

# Stock price reaction to dividend announcement: an empirical study on Dhaka Stock Exchange (DSE)

Arafat Zahan\*, Md. Shohel Rana\*\*

\**Begum Rokeya University, Rangpur, Bangladesh*

\*\**Eastern Bank Limited, Dhaka, Bangladesh*



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## Abstract

The major objective of this study is to identify whether dividend announcement convey any information to the market that results a price reaction. With the objectives in mind, this paper used only secondary data from DSE. The study comprised a total of 21 companies these are listed by DSE. The research is only quantitative in nature. The empirical part of this study employs a standard ‘event study methodology’ to analyze the stock price reaction to dividend announcement. With the help of ‘event study methodology’ MAAR and CAAR to analyze the effect of dividend announcement on stock prices taking 21 listed companies of Dhaka Stock Exchange (DSE) in Bangladesh. The results were showed by using chart, table, descriptive statistics and t-statistics. The finding indicates that some companies are efficient, and some are inefficient. The results are statistically significant both before declaration date and after declaration date. In this paper, before declaration date of third and eight are efficient and after declaration date of five and eight are inefficient.

**Keywords:** dividend, declaration date, Cumulative Abnormal Return (CAAR), Dhaka Stock Exchange (DSE), stock price, t-statistics, descriptive statistics

Corresponding author:  
arafatzahan0084@gmail.com;  
shohelranabru@outlook.com

## 1. Introduction

### 1.1 Background

Dividend policy is very crucial in financial literature since Joint Stock Companies came into operation. Dividend is the division of returns (past or present) in real assets among the stockholders of the firm in proportion to their investment or share. The arena of corporate dividend policy has drawn attention of management specialist and economists accumulating into theoretical framework and empirical practice. Thus, dividend policy is one of the most critical features in finance. Three decades ago, Black (1976) in his study on dividend wrote, “The harder we look at the dividend picture the more it seems like a puzzle, with pieces that just don’t fit together”. Why shareholders like dividends and why they reward managers who pay regular increasing dividends is still clandestine. The most asked question here is that how much cash should firms give back to their stockholders? Should firms pay their shareholders through dividends or by repurchasing their stocks, which is the cheapest form of payout from tax point of view? Firms must consider these important policies time to time.

Corporations declare dividend for the welfare of its stockholders. Dividend policy is the main element of a firm’s overall financial planning. It is consisted of a series of decisions regarding how the firms allocate profits to their stockholders and it mostly includes primary parts about the fixation of dividend distribution, dividend payout ratio and payout channel etc. Since the dividend policy detects whether divided the earnings to stockholders or own finance by retained earnings, so it is an important matter that receives more importance nowadays from both academicians and practitioners. More casually, there are two research patterns on dividend distribution theory, one is on intention for dividend theory and the other is on the market appraisal to dividend policy. This paper focuses on the market reaction to dividend policy of listed Companies, so it belongs to the second research line in fact. Dividend policy selection is impacted by many factors like earning level, stock price and financial capabilities. Because of the significance not symmetric information and the agency problems on listed association. Dividend policy is impressed by more difficult factors.

Generally, problems occur from three sources:

First, by specially studying the charge agency relevant between the governing shareholders and apart from shareholders, whereas inspect of the relationship between the stockholders and the legislators meantime. Namely, some researchers guess, agency theory for dividend failure to interpret dividend ordination behaviors of listed companies in Bangladesh. If it forms on one-side aspects, it must be a something not unbiased perfection.

Second, almost all researches are planned to use only universal data, and rarely of them emerged on straight questionnaire data.

Third, the most empiric offer to use multi-factors regression way, which is emerged on the hypothesis that there is any inaccurate linear relationship among all independent variables. But fully a few of them tread that hypothesis and guide to not persuasive results.

The stock market has become an important market playing an exigent role in economic improvement that observing capital formation and confession economic enhancement. Stock markets are not unique a place to dealings securities; they manage as a facilitator between users and savers of capital by means of pooling of resources, dividing risk, and transmitting wealth. Stock markets play a vital role for economic prosperity as they assure the flow of funds to the most creative investment amenities.

Investors weigh various factors in investing resources in any exceptional securities of capital market, of which, the most important measure is the return from the investment in securities that typically rely on the dividend announcement in the stock market (Khan et al, 2011). Company proclaims dividend in the figure of cash and/ or security within the financial year (quarterly or semiannually) to meet the anticipations of investors shifting the capability and trickery of the company. Payout of dividend is an essential as it tells the investing universal certainty about the financial welfare of the company worried. Moreover, company's dividend judgment on a regular inside that relates with whether to payout incomes to shareholders is important as it assists eliminate agency problem. On the investors' part, those who are looking to proof recent income invest their resource in securities of the companies that are paying lofty dividend on an adjustable basis. Companies grudging long-adjusted history of dividend payoff would be negatively oppressed by decrease dividend and would positivity be influenced by raising the same. Moreover, companies except a dividend history are usually viewed well when they proclaim new dividends (Jais et al, 2010).

## **1.2 Objectives of the study**

The objective of this study is to critically justify the probable effects that a company's dividend policy could have on the market value of its general stock and also, those criterions that impact firm's dividend policy in common. The objective of this study is to justify the influence of the dividend policy and dividend earnings ratio of the stock price.

Therefore, the specific objectives are:

1. To represent the terms of organizational dividend policy.
2. To describe the impact of firm characteristics like profitability, growth and size on the dividend payment type.
3. To indicate whether the values of the security react to the declaration of dividend on the years.
4. To indicate the important factors which are the eminent determinants of the dividend decision of the corporate organizations.

### **1.3 Rationale of the study**

Even, if Bangladesh, capital market investment is very essential and significant for the improvement and market capitalization of household industry, trade and commerce. The main drawback for our share market is the regulatory system and news transparency are not certainly efficient to get the conviction of the investors and give the sufficient basis for describing the data except anomalies. Without, Govt. and Bangladesh Bank do not beat the desired part to generate the permanent market with desired outcome of investors. Additionally, investors also have deficiency of knowledge (technical and fundamental) about capital market. As a result of, they cannot chop a good structure from stock market. There are some outlines which have great effect on stock price. An investor can create their investment decision by taking news from this report. In any economy, share market is observed as an economic barometer that meticulously records and opinion about the investment appearance. Economies may have three typical of imperfections: first, chances for risk diversification are limited for investors and entrepreneurs, second, companies are fail to optimally form their funding packages and third, countries beside well operating markets deficiency news about the expects of firms whose stocks are transact, thereby limited the improvement of investment and its' deficiency (efficiency) of share exchange is highly wanted to protect the usuries of casual and institutional investors. If share market tasks as a total safeguard to our investors, it will specifically motivate the fund the entrepreneurs will be enabled to gather fund issuing securities which will assist in expanding the growth of the economy by industrialization.

It is assumed that the study will not merely assist in improving investors' consciousness regarding share price susceptibility towards dividend announcement, but also assist to form their investment decision in a more relevant, convenient and efficient way to protect their usury. Additionally, this study again increases, new methods to study the share market regarding the impact of dividend declaration on share price.

### **1.4 Limitations of the study**

In every research paper there are limitations. The present study is not an exception one. There are some limitations also in this study such as:

1. In producing the research work large uncontrollable factors impacts the work.
2. Shortage of recognized research task in this area.
3. The main sources of news will be gathered from the DSE library and to gather the database from the library is a complex procedure.
4. The study could have contained some computation of errors and because of that the result may vary. Unlike improved share market around the world in DSE, introducing capital market in Bangladesh, there belong many manipulations, anomalies, misspecification, misrepresentation in preserving and processing.

## **2. Theories employed to explain corporate dividend policy**

### **2.1. Dividend Relevance Theories**

According to the theory, investors show dividend payout as a sign of management capabilities and they accept dividend policy as an important factor in measurement the certainty of a firm's profit. Therefore, frequent and high corporate dividend policy indicates that the company is very likely to perform well. Therefore, more dividend return is a sign of overall financial health of the firm. Dividend relevance theory goes back to the early portion of the nineteenth century when Williams (1938) proclaimed that stock value is determined by the present value of future dividend and the selling price of the stock. This authority has been supported by Graham and Dodd (1951) and Gordon (1959) who marked that a stock price is impacted by dividend and earnings. Dividend payout relates decisions on how much and when earnings should be paid as dividends. However, dividend payout is likely to impact stockholders' wealth and the company's ability to hold profit to invest in future profitable investment chances.

### **2.2. Bird-in-hand Theory**

The major thrust of the bird in hand theory is that investors care about dividends and incline to invest in dividend stock. The fact that a firm is paying dividends means that the firm is making money. Whereas reporting profits defines that the firm is telling the investors that it is making money, investors render dividends received as cash in their hands over the expectancy of future earnings. Future profits are less uncertain and predictable. Stocks with dividends are less risky than stocks without dividends. This will inspire the investors to invest more; therefore, boosting stock prices.

### **2.3. Dividends Irrelevance Theory**

Dividends irrelevant theory discloses that dividend policy is irrelevant in specifying the value of the company. The term is advocated by a group of financial theorists (Miller and Modigliani, 1961; Miller, 1986; and Martin, Petty, Keown, and Scott, 1991). Modigliani and Miller (1958) demonstrated that dividends policy has no impact on corporate value. They say that firm's value is dependent on the income produced from its resources rather than from the income division between dividends and retained earnings. They noticed that investors could affect the payout on their stock regardless of the stock's dividend.

For instance, if an investor expects high dividend return, he/ she could purchase more stocks from the dividends received on his/ her desirability. Reciprocally, if the investor expects the firm to have small dividend payout, the investor might sell some of the firm's shares to make amends for the needs in cash he/ she expect to take. Consequently, dividend is irrational to investors, since they may formulate their own.

### 3. Literature review

Many scholars attitude study on dividend policy, information extents of dividend, information irrelevance and their influence on market value of common share.

Modigliani Modigliani–Miller (1961) in the Dividend Irrelevance Theory, content that the firm's value is specified by the investment policy and that the split between dividends and finances to be reinvested does not impact firm's value and thus its stock prices assuming a efficiently competitive market, in which, in the need of any corporate or individual taxes and transaction cost, an investor attitudes and trusted to be behaved relevantly to increase their wealth without any informational not symmetry and no investor is capable to impact security values (Pike and Neale, 2005).

Black–Scholes (1974) support the argument when Lumby and Jones strike the overlook saying the name itself is misguiding as they show it is not the dividend that is irrational but the dividend pattern. Generally, dividend yields are observed as the ratio of dividends given over the whole period under study divided by the end-of-period share price.

Lumby & Jones, (1998) supports of their expressed perfect market is an illusion, market imperfection is the most common knowledge the clientele ever faced that makes dividend rational in share price movements.

Jensen (1986) postulated a theory which is broadly known as the *Free Cash Flow Hypothesis*. According to Jensen, the free cash flow belongs in a company when there are extra funds left on after taking into account total positive net present value projects. He supports that a conflict of interest between stockholders and managers over the payment policies of these free cash flows could describe the share price reaction. The theory indicates that share prices will expand if there is unanticipated dividend payment. It suggests an increase in dividend with few free cash flows and however fewer tendencies to over-invest, for instance accepting marginal investment projects that have negative Net Present Values. In other words, moves in dividend payment signal moves in investment policy.

Myers (2002) Investors cannot valueless adjust their dividend pattern and thereby they offer companies to supply them with their expected dividend pattern. Investors are drawn to different firm policies, and when the company policy varies, investors will adjust their shareholdings appropriately. As a result of this adjustment, the share price will vary.

Kinkki (2001) A few of the examples reporting tax initiated and transaction cost commenced clientele effects have been remarkably. Since most of the investors are induced in *after-tax* returns, the different tax pattern of dividends and capital gains might impact their inclination for dividends versus capital gains. Investors in low tax brackets who depend on regular and stable income will tend to be devoted to firms that give high and permanent dividends and

investors in comparatively high tax brackets might seek it advantageous to invest in firms that hold most of their income to obtain potential capital gains, all else being identical.

Friend and Puckett (1964) noticed the relationship between the dividend payout rate and the market price of the company and their probable biases. They postulated that companies would move their dividend payout until the managerial payoff of dividends is identical to the managerial payoff of retained earnings, which will give the optimal benefit on their price per stock.

Glen et al. (1995) practice the dividend policy of companies in outgoing markets. They find that companies in these markets have an object dividend payout ratio, but fewer concerned with movement in dividends on time. They also search that stockholders and governments assert a great deal of impact on dividend policy and notice that dividends have little signaling extent in these markets.

Fama and French (2001) explore the issue of minor dividends paid by corporate organizations over the period 1973-1999 and the factors liable to the decline. Specifically, they analyze when the lower dividends were the effect of varying firm characteristics or fewer propensity to pay on the portion of firms. They show that proportion of firms paying dividend has declined from a pick of 61.5 percent in 1976 to 21.8 percent in 1998. They attribute this dropped to the varying characteristics of organizations: "The reduce in the outbreak of dividend payers is in part because of an increasing tilt of common traded firms toward the characteristics - few size, small earnings, and medium growth - of companies that typically have not ever paid dividends"

Ramacharran (2001) suggests the changing in dividend yield for 20 emerging markets (including India) for the period 1991-98. His macroeconomic access using country risk data seeks evidence for pecking order hypothesis – lower dividends are given whether higher growth is desired. The study also searches political risk factors have no important influence on dividend payments of companies in emerging markets.

Baker, Veit and Powell (2001) study the factors that have a belonging on dividend policy decisions of corporate organizations transacted on the Nasdaq. The study, based on a sample survey (1998) response of 187 firms out of a total of 628 firms that paid dividends in each quarter of calendar years 1995 and 1993, traces that the following three factors have a significant influence on the dividend decision: type of previous dividends, stability of earnings, and the level of recent and future desired earnings. The study also finds mathematically significant differences in the significance that managers link to dividend policy in different firms like financial vs. non-financial firms.

Lee and Ryan (2002) describe the dividend signaling-hypothesis and the subject of direction of causality between earnings and dividends - whether incomes cause dividends or reciprocal. For a sample of 131 dividend launches and 161 dividend omissions, they searched that dividend

payment is impacted by recent performance of earnings, and free cash flows. They also find proof of positive (Negative) earnings growth preceding dividend omissions (initiations).

Al-Malkawi, et.al (2010) Dividend policy may impact different investors to change their portfolio division, resulting in transaction charges. Small investors (like retirees, income-oriented investors, and so on) who depend on dividend earnings for their consumption needs, might be drawn to (and even may give a premium for) high and sustain- dividend shares, due to the transaction charges associated with selling shares might be important for such investors.

Ali & Chowdhury (2010), some investors (e.g. wealthy investors), who do not depend on their stock portfolios to content their liquidity needs, prefer low returns to avoid the transaction charges associated with reinvesting the provider of dividends, which they literally do not need for their current spending. Another drawback of capital market is the need for news which is neither valueless nor publicly available. Moreover, a dividend announcement which is both free and broadly available is assumed to signal information to the market as detailed in the Signaling Theory. The theory concludes that changes in dividend policy can be signal concerning the firm's financial status. A dividend argument may signal good future returns. A dividend shrink may signal bad future returns. The information extent implicit in a dividend declaration would cause the stockholders to react to the declaration and thus impact the company stock prices. Obviously, information extent conveyed by dividend announcement is not still behind controversy.

Lintner and Gordon (1959) 'bird in the hand' hypothesis, according to which, a higher current dividend decreases uncertainty about future cash flows, a high payout ratio will decrease the cost of capital, and therefore, increase stock value. The proposition postulates that the lower uncertainty adjoined to dividends received will result in a lower discount factor practical to the company's earnings resulting in a higher share value. Based on the information extent some other terms have been improved to describe the impact of dividend announcement on company's value and thus on its stock prices.

Uddin and Khoda (2009) justified evidence supporting the presence of market efficiency in the Dhaka Stock Exchange (DSE). Their study given evidence that the Dhaka Stock exchange (DSE) is inefficient even in weak form and DSE does not follow the random walk model.

Pike and Neal (2006) disputed that even though in the existence of efficient capital market, stockholders are able to earn return by selling a portion of their stockholdings, but such welfare may be omitted for some causes, namely brokerage and other transaction charges are related with selling of stock.

Arnoland, (2008) Dividend policy is a subject, since an unexpected change in dividend is considered as a sign of how the managers view the future prospects of the company. A decreasing dividend often signals that the managers view of the future with some pessimism, whereas increment in dividend exhibits an optimistic view about future possibility.

Watson and Head, (2007) Dividend payment reasons more tax limit for the stockholders, since tax on dividends is higher than capital gains. However, company's board of directors should hold total cash flows rather than paying dividends which will expand the stockholders wealth (Watson and Head, 2007).

Bhattacharya, (1979) both the company and stockholders incur charges for dividend payment, since company must bear charge in dividing dividends and investors has to content costs in gathering and reinvesting these payments as well.

Nishat (1995) tried to judge the relative significance of the dividend vis-à-vis retained earnings hypothesis in fixing the stock prices. He improved the following model to comparison the dividend and retained earnings impact on the stock prices in highly profitable growth companies.

The discussion of the stock price reaction to dividend announcement is related with the retained earnings, profitability and companies' financial conditions. The stock price is the significant of the dividend payout ratio also.

## **4. Overview of Dhaka Stock Exchange (DSE)**

### **4.1. Formation**

The importance of establishing a Stock Exchange in the then East Pakistan was first evident by the Government when, early in 1951 it was studied that the Calcutta Stock Exchange had forbidden the transactions in Pakistani Shared and Securities.

According to the decision of then Pakistan, 7 promoters associated the formation as the East Pakistan Stock Exchange Association Ltd. on 27.05.1953 as public company. On 21.07.1960 the name was repeated to East Pakistan Stock Exchange Ltd. Again on 12.06.1963 the name of East Pakistan Stock Exchange Limited was change to ``Dhaka Stock Exchange Ltd. At the time of incorporation, the authorized capital of the exchange was Rs. 290000 divided into 140 shares of Rs. 2000 each and by an extra ordinary general meeting held on 22.02.1964 the authorized capital of the exchange was increased to tk. 500000 divided into 250 share of tk. 2000 each. The paid-up capital of the exchange now stood at tk. 460000 divided into 230 shares of tk. 2000 each. However, 35 shares out of 230 shares were issued at tk. 8000000 only per share of tk. 2000 with a premium of tk. 7998000. Although associated in 1954, the formal trading was inaugurated in 1956 at Narayanganj after gaining the certificates of commencement of business. But in 1958 it was shifted to Dhaka and started functioning at the Narayanganj chamber building in Motijheel C/A.

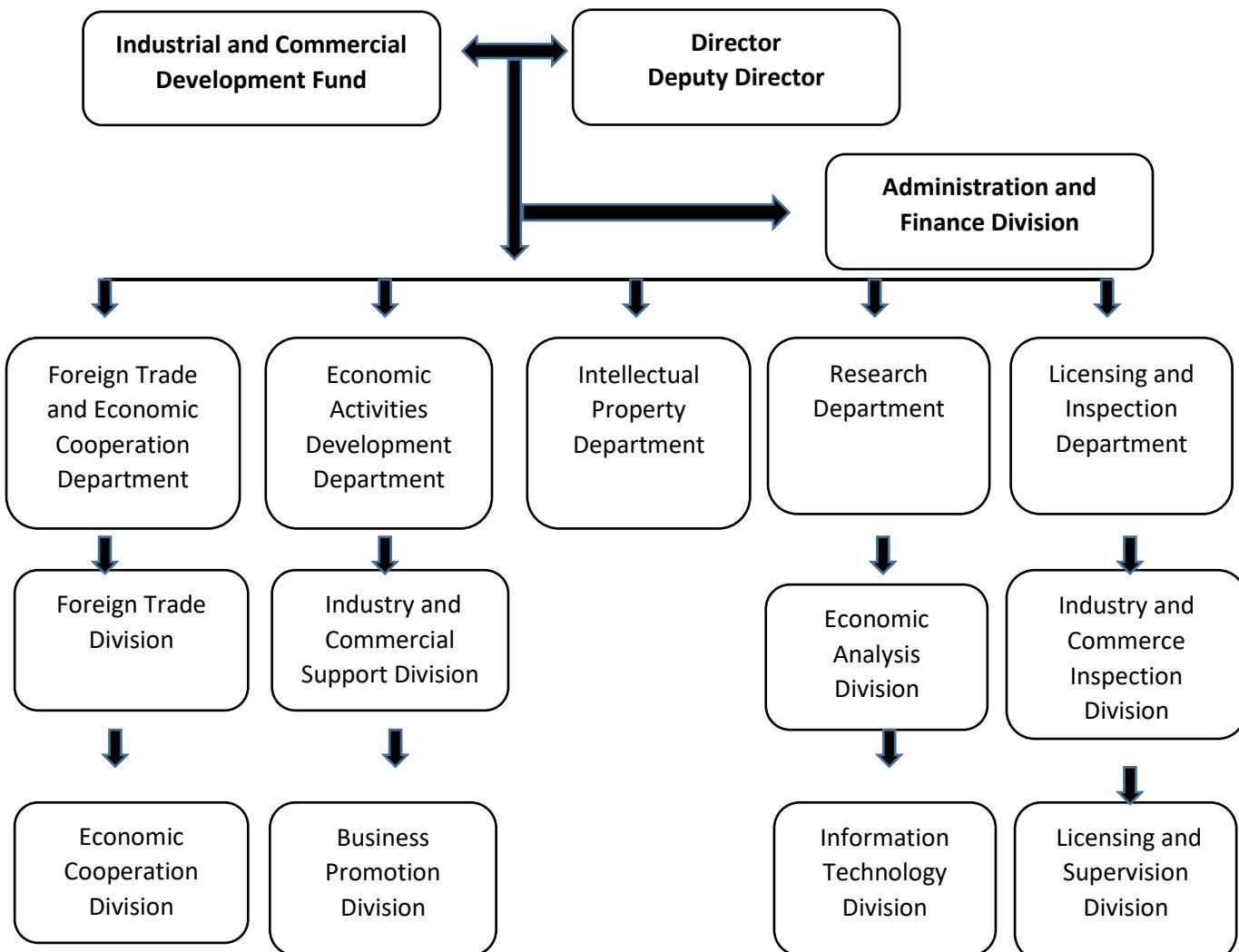
### **4.2. Legal control**

The Dhaka Stock Exchange (DSE) is registered as a Public Limited Company and its activities are regulated by its Articles of Association rules and regulations and byelaws along with the Securities and Exchange Ordinance, 1969, Companies Act 1994 & Securities & Exchange Commission Act, 1993.

#### 4.3. Major functions

- Listing of Companies. (As per Listing Regulations).
- Measuring the screen based automated transaction of listed Securities.
- Adjustment of trading. (As per Settlement of Transaction Regulations)
- Presenting of stock/granting approval to the trade/alteration of stock outside the transaction system of the exchange (As per Listing Regulations 42)
- Market Control & Administration.
- Market Surveillance.
- Edition of Monthly Review.
- Guiding the activities of listed companies. (As per Listing Regulations).
- Investor's representation Cell (Disposal of complaint by laws 1997).
- Investors Preservation Fund (As per investor protection fund Regulations 1999)
- Declaration of Price sensitive or other news about listed companies by online.

#### 4.4 DSE organization and structure



**Table-1:** Organizational Structure of DSE

#### **4.5. Prevailing market condition**

Rahman and Hossain (Rahman and Hossain, 2006) driven their study to search proof whether Dhaka stock Exchange (DSE) is perfect in the weak form or not. After all results from their practical analysis suggest that the Dhaka Stock Market of Bangladesh is inefficient in weak form. They also described that the absorbing of bad and good news or any other value forming information can take late influence of stock price due to available advance technology, control process and edition of business journals.

However, before condemning not efficient market, on factors should get precedence. DSE deviated from weak form Efficient Market Hypothesis (EMH). But it would not be learned to label it as not efficient, due to market efficiency varies over time and capital market is mattered to be tested continuously.

Dhaka Stock exchange (DSE) is inefficient even in weak form and DSE does not follow the random walk model. They also terminated that the cause of the market not efficient is the poor institutional infrastructure, weak regulatory structure, lack of management, and a lack of responsibility, bad corporate governance, medium development of the market infrastructure, and low level of ability of major market investors and lack of transparency of market trades.

#### **4.6. Activities of the Dhaka Stock Exchange (DSE)**

The Dhaka Stock Exchange (DSE) lists trades in Bangladeshi taka, which is the currency of Bangladesh, and whose official International Organization for Standardization (ISO) ISO 4217 currency code is BDT. The taka was issued in 1972, replacing the Pakistani rupee at a ratio of one to one. Companies listed on the Dhaka Stock Exchange are primarily based in Bangladesh. As of March 2018, the DSE's market capitalization (market cap) in adjusted US Dollars was \$38.47 billion; and its ratio of market cap to gross domestic product (GDP) — which is an indicator that a market is either over or under valued, when compared to an historic ratio — was 27.44 percent.

The Dhaka Stock Exchange endeavours to be the leading exchange in its region and a key driver of economic growth. As such, the DSE is proactive about keeping pace with technological advancements. This exchange initiated automated trading in 1998, and installed a central securities depository system in 2004. Since its inception, the Dhaka Stock Exchange has aspired to compete on the world stage of financial markets. It is cognizant of what it must do to persevere toward this goal, and has set an ambitious schedule of objectives that it aims to fulfil in coming years, including-

- Attracting more foreign investors in order to attain a steady level of at least 30 percent total market capitalization
- Achieving a sustainable average daily turnover of BDT 25 billion

- Ensuring steady domestic and offshore institutional investments of at least three-quarters of its total investments
- Enhancing its offerings by listing government, municipal (munis), and corporate bonds
- Doubling its number of listed individual company securities
- Increasing its scope to offer index futures, exchange-traded funds (ETFs), and derivatives
- Advancing its technology to enable global trading and settlement

#### ***4.6.1 Trading system of Dhaka Stock Exchange***

The stock market is one kind of capital market where the stocks are of the different companies is traded. DSE, floor trading was started with open cry-out auction system. Now trading has become automated, led by the DSE through the central depository. In the present automated trading environment, bids/offers, depth, and required broker are all recorded and can be retrieved for future reference.

#### ***4.6.2 Types of stock market:***

There are two types of stock markets such as,

1. Primary market
2. Secondary market

#### ***4.6.3 In primary market the following elements are observed:***

- Initial Public Offer (IPO)
- B/O Account
- How to apply for IPO
- IPO distribution system
- Refund warrant / allotment of IPO
- Sell / hold
- How an NRB apply for IPO?
- What to know before applying for IPO?
- How to apply for IPO?

We will get information from newspaper, stock exchanges, broker offices, web sites of SEC, DSE and the issuers, also from DSE publications.

#### ***4.6.4 How to apply?***

- Collect IPO application form from DSE or its broker offices Bankers to the issue.
- Fill it up, sign it.
- Submit the form along with the subscription money to the selected bank.

- Collect the banker's acknowledgement.
- Wait for lottery.

#### **4.6.5 Secondary market trading system:**

This is well known as stock exchange, is a secondary market – a trading market. It is structured to provide liquidity and marketability to the security industry.

It is a market where you can buy and sell stocks.

#### **4.6.6 Procedure of secondary market trading:**

- Contact with a stockbroker
- Open a client account and a B/O account
- Observe first and study the market.
- Place your buy / sell order.
- Get buy / sell confirmation.
- You can hold it or sell it if price increases. If you hold it, you may get cash dividend or stock dividend.

### **5. Methodology of the study**

#### **5.1 Definition**

A method or methodology is a methodical and systematic study of the standard of conduct, which is followed in scientific investigations; it is "the system of practices, principles, and procedures applied to any appointed branch of knowledge." The word, 'method' means "a way of doing" something. It became from the Greek words 'meta' and 'hodos' meaning "a way". Therefore, the word, 'methodology' means for "a set of methods practiced in a specific area of activity". Broadly, a method or methodology is "the underlying rules and principles of company of a philosophical inquiry or system procedure" However, "methodology is the analytic and systematic study of the principles controlling scientific investigation." It is "the system of practices, procedures, and principles applied to any specific branch of knowledge. "In other words, it is "the philosophical study of scientific way; the portions of logic dealing with general principles of the formulation of knowledge.

#### **5.2 Sources and nature of data**

The study has used daily data of the securities of all share price index 30 at Dhaka Stock Exchange and covers the period Jun 2018 through October 2018 to identify whether dividend declaration convey any news to the market that results a value reaction for settling the dividend declaration information. For the objective of this study, merely final cash dividends and share dividends are weighed and share repurchases are not weighed.

In this paper secondary data are largely used. The secondary sources of data are established statistical reports, documents, ordinances, books and different periodicals published at home.

Materials, which are associated in the study, are duly acknowledged. Data were gathered from, the Dhaka Stock Exchange's (DSE) Annual Reports and the DSE Monthly Review. The results of these studies are used in the analysis of data and in the appraisement of the performance of DSE. So, some primary data and information are collected from DSE head office and the investors.

### **5.3 Selection of a method**

We know that the selection of a research method is very significant for conducting any research task. From the starting we were aware of the election of particular method for this paper. Research, in any part of human knowledge "is a careful judgment or examination to discover new information or relationships and to elaborate and to justify existing knowledge. Keeping these wide doctrines of research in mind, we carefully obtained the means and ways which we call here "methodology" for justifying existing news and data with an object to "to describe and to justify existing knowledge.

Any scientific investigation prerequisites one or more research activities, which able a researcher to guide the study systematically. Research is undoubtedly an unbiased or disinterested search for knowledge. The current study makes tries to apply the way of documentary analysis. This is meant as "tries to find out what has occurred in the course of period and to correlate the events.

Methodology is the main way of any research. However, election of a well-defined activity is very important for any scientific judgment in any area of knowledge. Hence, we in this task did not specifically follow a single way rather used multiple ways for gathering data. These include study of secondary elements i.e., articles, dissertations, research paper, newspapers, reports, journals, periodicals, publications and annual reports of DSE and so forth.

### **5.4 Assumptions**

An assumption is a state that is taken for inflicted, without which the research paper would be Pointless (Leedy & Ormorod, 2005:5). Various basic assumptions incur the current research paper. Like as, it is assumed that:

- All organizations are related with the creation of stockholders' wealth.
- Stockholders' wealth is a recognizable affair within an organization.
- The source of wealth different, relying on the type of firm and the cost of capital related.
- There are some variables; namely, dividend per share, earnings per share and market price per share, are no stable.

### **5.5 Authenticity of data sources**

With an object to justify the genuineness or authenticity of the books and documents (which is called outside criticism) and trustworthiness or credibility of the data within the books and

documents (which is called as inside criticism), care has been given to use the main works and books, to different between a matter and an own view and to assess and balance between old and recent elements.

### **5.6 Observation period and comparison period**

The declaration day is meant as day 0. Ten days (-10) before the declaration day was elected as the observation period whereas, ten days (+10) after the declaration day was elected as the balance period.

### **5.7 Selecting the event window**

For an event study electing the right window is very crucial as other variables might influence the dependent variables concerned if the window is too long in duration. On the other hand, if the window is too short, the impact of an event can be incomplete. For the paper the returns on the declaration day, returns on 10 days prior to the declaration day, and returns on 10 days after the declaration day have been considered for analyzing the accretive average abnormal returns.

### **5.8 Different steps of event study methodology**

To analyze the effect of dividend declaration on share prices of the securities, returns originated by each of the securities. Then to select returns of the personal securities to market execution and risk to arrive at extra returns for each share in the sample.

#### **5.8.1 Bowman (1983) indicated the following five steps in introducing an event study:**

1. Define the event of interest
2. Make model of the security price is reacted
3. Estimation of the excess return (Abnormal Return)
4. Accumulation of the excess return (Abnormal Return)
5. Analysis of the results.

An event study window is a practical analysis of the performance on a security that justifies the impact of an important catalyst happened or occurrence event and has continuously moved dramatically as a result. Event studies can disclose important news about how a share is as such to react to a given event and can assist assume how other shares are likely to move to various events.

A share price, accordingly, modern finance theory, given account all information and desires in the future. That is why individuals are thought a shares price is equal to its current price plus the accumulation of its expected future dividends. It is probable to analyze the impact of a particular event on a firm through looking at the conducted effect on the company shares. Event study window presents the statistical methodology and process for making these assessments.

Finance theory analyses that share prices should reflect all information about the prospects of organizations. Finance experts have developed the event study methodology. It focuses on the

shares price. The “market model” is one of the most typical models used. It develops on the securities actual returns of a reference market and the correlation of the company shares with the same market.

In the first step of this “market model”, we use the value of each share (stock return) and the DSE 30 index prices (market return) for 21 days, 10 days prior to the declaration day to calculate the market model:

Where,  $E(R_{j,t})$  is the expected return on firm  $j$  stock on any given day  $t$ ,

$a$  = is the constant term,

$\beta_j$  = is the sensitivity of firm i stock on market return  $R_{mt}$

After calculating  $\beta$ , the abnormal returns can be calculated for each of the 21 trading days for each share in the event study window. When the abnormal returns are available, averaging them mean excess returns are found. Dividing the average abnormal returns by the respective standard error, t-statistics are known, which are used as the approximate of share price response to dividend declaration under event study window.

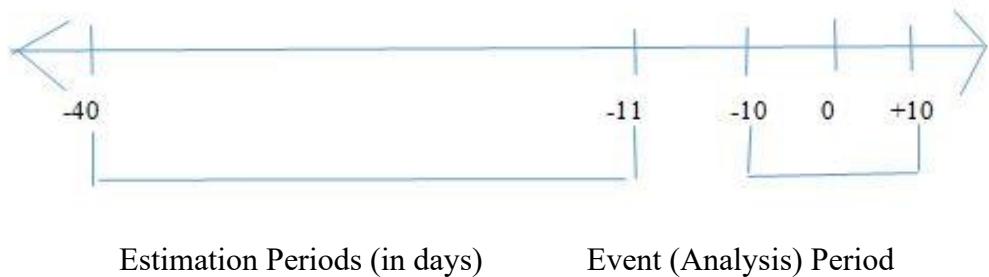
Now, describes the model formally. The excess return on a different days within the event window presents the distinguish between the actual stock return ( $R_{i,t}$ ) on these day and the normal return, which is determined based on two inputs : the commonly relationship between the firms share and its DSE 30 index ( $\alpha$  and  $\beta$  parameters) and the market return ( $R_{m,t}$ ). So, to calculate the abnormal return is:

Where,  $R_{j,t}$  = Actual returns on company i stock on any given day t,

$R_{m,t}$  = Market returns on any given day  $t$ .

The event study window tested 21 days i.e. -10 days prior to the declaration date to +10 days after the declaration date with the declaration day itself. The declaration day is denoted as day zero. The estimation period is from the day 40 to the day -11 (from 11 to 40 days prior to the event window), however, comprising of 29 transaction days.

Figure 2 shows the estimation periods and analysis periods:



**Figure 1:** Timeline for event study

To ensure that the event study is contaminated without any types of declaration, merely pure or regular dividend declarations are considered.

We know that to calculate the abnormal return, the actual return and the expected return are needed. So, the actual returns on each share are computed for the market model and 21 days window using the following formula:

Where,  $P_{it}$  = Closing price of stock  $i$  on any given day  $t$ ,

$P_{it-1}$  = Closing price of stock i on the previous day t-1.

In the same procedure, market returns are computed using the following formula:

Where, **DSE 30<sub>t</sub>** = the DSE 30 index value on any given day  $t$ ,

**DSE 30<sub>t-1</sub>** = the DSE 30 index value of the previous day t-1.

Then, we forecast the expected returns for 10 days prior to the declaration, the declaration day, and 10 days after the declaration day for each share using the market model. Following this, excess returns are calculated on each of the 21 days for each stock as:

Further average daily excess returns for each of the 21 days are calculated for the sample as:

Where,  $AABR_t$  = Average Abnormal Return on a given day and

**N** = Number of declarations made by the sample companies.

After calculating the abnormal returns for 21 securities in the sample, the Cumulative Average Abnormal Returns (CAAR) are computed to measure the all returns over the analysis period. The CAAR is calculated using the following formula:

Where, CAAR<sub>t</sub> = Cumulative Average Abnormal Return on given day t.

Here, CAAR is computed ranging from -10 days to +10 days surrounding by declaration day.

## T-Statistics

To test statistical importance of security price volatility around dividend declaration date, the t-test is to be employed to measure the importance among the means of the samples, estimation period, and comparison period.

The means of difference test, t-statistics formula is:

## Abnormal Return (AR) .....(8)

## Standard Error

Where, Abnormal Return= Actual Return – Expected Return

Standard error = Difference between Securities return and Market return.

## 6. Analysis of data

## 6.1 Sample description

To employ the event study approach, an event window of 21 days, keeping the specific event date, that is, the dividend declaration date at the middle has been taken. Therefore, companies announced their dividend in Jun 2018 through October 2018 have to be set out of the sample, and thus 30 companies have been found who satisfy the condition. Additionally, to adjust the returns created by each of the securities with market risk, the accession under consideration call for daily data of share prices for longer period without any break in the dealings of securities. Therefore, securities deals of which have been mangled on an irregular or regular basis have also been cropped from the sample. During the course of the study, 21 such firms have been found out of 30 dividend declaring firms' trade of which was excluded by Bangladesh Securities and Exchange Commission (BSEC) one or several times for their main irregularities. Dealings of shares of 5 companies are closed for main restructuring process in their propriety status. Finally, 21 companies (out of 40 dividends declaring companies) listed under various companies at DSE30 have been found to conduct the study during the elected time frame.

**Table-2:** DSE30 Listed Companies

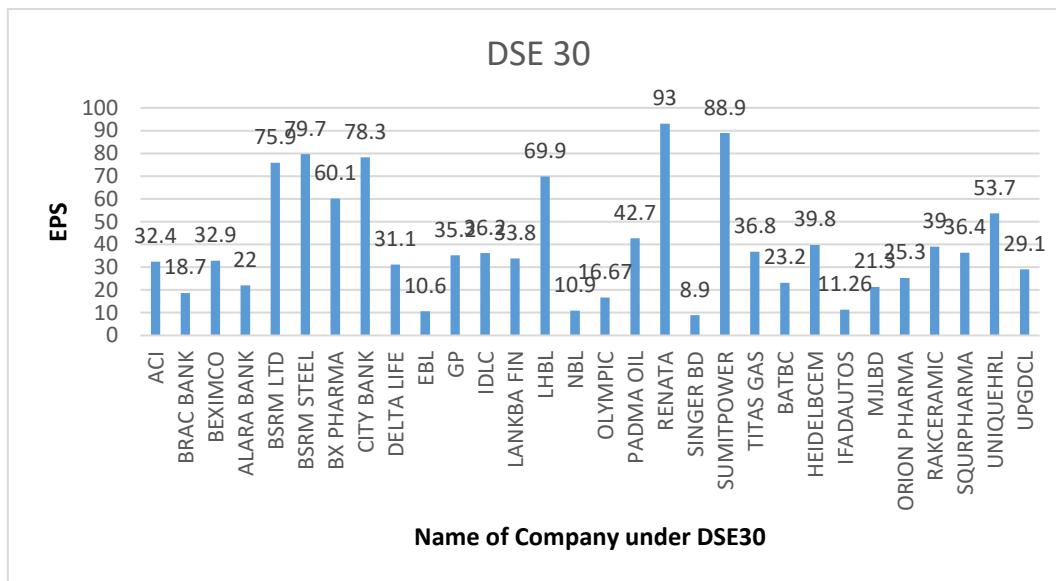


Table 2 gives a description of the sample companies listed in various industries at DSE30. The table exhibits that the sample covers all sectors except leisure and travel as no of the companies in this sector declared dividend in the sample time frame. In the year 2018, average dividend paid at DSE30 is 39.791 with standard deviation equals 1.5221. Apart from the dividend paid by petrol companies sector forms of a single industry, highest average dividend was paid in food and allied sector (92%) with highest standard deviation (2.842), followed by miscellanies (76.67%), engineering (74.45%), Pharmaceuticals & Chemicals (60.13%) and so on. Though textile paper, IT and ceramic sector paid the lowest 7.9% average dividend together, disjointedly they were the least dividend paying sector (less than 11%) for the year 2018 as well. Sample also displays that among 30 companies 24 companies belong to A category, 3 belong to B category and 2 belong to Z category. As sample includes companies from all sectors and representative categories, the empirical result is likely to be reliable.

## 6.2 Descriptive statistic

A descriptive statistic is a summary of the collecting information and is the process of using and analysing those statistics. It is difference from inferential statistics and inductive statistics. In that descriptive statistics aims to summarize a sample and use the data to learn about population. Generally, the descriptive statistics means, unlike inferential statistics, is not developed based on probability theory, and are frequently nonparametric statistics.

Some measures of the descriptive statistics are generally used to describe a data set are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the

variance (or standard deviation), the minimum and maximum values of the variables, kurtosis, and skewness.

An important empirical of the study is that firms may employ dividend policy to influence their share's risk. Indeed, it may be possible for them to use dividend policy as a device for managing their stock price volatility. This study guides a company in providing an insight as to analysis period generates best return for transaction. Firms should consider about time period for dividend announcement date so that maximize his wealth according to return and price variation. The paper indicates that the observation time period (10 days before and 10 days after the event), significantly excess return occurred due to market sentiments for sample companies

**Table-3:** Descriptive Statistic

Days	Minimum	Maximum	Median	Standard Deviation	Kurtosis	Skewness
-10	-0.5091559	4.137625458	0.060602412	0.904988402	6.2543	-0.95678
-9	-0.8378218	7.262858854	0.072230371	1.593450071	-0.5127	-0.35679
-8	-2.3428211	0.175322196	0.050266048	0.524891901	-0.8432	-0.56778
-7	-2.3428211	0.175322196	0.050266048	0.524891901	5.4545	1.56178
-6	-0.5157869	0.160936509	0.062822775	0.137387727	-0.9923	-1.08654
-5	-2.5804094	0.223174469	0.077957203	0.581879813	1.0456	2.9876
-4	-0.531884	4.597787437	0.082093906	1.005603339	0.91165	-0.56732
-3	-1.3959237	12.95010632	0.080940721	2.841868278	1.03258	-0.23975
-2	-0.3979138	3.639660886	0.076765127	0.793282613	0.95435	-0.91238
-1	-0.3962197	3.416351545	0.08536856	0.744480134	7.9236	-0.45917
0	-0.4078224	3.946237217	0.078511518	0.858417537	1.2345	1.54327
1	-1.6921559	0.228120729	0.09185618	0.39502237	3.8897	3.65418
2	-1.3346828	12.88103421	0.083296037	2.823727834	-1.7654	-2.87543
3	-0.7256721	6.968164959	0.0880918	1.522101441	-2.3464	-0.45239
4	-0.2014092	2.140647262	0.084527672	0.46154235	3.5463	-0.08421
5	-3.9048227	0.437334961	0.094369003	0.878118607	8.0764	-0.46322
6	-0.7952653	7.726691027	0.087395444	1.687619344	6.45723	-0.4533
7	-0.2781331	3.297126653	0.093225	0.712014164	3.5432	0.005683
8	-0.3895414	6.887296308	0.085978453	1.463117995	-0.8123	0.065432
9	-0.0978494	2.695587432	0.097285233	0.573275831	2.8234	-1.45673
10	-0.9688969	12.50168574	0.102755998	2.726411473	3.9345	-2.98432

### 6.3 T-Statistics description

The statistical test and the results represent that there is no significant impact of dividend declarations on the security prices, on an average, on the basis of the developed samples. The mean DSE30 in the observation period was smaller than that of the comparison period. The DSE30 of securities increased after the declaration of dividend which also notify that the ineffectiveness of dividend declaration to impact on security prices.

However, this information could not impact on the market price of the securities. Because the positive effect of dividend declaration on the first day of declaration is cancelled out by the negative effect of the declaration on the second day of declaration.

**Table-4: T-Statistics Description**

Days	AVERAGE (AR)	t-Statistics	AVERAGE (CAR)	t-Statistics
-10	0.238432318	0.451217437	0.056637583	0.10718289
-9	0.376889373	1.036691989	0.125291489	0.344633446
-8	-0.061652398	-0.493851314	0.189218611	1.515688969
-7	-0.066859517	-1.216291021	0.276593002	0.050317082
-6	0.027696664	0.548774801	-0.367925842	-0.728999093
-5	-0.061336111	-0.129472096	-0.478800311	-0.948683001
-4	0.262926961	3.054448901	0.608732167	0.707170269
-3	0.64526107	0.987075415	0.773077436	1.182599984
-2	0.22745776	2.129554909	0.963406965	0.090198199
-1	0.220194744	0.399402775	1.189612232	2.157791864
0	0.248435192	1.168611844	1.45829171	6.859643961
1	-0.002083967	-0.647194811	1.78531186	5.544446769
2	0.649936878	1.182606497	2.152702093	0.391699496
3	0.386412413	0.54394	2.599259227	0.47785771
4	0.171402159	2.168549579	-3.120630582	-0.394816622
5	-0.102141968	-3.841367727	3.763683978	1.415450913
6	0.427170476	0.979097564	-4.570668676	-10.47621691
7	0.233576381	0.264199777	-5.563171116	-0.629253935
8	0.379475664	1.361787355	5.419327274	1.944781194
9	0.22347458	0.75689951	6.582375109	0.222942425
10	0.664754484	1.136002331	-7.988702022	-1.365193366

#### \*95% significant level

Test result shows that on the dividend declaration date, the market fails to create any gain, rather average abnormal return falls by 0.10214196 and the result is statistically significant. This might happen due to the following facts:

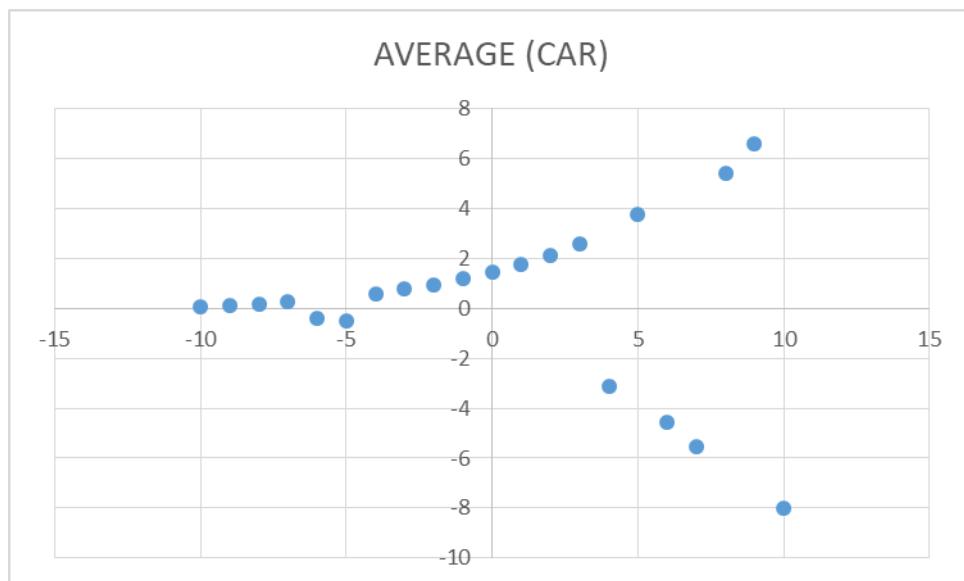
If the information of payment of dividend leaks out prior to the declaration date, it is commonly hoped that the market will react earlier than that is commonly hoped that the market will react earlier than the declaration date generating some positive average abnormal return. Under such a circumstance, on the actual date of declaration, if investors find it that enough return has already been made by the earlier investors and currently shares are overvalued, on the particular

event day, price may fall and thus the average abnormal return as well. But, result of this practical study shows that in 10 of the trading days prior to dividend declaration date in the event window, market reacts positively with a maximum of 0.262916 on day -4 and with a minimum of 0.22745776 on day -2 (both are significantly away from the event day). Therefore, it is clear that the expectation to avail the dividend benefits do not carry any surprise to investors prior to the declaration date. All results are statistically significant exhibiting no evidence of share price response towards dividend declaration at 95% level of significance.

Again, if we stare at the post-event window, it exhibits an average gain of 0.171402159 in 4 trading days and as like the pre-even window, results are statistically significant at 95% level of significance exhibiting no evidence of share price response towards dividend declaration. It is noteworthy that for both of the post and pre-event window, dividend declaration fails to generate a positive yield in terms of average abnormal return bringing about an increase in share prices either in the post or pre event window, rather share prices falls through out the window and the fall is sharp in the post dividend days compared to the pre dividend days, and thereby results of the study reflect with Modigliani-Millers' dividend irrelevance theory.

Throughout the event window, DSE30 faces fall in share values due to dividend declaration.

**Table-5:** Cumulative Abnormal Return (CAR)



Result exhibits that cumulative average abnormal return fluctuates surrounding zero in alternating dealings days giving uncertain indication of investors loss or gain both in the post and pre dividend declaration days. Investors in the pre dividend window gain a maximum of 0.664754484 on day 10 against a maximum loss of 63.29 percent on day -3, while in the post dividend window, it records 93.0 maximum on day 5 against a loss of maximum 68.70902 on day 10. On the dividend announcement date, investors gain by 24.291. In both post and pre

event windows, investors' gain falls short sufficient to cover their loss and in the post dividend days investors lose more than the pre dividend days. Furthermore, on day 21, cumulative average abnormal return falls by 2.88 percent which is partially compensated by dividend payments. The downward sloping trend line drawn for cumulative average abnormal return depicts the result evidently.

Impact of dividend declaration on share prices behavior of elected private commercial banks has been analyzed. Dividend declaration generates a very low significant influence on the stock price fluctuation. The adjusted mean return index of the stocks 21 days before dividend declaration is tk.98.28 whereas the adjusted mean return index in the price adjustment period (10 days after the no price limit date related to dividend declaration) is tk.100.09 and 10 days before the record date is tk.105.25. In this case, share price increases by 1.84% in the price adjustment period after the dividend declaration and 7.09% in the period when investors wish to avail the dividend benefit (10 days before record date). Thus, it is evident that dividend declaration has a very less significant influence on share price changes in the price adjustment period. On an average, this study found no significant price reaction as a result of dividend declaration. While our study provide evidence that share price have no significant response to the dividend declaration, statistically significant test also resembles to our result. In case of parametric pooled t-test is greater than 5% level of significance providing acceptance to our null hypothesis that dividend declaration does not contain price sensitive information.

Firms revalue their assets to signal the firm's growth prospect and liquidity improvement in order to fall information not symmetry. Declarations of asset revaluation are associated with substantial upward change in share price and this shift in share price generally sustains in later months.

In Bangladesh, companies revalued their assets (Land and other Fixed Assets) that growth their asset value substantially as price of land and all other assets increased sharply that caused increased share prices in the market. Many factors impacted firms to revalue their fixed assets. Some of these factors are to increase share price, to get more credit under NAV-based margin rules, to get higher ratings, to strengthen financial statement and to attain investors confident etc.

Analyzing a theoretical view in explaining the influences of different determinant factors of share price and provide a clear evidence and fundamental concept towards the respective investors, portfolios managers and companies about the influencing capability of each base factor i.e. external factor, internal factor, economic factor, political factor and environmental factor. Share prices are affected by a number of events and factors, some of which influence share prices directly and others that do so indirectly. The followings are the factors that affect or even predict the selling or buying of share that ultimately affects share prices of companies.

The coefficients they expected for the two explanatory variables, dividends and retained earnings, are less or more equally significant. They argued that the dividend hypothesis has a little superiority over the retained earnings in determining the stock prices, as T value is found slightly higher in case of dividends.

## 7. Conclusion

Generally, an elaborate prospect is published in the national dailies inviting the common people to purchase stocks. It is published so widely but confusing in some cases and as such the actual matter is not exactly described and for this reason the investors fail to understand the realities. This generates the dilemma to the investors and as such they cannot take wise decision in investing their capital in the Initial Public Offerings (IPOs). Bangladeshi share markets are unpredictable for upbringing initial investment in share market. Exclusively, accepted in DSE30, there is no theory which we can apply effectively to prove truthiness. The market, which is inefficient in terms of relative information, government control is no longer affected by these determinants. Because of inefficient market, the study may exhibit plenty of evidence that determinants of share price have a very little effect on stock price. The result of the study reinforce that many factors have relationships, both negative and positive with share market. The study is not error free for electing variables, but it includes a set of determinants that are significant.

The findings reject contaminated companies shares and provide no strong evidence that share price reacts significantly on the declaration of dividend. This may be due to insider trade in the market, so, the information used to be adjusted with the share prices before declaration and consequently the declaration of dividends does not carry any new information to the market.

Results are not contrary as well for various supporting arguments. Cash dividend, especially when it falls short of investors' expectation, investors seem to gain no value from dividend declaration and thereby lose their spirit to uphold their stock holding, they became over reactive and dispose stocks in the subsequent days as soon as the market receives the information of dividend payment.

There is always an indirect control over the companies by the regulatory bodies. Regulators rate the performance of the listed companies based on their regular dividend payment. As a result, firms always consider the regular dividend payment as a safeguard of their good standing, and ultimately fail to give indication regarding the future earnings prospects through their dividend declaration.

Our investors' literacy level is lower, and they are led by insiders, speculators and exchange employees, a good proportion of them are myopic in nature. Some illiterate investors even do not know about the firm and its business operation when they buy stock of the company. Even they do not know how to manage, their Beneficiary Owner (BO) accounts and take assist from

friends and relatives. As exchange employees and insiders pose private information, outsiders like to follow them and thereby they are misguided by asymmetric information.

This study intended to describe if announcement of stock dividends has more impacts on the stock prices than that of the cash dividends. It used event study method to identify if there is any gain solely attributable to the dividend declaration using the Market Adjusted Average Abnormal Returns (MAAR) and Cumulative Average Abnormal Returns (CAAR). Using standardized t test and at 95% confidence level this study found that there is no evidence of excess returns on the announcement day for both share and cash dividends. The highest CAAR of 6.5823% is reported on the 9th day after the declaration, which also coincides with the significant positive MAAR of 1.72%. The above findings would like to conclude that the record day plays a very important indicator for realizing the excess returns for share dividend. As far as CAAR for cash dividend is concerned no significant excess returns are found under the present analysis.

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