanca Stock Market may have overreacted to the dividend announcement, this result is standardly consistent with the dividend irrelevance hypothesis of Miller & Modigliani (1961). Considering all the three-time periods, pre-announcement, around announcement day, and post-announcement, the results show that Casablanca Stock Market mostly experiences negative CAARs around the dividend announcement date. However, as argued in prior empirical studies, dividend announcements are often accompanied by positive abnormal stock returns, which is not evidenced in this study.

The results are contrary to the results of Miller & Rock (1985), Allen et al. (2000), and Chen et al. (2009) who reported positive stock returns in response to dividend announcements and consistent with by Ogege et al., (2015) who contended that the cumulative average abnormal returns were not significant, implying that the Nigerian Stock Market is semi-strong efficient. This basically, indicates that dividend announcements in the Casablanca Stock Market do not necessarily increase stock returns. In addition, statistically insignificant CAARs are documented in all three time periods, pre-announcement, around announcement day, and post-announcement, no significant CAARs prior to the announcement day, may imply that there is no information leakage prior to the dividend announcement.

During the event, and post-event, no significant CAARs indicate that dividend announcements do not carry any information content about the future earnings and future cash flows of the firms.
Hence, the empirical findings are not consistent with the information content of the dividend hypothesis and contradict the cash flow signaling theory, which argues that dividends are informative and support the irrelevance theory introduced by Miller & Modigliani (1961). The overall results indicate that dividend announcements in the Casablanca Stock Market do not carry much information to the investors. One of the possible explanations behind this could be that investors are more interested in gaining future capital gains rather than obtaining dividends. Indeed, capital gains are actually regarded as the key-driven behind investment decisions.

Therefore, a dividend payment may not always enhance stock prices, however, capital gains may interest investors to buy stocks. In other words, when firms are making growing profits year after year and using those profits to grow and expand to make even higher profits, then investors prefer to invest in these firms because over time their share prices will rise due to the increasing value of the firms. As a result, investors would enjoy the potential to earn future capital gains. Furthermore, when dividends do not meet investor expectations, investors in the Casablanca Stock Market do not gain value when the dividend payment is announced and therefore lose their hope of maintaining their stock ownership, they become over-reactive and sell their shares in the following days as soon as the market receives the dividend payment information.

Thus, share price may fall and hence the average excess return as well. Another explanation is related to the dividend tax-effect hypothesis. According to Miller & Modigliani (1961) and Black & Scholes (1974), some firms attract investors by designing their dividend policy to the investor tax preferences. In other words, some investors prefer earnings to be paid out as dividends, while others prefer earnings to be retained by the firm, as a result of the difference in taxation rates between capital gains and dividends. If capital gains are imposed at a lower rate, then investors want earnings to be retained by the firm. On the other hand, if dividend payments increase, investors will sell their shares in order to avoid paying taxes higher than those imposed on capital gains.

Therefore, when a company announces dividends, investors tend to diminish their holdings by selling more stocks to avoid more taxation in the future. Therefore, market prices decrease. Another reason is manifested by the context of frontier markets. Frontier markets are less liquid and less developed markets that are too small to be considered as emerging markets, De Groot et al., (2012) and characterized by unsophisticated market participants, high concentration, poor performance of institutional framework, low trading volume and limited information disclosure. In recent years, the Moroccan government has enacted various courses of action to reform the Casablanca Stock Market and has launched a set of new regulations intended to improve investor protection and transparency but it is still widely criticized for its lack of transparency, unsophisticated retail investors and poor regulatory framework. In view of above arguments, it
can be obviously explained that the Casablanca Stock Market have functioned with less clarity, thus it is not quite clear whether firms intentionally choose to pay dividend to convey signals to the market or not. Therefore, investors are in uncertainty of any dividend announcements. In other words, stock price reactions are mostly influenced by non-fundamental factors rather than fundamental factors such as dividends payments, which indicates that dividend announcements do not really convey any information content to the market, and stock price reactions may not fully reflect the impact of dividend announcements.

But above all the facts, the study period, September 1, 2017 to December 31, 2018, considered for the study should receive the prime attention for the results we obtain which matches with the period when the Casablanca Stock Market experiences a massive fall. It should be remembered that 2018 was the scene of strong disturbances on the Casablanca Stock Market, particularly the boycott which directly affected some listed firms namely, “Centrale laitière”, a subsidiary of the French giant “Danone”; “Sidi Ali water”, from “Oulmès Mineral Water” (a subsidiary of Holmarcom), run by the former boss, Miriam Bensalah; and “Afriquia”, leader of service petrol stations, whose main shareholder is Aziz Akhannouch, Minister of Agriculture, but with indirect effects on a large part of the market.

The indicators of the Casablanca Stock Market, Masi and Madex Indexes closed the year in red territory. The Masi Index (Moroccan All Shares Index) ended 2018 in red territory at 11,364.3 points, falling by 8.27% over the year as a whole. In the same line, the Madex Index (Moroccan Most Active Shares Index) ended 2018 in red territory at 9233,00 points falling by 8.59% over the year as a whole. Also, a loss of market capitalization of around 115 billion dirhams. During this period, investors suffered major financial loss, and many lost confidence in the stock market due to uncertainty, they became over-reactive and scared, stock prices continued to drop and eventually, the dividend announcement brought no significant gain to investors but loss.

Overall, the result of the study on the Casablanca Stock Market supports the argument in favor of semi-strong form efficiency, which states that stock prices reflect all available information, therefore, no room for abnormal returns.
Conclusion:

Using event study methodology, this study examines the market reaction to cash dividend announcements by investigating abnormal returns around the announcement date in Casablanca stock market over the period from September 1, 2017 to December 31, 2018. The findings of the study indicate that in both pre- and post-dividend announcement periods, the AARs and CAARs are statistically insignificant in the whole event window, which indicates that there is no evidence of a major correlation between the stock prices and dividend announcements.

During the pre-dividend announcement period it is observed that there is an insignificant reaction on the announcement day which implies that there is no evidence of information leakage, which further, explains the non-existence of insider trading. Hence, it is concluded that dividend announcements are quickly reflected in stock prices and do not carry much information to the investors. Overall, the empirical findings of this study do not find empirical evidence behind the existence of significant abnormal stock returns around dividend announcements in the Casablanca Stock Market.

Therefore, it is concluded that the results of the study do not confirm dividend signaling theory as stock prices react insignificantly on the announcement of dividends. However, the findings are aligned with the dividend irrelevance theory and support the semi-strong form of stock market efficiency as documented by Fama (1969) that on average, the stock market reflects all available information. As this study provides a comprehensive analysis of the dividend announcement impact on stock price behavior, it could be helpful for investors and investment managers to understand the behavior of Casablanca Stock Market during the announcement of dividends.

For future research, this study can be further expanded in the future by considering a larger sample size, to provide more comprehensive evidence, and investigating other corporate events.
such as merger/acquisitions, stock repurchase, stock splits, capital increase, and their significant impact on stock returns.

References:


