

CHAPTER - 1

EVENT-STUDY ANALYSIS

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1.0 INTRODUCTION:

Event study is an analysis of whether there was a statistically momentous reaction in financial markets to past occurrences of a specified type of event that is hypothesized to influence public firms' market values. An Event study is a statistical method to evaluate the impact of an event on the value of a firm¹. For example, the announcement of a merger between two business entities can be analyzed to perceive whether investors trust the merger will create or destroy value. The essential idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. Event studies offer a direct test of market efficiency. Systematically nonzero abnormal security returns which endure after a particular type of event are inconsistent with the hypothesis that security prices adjust quickly to completely reflect new information. In addition, to the extent that the event is unforeseen, the degree of abnormal performance at the time the event actually occurs is a measure of the impact of that type of event on the wealth of the firms' claimholders². Any such abnormal performance is consistent with market efficiency. However, the abnormal returns would only have been attainable by an investor, if the occurrence of the event could have been predicted with certainty.

The event that influences a firm's market value might be within the firm's control, such as the event of the announcement of Bonus equity shares. Or the event might be outside the firm's control, such as the event of a legislative act being passed, or a regulatory ruling being announced, that will affect the firm's future operations in some way. An empirical study performed on a security that has experienced a considerable catalyst occurrence, and has consequently changed dramatically in value as a result of that catalyst. The event can have either a positive or negative effect on the value of the security³. The events that impact the value of a security will be an outcome of the company filing for bankruptcy protection, the announcement of a merger, or from the result of the company defaulting on its debt obligations. As the event

methodology can be used to bring forth the effects of any type of event on the direction and degree of stock price changes⁴. Event studies are therefore universal to various research areas, such as accounting and finance, management, economics, marketing, information technology, law, and political science.

Various Corporate Events Are:



One feature often used to structure the overall body of event studies is the breadth of the studied event types. On the one hand, there is research investigating the stock market responses to economy-wide events (i.e., market shocks, such as regulatory changes, or cataclysmic events). On the other hand, event studies are used to examine the stock market responses to corporate events, such as mergers and acquisitions, earnings announcements, debt or equity issues, corporate reorganizations, investment decisions, etc⁵.

1.1. SIGNIFICANCE OF EVENT STUDY ANALYSIS:

- Event studies inspect the behavior of firms' stock prices around corporate events.
- Event studies focusing on announcement effects for a short-horizon around an event provide evidence pertinent for understanding corporate policy decisions.
- Event studies also provide an important purpose in capital market research as a way of testing market efficiency.
- Event studies serves as a successful futuristic mechanism to evaluate market's attitude

towards sustainable performance.

- Event studies can expose important information about how a security is likely to react to a given event, and can help foresee how other securities are likely to react to different events⁶.

1.2. The basic instructions for an event study are:

- To collect a number of such events, i.e. a list of firms and dates, perhaps by running a literature search to find news announcements,
- To run programs that look up stock price changes for those firms in periods around those dates, and also changes in a market-wide index in the same periods (e.g., collecting this data from databases)⁷,
- To run further programs that evaluate whether event-period price changes for the list of firms are abnormally large, compared to usual returns for those firms and controlling for market-wide effects on all firms' returns during the event periods⁸, and,
- Optionally, to furthermore run further regressions to elucidate the abnormal returns in (3), by external firm characteristics.

Three Basic assumptions

1. Market is efficient.
2. The event was unanticipated.
3. There were no mystifying effects during the event window

1.3. EVENT STUDY DESIGN

Seven steps of an event study proposed by CLM (Campbell, Lo & Mackinlay)⁹.

- *Event definition*

In the first step of Event Design, Event time (frequency) is defined, i.e., how much time is needed for the financial market to digest the information? It might be often 2 days, event day and the day after to capture the closing effect.

- *Selection criteria*

In this step, data is defined like what firms are included in the sample.

Normal and abnormal returns

$$R_{it}^* = R_{it} - E[R_{it}|X_t]$$

Where,

$E[R_{it}|X_t]$ is the normal return, expected return if the event did not happen and X_t is the conditioning variables. a_{it}^* , the abnormal return, is the difference between actual return and normal return. There are two common return models: constant-mean-return model where X_t is a constant and market model where X_t is the market return.

Estimation procedure

In this process, Estimation window is defined. It might often be often 10 days, 15 days, etc. prior to the event window.

Testing procedures

In this step, null and alternative hypotheses are defined, aggregating the abnormal returns.

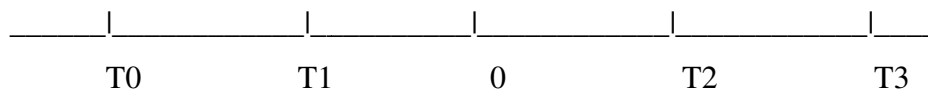
Empirical results

After testing procedures, the empirical and diagnostic checking results are presented.

Interpretation and conclusions

In this final step, results are interpreted and distinguishing competing explanations.

Time-line: The time-line for a distinctive event study is shown below in event time:



- The interval T0-T1 is the estimation period.
- The interval T1-T2 is the event window.
- Time 0 is the event date in calendar time.
- The interval T2-T3 is the post-event window.
- There is often a gap between the estimation and event periods.

Issues with the time-line:

- **Definition of an event:** One has to decide what an event is. It must be unanticipated. Also, it is important to know the accurate date of the event. Dating is always a problem.
- **Frequency of the event study:** one has to decide how fast the information is included into prices. One cannot look either at yearly returns or at 10-seconds returns. People generally look at daily, weekly or monthly returns.
- **Sample selection:** One has to choose what the universe of companies in the sample is.
- **Horizon of the event study:** If markets are efficient, one should consider short horizons - i.e., a few days. However, people have looked at long - horizons. Event studies can be

categorized by horizon:

- Short horizon (from 10 days before and after the event).
- Long horizon (up to 5 years after the event).
- **Short and long horizon studies have different objectives:**
 - *Short horizon studies*: How quick information gets into prices?
 - *Long horizon studies*: Argument for inefficiency or for different unpredicted returns (or a confusing combination of both).
- **Role of the Sampling Interval**
- The interval between adjacent observations constitutes the sampling interval (minutes, hour, day, week, and month). If the event time is known exactly a shorter sampling interval is estimated lead higher ability to make out the event effect (power of the test increases). Use of intraday data may entail some complications due to thin trading, autocorrelation, etc. So the benefits of very short interval are unclear.

Inferences with Event-Date Uncertainty

Sometimes the exact event date may be hard to make out. Generally the uncertainty is of whether the event information published e.g. in newspapers were obtainable to the markets already a day before. A practical way to accommodate this uncertainty is to increase the event window to two days, the event day 0 and next +1. This, however, reduces the power of the test (extra noise is included to the testing).

1.4. CAPITAL MARKETS:

Capital markets are essential to the functioning of an economy, since capital is a vital component for generating economic output. Capital markets are markets for buying and selling equity and debt instruments. Capital markets direct savings and investment between suppliers of capital such as retail investors and institutional investors, and users of capital like businesses, government and individuals⁹. Capital markets involve in the activities like issuing of stocks and bonds for medium-term and long-term durations, usually terms of one year or more. Capital markets are commonly divided into two categories of markets, the first of which being primary markets. In primary markets, stocks and bonds are issued directly from companies to investors, businesses and other institutions, regularly through underwriting¹⁰. Primary markets permit companies to raise capital without or before holding an initial public offering so as to

make as much direct profit as possible. After this activity in a company's development, it may prefer to hold an initial public offering so as to generate more liquid capital. In such an event, the company will usually sell its shares to a few investment banks or other firms¹¹.

Capital markets have several participants including individual investors, institutional investors such as pension funds and mutual funds, municipalities and governments, companies and organizations, banks and financial institutions. Despite the fact that many different kinds of groups, including governments, may issue debt through bonds (these are called government bonds), governments may not issue equity through stocks. Suppliers of capital usually wish for the maximum possible return at the lowest possible risk, while users of capital want to raise capital at the lowest possible cost¹².

1.5. CAPITAL MARKET EFFICIENCY

Capital market efficiency explains how fast the new information is incorporating into the security prices. If a market is efficient, stock price movements should follow a random walk and the security price movements in the past should be not related to future price movements. But if the market is inefficient, the price movements are not random; some investors can make use of the inefficiency by gaining abnormal returns¹³. They may be able to correctly predict the future price movements by examining the historical price movements. The stock market with various profit-motivated professionals and private investors constantly searching for disvalued securities - undoubtedly provides such a setting. Profit-motivated investors do have noticeably similar objectives. Each prefers a high rate of return to a low one, certainty to uncertainty, low risk to high risk, and so forth. Moreover, securities law provides that both parties to a transaction must have access to the same substance information¹⁴. In an efficient market, for example, news of an earnings amplify would be quickly and accurately assessed by the collective measures of literally millions of investors and straight away reflected in the price of the stock. The supposed result of this efficiency is that whether you buy the stock before, during, or after the earnings news, or whether another stock is purchased, only a fair market rate of return can be anticipated, corresponding with the risk of owning whatever security is bought¹⁵.

1.5.1. The following are the main assumptions for a market to be efficient:

- A huge number of investors investigate and value securities for profit.

- New information comes to the market independent from other news and in an arbitrary fashion.
- Stock prices regulate quickly to new information.
- Stock prices should replicate all available information.
- Financial theories are subjective. In other words, there are no confirmed laws in finance, but rather ideas that try to explain how the market works.

1.5.2. Some reasons why market efficiency is a critical issue and concept:

- It affects the price that the firm will receive for any new stocks and bonds that it may issue. Also, if a firm can sell new stock that is overvalued, it is possibly likely to do such.
- It affects the cost of capital or essential rate of return on securities. The cost of capital affects the capital budgeting or new capital expenditure decisions.
- If one wants to link management compensation to stock price or shareholder value, then it is particularly important that the stock price be delegate of the true value of the firm, i.e., stockholders want a stock price that is fair and impartial.
- An asset's price should be determined by impartial estimates of future cash flows and the true systematic risk connected with the cash flows. If this were not the case, investors would be able to earn returns that are inconsistent with the true level of risk of an asset. Portfolio managers are very interested in any mispricing in the stock market. A mispriced stock would be consideration as cash lying in the street waiting for someone to pick it up¹⁶.

1.6. Efficient market hypothesis (EMH)

The efficient market hypothesis (EMH) is concerned with the informational efficiency of the capital markets. The efficient-market hypothesis was developed by Professor Eugene Fama at the University Of Chicago Booth School Of Business as an academic notion of study through his published Ph.D. thesis in the early 1960s. The efficient-market hypothesis (EMH) states that it is impossible to "beat the market" because stock market efficiency causes current share prices to always incorporate and replicate all pertinent information. According to the EMH, stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. As such, it should be impossible to outperform the overall market through expert stock selection or market timing, and that the only

way an investor can probably attain superior returns is by purchasing riskier investments¹⁷.

EMH states that markets make immediate adjustments to stock price fluctuations. These changes in stock price occur due to the emergence of new information pertaining to that particular stock. The EMH occurs when the active market participants all have access to relevant information, utilizing this information to compete rationally in order to maximize profit on their buy and sell decisions. This eventually leads to the situation where the actual price of a security is a good estimate of the intrinsic value of that security. This implies that no stock is overvalued or undervalued and as such there is no possibility of making gains by outperforming the market. It is therefore evident that the EMH supports the random walk theory¹⁸. If information is not utilized by all concerned, the theory breaks down as opportunities emerge for one or more market participants to make hay while the sun is still shining. This phenomenon is called information arbitrage. The EMH is further divided into the weak form, the semi strong form and the strong form depending on the kind of information that is reflected in the existing price of securities¹⁹. The efficient market hypothesis asserts that it would be impossible consistently to outperform the market—which reflects the composite judgment of millions of participants—in an environment characterized by many competing investors, each with similar objectives and equal access to the same information. In the context of this hypothesis, “efficient” means that the market is capable of quickly digesting new information on the economy, an industry, or the value of an enterprise and accurately impounding it into securities prices. In such markets participants can expect to earn no more, nor less, than a fair return for the risks undertaken²⁰.

1.7. FORMS OF CAPITAL MARKET EFFICIENCY

The efficient market hypothesis does not by any means reject the profitability of investing. It merely states that the rewards obtainable from investing in highly competitive markets will be fair, on the average, for the risks involved. Importantly, however, the three forms of the efficient market hypothesis hold that acting on publicly available information cannot improve one’s performance beyond the market’s assessment of a fair rate of return²¹. The efficient-market hypothesis requires that agents have rational expectations; that on average the population are correct (even if no one person is) and whenever new relevant information appears, the agents update their prospects aptly. Note that it is not required that the agents be rational. EMH allows that when faced with new information, some investors may overreact and some may under react.

All that is required by the EMH is that investors' reactions be random and follow a normal distribution pattern so that the net effect on market prices cannot be consistently exploited to make an abnormal profit, especially when allowing for transaction costs (including commissions and spreads). Thus, any one person can be wrong about the market—undeniably, everyone can be—but the market as a whole is always right²².

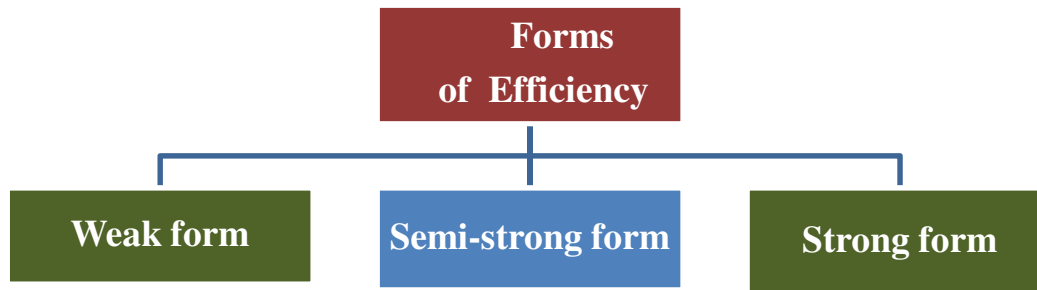
Three information sets are used to describe the EMH. Note that set 1 is a subset of 2 and that both 1 and 2 are subsets of 3. Each set corresponds to one form of the EMH as discussed below.

- Historic stock prices and other market related information (e.g., trading volume, etc.)
- Publicly available information (this also includes all historical market information)
- All information relevant to a stock (both public and private information)

EMH states that markets make instant adjustments to stock price fluctuations. These changes in stock price occur due to the emergence of new information pertaining to that particular stock. The EMH occurs when the active market participants all have access to relevant information, utilizing this information to compete rationally in order to maximize profit on their buy and sell decisions²³. This eventually leads to the situation where the actual price of a security is a good estimate of the intrinsic value of that security. This implies that no stock is overvalued or undervalued and as such there is no possibility of making gains by outperforming the market. It is therefore evident that the EMH supports the random walk theory. If information is not utilized by all concerned, the theory breaks down as opportunities emerge for one or more market participants to make hay while the sun is still shining. This phenomenon is called information arbitrage²⁴. The EMH is further divided into the weak form, the semi strong form and the strong form depending on the kind of information that is reflected in the existing price of securities.

Fama (1970) suggested that the efficient market hypothesis can be divided into three categories¹⁰.

- Weak form of EMH
- Semi-Strong form of EMH
- Strong form of EMH



1.7.1. Weak form of EMH: It states that the current security prices reflect all the current as well as the historical prices, so the historical data cannot be used to predict future prices. This implies that any new information based on historical data is futile and cannot be used to earn abnormal profit. One of the most traditional types of information used in assessing security values is market data, which refers to all past price (and volume) information. If security prices are determined in a market that is weak-form efficient, historical prices and volume data should already be reflected in current prices and should be of no value in predicting future price changes²⁵. Since price data are the basis of technical analysis, which relies on the past history of price information, is of little or no value. Test of the usefulness of price data are called weak-form tests of the EMH. If the weak form of the EMH is true, past price changes should be unrelated to future price changes. In other words, a market can be said to be weakly efficient if the current price reflects all past market data. The correct implication of a weak-form efficient market is that the past history of price information is of no value in assessing future changes in price²⁶.

1.7.2. Semi-Strong form of EMH: It states that all the published as well as the historical information is reflected in the security prices, so no investor can earn superior profit by making use of any new information. This exhibits that the market considers the historical prices as well the information that is publicly obtainable and reflects the same in the security prices, so no new information can be used to earn abnormal return. Tests of the semi-strong EMH are testing the speed of adjustment of stock prices to announcements of new information. In fact, most test of the EMH is concerned with how rapidly information is integrated into security prices. A semi-strong efficient market projects that investors cannot act on new public information after its announcement and anticipate to earn above-average- risk-adjusted returns. If lags are present in the adjustment of stock prices to certain announcements and investor can exploit these lags and earn abnormal returns, the market is not fully efficient in the semi-strong sense²⁷. A more inclusive level of market efficiency involves not only known and publicly available market data,

but all publicly known and available data, such as earnings, dividends, stock split announcement, rights issue announcement, new product development, financing difficulties etc. A market that rapidly incorporates all such information into prices is said to show semi strong – form efficiency. Thus, a market can be said to be efficient in the semi-strong sense, if current prices rapidly replicate all available information²⁸. A semi-strong efficient market encompasses the weak form of the hypothesis, because market data are part of the bigger set of all publicly available information.

1.7.3. Strong form of EMH: It states that the security prices replicate all the information that is publicly available as well as the private information, so no investor can outperform the other investors by utilizing any inside or private information²⁹. This projects that even the top management, security analysts, fund manager etc. who have full access to the private/inside information cannot be able to earn higher return/abnormal profit³⁰. The most considerable form of market efficiency is the strong form, which states that stock prices fully replicate all information, public and nonpublic. The strong form goes ahead of the semi-strong form in considering the value of the information contained in announcements, whereas the semi-strong form focuses on the speed with which information is impounded into stock prices. If the market is strong-form efficient, no group of investors should be able to earn, over a rational period of time, abnormal rates of return by using information in a superior manner. A second aspect of the strong form is, dealing with private information-that is, information not publicly available because it is constrained to certain groups such as corporate insiders and specialists on the exchanges. At the extreme, the strong form holds that no one with private information can make money using this information. Needless to say, such an extreme belief is not held by many people. These three forms of market efficiency are cumulative. If one believes in semi-strong form efficiency, the weak form is also encompassed. Strong form efficiency encompasses the weak and semi-strong forms and represents the highest level of market efficiency³¹.

1.8. INTERNAL EVENTS CONSIDERED IN SEMI- STRONG FORM OF CAPITAL MARKET EFFICIENCY:

The researcher has conducted the research to study the impact of different events on share prices in semi- strong form of capital market efficiency in listed companies of both BSE and NSE. Out of many events, the researcher has taken four events for the study. They are- bonus shares,

dividend issue, mergers & acquisitions and rights issue.

1.8.1. Bonus Shares Offering bonus shares are one of the ways companies reward investors without disturbing their cash balances. Bonus shares are additional shares given to the existing shareholders without any extra cost, based upon the number of shares that a shareholder owns. The basic principle behind bonus shares is that the total number of shares increases with a constant ratio of number of shares held to the number of shares outstanding³². This is referred to as dilution in equity. Companies issue bonus shares to persuade retail participation and raise their equity base. When price per share of a company is high, it becomes difficult for new investors to buy shares of that particular company. Raise in the number of shares reduces the price per share. But the overall capital remains the same even if bonus shares are affirmed. Although the total number of issued shares increases, the ratio of number of shares held by each shareholder remains constant. The current shareholders simply receive new shares, for free, and in proportion to their preceding share in the company. Therefore, a bonus share issue is very alike to a stock split. The only practical difference is that a bonus issue creates a change in the structure of the company's shareholders' equity³³. Another difference between a bonus issue and a stock split is that while a stock split habitually also splits the company's authorized share capital, the distribution of bonus shares only changes its issued share capital (or even only its outstanding shares).

1.8.1.1. Effects of Bonus Issue

Bonus shares do not directly affect a company's performance. Bonus issue has following major effects.

- Share capital gets amplified according to the bonus issue ratio.
- Liquidity in the stock increases.
- Effective Earnings per share, Book Value and other per share values get reduced.
- Markets take the action generally as a sympathetic act.
- Accumulated profits get reduced.
- A bonus issue is taken as an indication of the good health of the company.

1.8.1.2. Reasons to Issue Bonus Shares:

There may be various reasons in issuing bonus shares. Like-

To reward their investors-The Company pays gratitude to its investors by giving bonus shares. Also the morale of the shareholder gets boosted and the company gains the confidence of the investors.

To increase liquidity of the stock-By offering bonus shares, the total number of outstanding shares increases- which amplifies the trading which results in the increased liquidity of the stock and increased participation of the traders³⁴. Also, it benefits the company as people buy more and more stocks with an expectation to get free shares and this increases the chance of further fund raising through stake buying.

To bring the stock price in a reasonable price range- When any company issues bonus shares, its stock price adjusts after the record date. consequently, the stock price drops down and trades in a bit reasonable price range, which then gains the attraction of the investors who could not buy because of high stock price. So, eventually it proves beneficial for the company³⁵.

1.8.1.3. Effect of Bonus Shares Announcement on Share Price:

A bonus issue adds to the total number of shares in the market. For example, a company had 10 million shares. After a bonus issue of 2:1, there will be 20 million shares issues. And now, there will be 30 million shares. This is called to as a dilution in equity. Now the earnings of the company will have to be divided by the outstanding shares.

$$\text{Earnings Per Share(EPS)} = \frac{\text{Net Profit}}{\text{Number of shares}}$$

Since the profits stay the same but the number of shares has increased, the EPS will decrease. Theoretically, When EPS declines, the stock price must also decrease proportionately. But, in reality, it may not happen.

Record Date: A bonus issue is taken as a sign of the good health of the company. When a bonus issue is announced, the company also announces a record date for the issue. The record date is the date on which the bonus takes effect, and shareholders on that date are allowed to the bonus. Investors purchasing stakes after that are not entitled for the bonus shares.

Ex-bonus Date: After the announcement of the bonus but before the record date, the shares are referred to as cum-bonus. After the record date, when the bonus has been given effect, the shares become ex-bonus. The price adjustment happens during ex-date. Those who invested during this stage are not allowed to the bonus shares.

1.8.2. Dividend Issue

Dividends are returns paid by a company to its shareholders according to their proportion of investments. It is the portion of business profits paid out to shareholders when it earns profit or surplus, that money can be used in two ways: it can be either re-invested in the business (retained earnings), or it can be distributed to the shareholders³⁶. There are two ways to allocate cash to shareholders; share repurchase or dividends. Many companies preserve a portion of their earnings and pay the remaining portions as a dividend.

1.8.2.1. Dividend Payout Policies

A company that issues dividends may prefer the amount to pay out using a number of methods.

- **Stable dividend policy:** Even if corporate earnings are in instability, stable dividend policy concentrates on maintaining a steady dividend payout.
- **Target payout ratio:** A constant dividend policy could target a long-run dividend-to-earnings ratio. The purpose is to pay a stated percentage of earnings, but the share payout is given in a nominal amount that adjusts to its target at the earnings baseline changes.
- **Constant payout ratio:** A company pays out a specific percentage of its earnings each year as dividends, and the amount of those dividends consequently vary directly with earnings.
- **Residual dividend model:** Dividends are based on earnings less funds the firm retains to finance the equity portion of its capital budget and any remaining profits are then paid out to shareholders.

1.8.2.2. Forms of Dividend Payment

- **Cash dividends:** Cash dividends are the most common form of payment and are paid out in currency, usually by means of electronic funds transfer or a printed paper check. Such dividends are a form of investment income and are typically taxable to the recipient in the year they are paid³⁷. This is the most common means of sharing corporate profits with the shareholders of the company. For each share owned, a stated amount of money is distributed. Therefore, if a person owns 100 shares and the cash dividend is 50% per share, the holder of the stock will be paid Rs.50. Dividends paid are not categorized as an expense, but rather a deduction of retained earnings. A dividend paid does not show up on an income statement but does shown on the balance sheet³⁸.

- **Stock or scrip dividends:** Stock dividends are those paid out in the form of additional stock shares of the issuing company, or another company (such as its subsidiary company). They are usually issued in proportion to shares owned (for example, for every 100 shares of stock owned, a 5% stock dividend will yield 5 extra shares). Nothing tangible will be gained if the stock is split because the total number of shares increases, lowering the price of each share, without changing the market capitalization, or total value, of the shares held. Stock dividends are not includable in the gross income of the shareholder. Because the shares are issued for proceeds equal to the pre-existing market price of the shares; there is no negative dilution in the amount recoverable.
- **Property dividends:** Property dividends or dividends *in specie* (Latin for "in kind") are those paid out in the form of assets from the issuing company or another company, such as a subsidiary company. They are relatively rare and most frequently are securities of other companies owned by the issuer, however they can take other forms, such as products and services.
- **Interim dividends:** Interim dividends are dividend payments made before a company's Annual General Meeting (AGM) and final financial statements. This affirmed dividend generally accompanies the company's interim financial statements.
- **Other dividends:** Other dividends can be used in structured finance. Financial assets with a known market value can be distributed as dividends; warrants are sometimes distributed in this way. For large companies with subsidiaries, dividends can take the form of shares in a subsidiary company. A common practice for "spinning off" a company from its parent is to distribute shares in the new company to the old company's shareholders. The new shares can then be traded independently.

1.8.2.3. Dividend Dates:

A dividend that is declared must be permitted by a company's board of directors before it is paid. For public companies, four dates are relevant regarding dividends:

Declaration date-It is the day the board of directors announces its intention to pay a dividend. On that day, a liability is created and the company records that liability on its books; it now owes the money to the stockholders.

In-dividend date- It is the last day, which is one trading day before the *ex-dividend date*, where the stock is said to be *cum dividend*. In other words, current holders of the stock and anyone who

buys it on this day will receive the dividend, whereas any holders selling the stock lose their right to the dividend. After this date the stock becomes *ex dividend*.

Ex-dividend date- It is the day on which shares bought and sold no longer come attached with the right to be paid the most recently declared dividend. This is a significant date for any company that has many stockholders, including those that trade on exchanges, to facilitate reconciliation of who is entitled to be paid the dividend. Existing holders of the stock will receive the dividend even if they sell the stock on or after that date, whereas anyone who bought the stock will not receive the dividend. It is reasonably common for a stock's price to decrease on the ex-dividend date by an amount roughly equal to the dividend paid. This reflects the decrease in the company's assets ensuing from the declaration of the dividend.

Book closure date - when a company announces a dividend, it will also announce a date on which the company will ideally temporarily close its books for fresh transfers of stock, which is also generally the record date.

Record date - shareholders registered in the company's record as at the record date will be paid the dividend. Shareholders who are not registered as of this date will not receive the dividend. Registration in most countries is basically automatic for shares purchased before the ex-dividend date.

Payment date — It is the day on which the dividend cheques will actually be mailed to shareholders or credited to their bank account.

1.8.2.4. Dividend Irrelevance Theory:

Economists Merton Miller and Franco Modigliani argued that a company's dividend policy is irrelevant, and it has no effect on the price of a firm's stock or its cost of capital. Suppose, for example, that a person is a stockholder of a firm and he doesn't like its dividend policy. If the firm's cash dividend is too big, he can just take the surplus cash received and use it to buy more of the firm's stock³⁹. If the cash dividend he received was too small, he can just sell a little bit of his existing stock in the firm to get the cash flow he wants. In either case, the combination of the value of his investment in the firm and his cash in hand will be exactly the same. When they conclude that dividends are irrelevant, they indicate that investors don't care about the firm's dividend policy because they can create their own synthetically⁴⁰.

It should be noted that the dividend irrelevance theory holds only in a perfect world with no taxes, no brokerage costs, and substantially dividable shares.

1.8.2.5. How Dividends Affect Stock Price

When a company goes through the method of issuing a dividend, the company's stock price can potentially be impacted in two different ways:

- If the company declares a dividend payment that's higher or lower than estimated, market attitude may shift causing the stock price to rise or drop accordingly.
- An anticipated change in price occurs on the ex-dividend date when the company reduces its market cap by the declared shareholder payout.

1.8.2.6. Arguments for issuing dividends: In many countries, the income from dividends is treated at a more approving tax rate than ordinary income. Investors looking for tax-advantaged cash flows may look to dividend-paying stocks in order to take advantage of potentially favorable taxation. The clientele effect suggests particularly those investors and owners in high marginal tax brackets will choose dividend-paying stocks. If a company has a long history of past dividend payments, reducing or eliminating the dividend amount may indicate to investors that the company could be in problem. An unforeseen increase in the dividend rate might be a positive sign to the market⁴¹. Cash dividend payments to investors make investors to receive a return from the company in the form of cash; on the other hand, it reduces company's ability to invest in new projects. So, the dilemma remains whether dividend payment really increased the shareholders' value or not. Ever since the work Miller and Modigliani (1961), effect of dividend announcement on stock price or shareholders' value have become a strong area of study in finance. Many researchers have productively proved in their study that a change in the dividend payment have a direct effect on the share price of the company. On the other hand, many well-known researchers have put forward the idea that dividend change does not really affect the company's share price⁴². In this study, it has been attempted to demonstrate the effect of dividend announcement on the share price of the company and in order to measure it, samples have been taken from two of the biggest security markets of India – Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). One of the objectives of the study is to examine the effect of dividend announcements on share price of listed companies of both stock exchanges.

1.8.3. MERGERS AND ACQUISITIONS (M & A)

Mergers, acquisitions and takeovers have been a part of the business world for centuries. In simple terms, a merger is a practice when two independent firms or entities become one i.e. process of amalgamation. Acquisition, on the other hand, can be termed as buying out of one company by another. Here, the acquirer attains full management control of the other entity. In today's dynamic economic environment, companies are often faced with decisions regarding these actions - after all, the job of management is to maximize shareholder value⁴³. Through mergers and acquisitions, a company can (at least in theory) increase a competitive advantage and eventually increase shareholder value.

1.8.3.1. Classification of Mergers:

There are numerous ways that two or more companies can combine their efforts. They can associate on a project, jointly agree to join forces and merge, or one company can outright obtain another company, taking over all its operations, including its holdings and debt, and sometimes replacing management with their own representatives. It's this last case of dramatic unfriendly takeovers that is the source of much of M&A's bright expressions⁴⁴.

Horizontal Mergers Horizontal mergers take place when a company merges or takes over another company that offers the same or similar product lines and services to the final consumers, which means that it is in the same industry and at the same phase of production. Companies, in this case, are typically direct competitors⁴⁵. For example, if a company producing cell phones merges with another company in the industry that produces cell phones, this would be termed as horizontal merger. The benefit of this kind of merger is that it eliminates competition, which helps the company to increase its market share, revenues and profits. Moreover, it also offers economies of scale due to increase in size as average cost decline due to higher production volume. These kinds of merger also persuade cost efficiency, since unnecessary and wasteful activities are removed from the operations i.e. various administrative departments or departments such as advertising, purchasing and marketing⁴⁶.

Vertical Mergers A vertical merger is done with an objective to combine two companies that are in the same value chain of producing the same good and service, but the only difference is the phase of production at which they are operating. For example, if a clothing store takes over a textile factory, this would be termed as vertical merger, since the industry is same, i.e. clothing,

but the phase of production is different: one firm works in territory sector, while the other works in secondary sector⁴⁷. These kinds of merger are generally undertaken to secure supply of essential goods, and evade interruption in supply, since in the case of this example, the clothing store would be rest assured that clothes will be provided by the textile factory. It is also done to confine supply to competitors, hence a greater market share, revenues and profits. Vertical mergers also offer cost saving and a higher margin of profit, since manufacturer's share is eliminated⁴⁸.

Concentric Mergers Concentric mergers take place between firms that serve the same customers in a particular industry, but they don't offer the same products and services. Their products may be complements, product which go together, but technically not the same products. For example, if a company that produces DVDs merges with a company that produces DVD players, this would be termed as concentric merger, since DVD players and DVDs are complements products, which are by and large purchased together. These are usually undertaken to ease consumers, since it would be easier to sell these products together. Also, this would help the company diversify, hence higher profits. Selling one of the products will also encourage the sale of the other, hence more revenues for the company if it manages to increase the sale of one of its product. This would enable business to offer one-stop shopping, and therefore, convenience for consumers⁴⁹. The two companies in this case are associated in some way or the other. Usually they have the production process, business markets or the basic technology in common. It also includes expansion of certain product lines. These kinds of mergers offer opportunities for businesses to venture into other areas of the industry reduce risk and provide access to resources and markets unavailable previously.

Conglomerate Merger When two companies that operates in completely different industry, regardless of the phase of production, a merger between both companies is known as conglomerate merger. This is typically done to diversify into other industries, which helps reduce risks⁵⁰.

1.8.3.2. Types of Corporate Takeovers

There are several different types of takeover. The main types are:

Friendly Takeover-the company bidding will approach the directors of the other company to converse and agree an offer before proposing it to the shareholders of that company. The bidding company will also have an opportunity to look at the accounts of the business they want to buy and this process is known as due diligence.

Hostile Takeover-the company bidding has their offer rejected or does not approach the board of the company they wish to buy before making an offer to shareholders. This also means they will not have access to private information about the company - escalating the risk of the takeover. Banks are usually more cautious about lending money for hostile takeovers.

Reverse Takeover-another common type of takeover is the reverse takeover. This happens when a private (not traded on the stock market) company buys a publicly-traded company as a means of acquiring public status without having to list itself.

1.8.3.3. Effect on Stock Price:

“Mergers and Acquisitions” (M & A) concept is one of the prime business decisions that have intense effect on stock prices. When a firm acquires another entity, there generally is an expected short-term effect on the stock price of both companies. In general, the acquiring company's stock will fall while the target company's stock will rise. The cause the target company's stock usually goes up is that the acquiring company normally has to pay a premium for the acquisition: unless the acquiring company offers more per share than the current price of the target company's stock, there is modest incentive for the current owners of the target to sell their shares to the takeover company⁵¹. The acquiring company's stock usually goes down for a number of reasons. First, as mentioned above, the acquiring company must pay more than the target company currently is significance to make the deal go through. Beyond that, there are often a number of uncertainties involved with acquisitions⁵².

Here are some of the problems the takeover company could face during an acquisition:

- An unstable integration process: problems related with integrating different workplace cultures.
- Lost productivity because of management power problems.
- Additional debt or expenses that must be incurred to make the purchase.

- Accounting issues that deteriorate the takeover company's financial position, as well as restructuring charges and goodwill.

1.8.4. RIGHTS ISSUE

A rights issue is an invitation to existing shareholders to purchase additional new shares in the company. More particularly, this type of issue gives current shareholders securities called "rights", which, will give the shareholders the right to purchase new shares at a discount to the market price on a declared future date. The company is giving shareholders an opportunity to boost their exposure to the stock at a discount price⁵³. But until the date at which the new shares can be purchased, shareholders may trade the rights on the market the same way they would trade ordinary shares. The rights issued to a shareholder have a value, thus compensating current shareholders for the future dilution of their current shares' value. Troubled companies usually use rights issues to pay down debt, particularly when they are not capable to borrow more money. But not all companies that pursue rights offerings are wobbly. Some with clean balance sheets use them to fund acquisitions and growth strategies. For encouragement that it will raise the finances, a company will habitually, but not always, have its rights issue underwritten by an investment bank⁵⁴.

1.8.4.1. Record Date:

The company will make an announcement that it is offering the rights issue to all shareholders on a particular date. This date is called the *record date*. After the rights announcement but before the record date, the shares are known as *cum-rights*. Even if one does not currently own the shares but if he buys them at that time, he will get the rights issue. On the record date, they become *ex-rights*. If one buys them after this day, he does not get the rights issue⁵⁵.

1.8.4.2. Impact of Rights Issue on Share Price:

After the right issue is offered, price of that particular stock falls in the stock market. It happens since the number of stock of that company increases in the market. Especially if the number of the right issue is moderately higher than the paid-up capital the price falls⁵⁶. Moreover the dividend yield and the PE ratio of that particular stock also falls after the right issue is offered. Theoretically the right issue does not give considerable profit to the shareholders in spite of the fact that they get the stock in lower price. But in practice the shareholders always find the

right issue an attractive alternative to buy the shares of the company. This is because they believe that the company is going to utilize the additional fund from the right issue for further development and expansion of the company that will in time strengthen the financial standing of the company⁵⁷.

A rights issue has the following effects on the price of a stock.

- Share capital gets augmented according to the rights issue ratio.
- Liquidity in the stock increases.
- Effective Earnings per share, Book Value and other per share values remains reduced.
- Markets take the action typically as a favorable act.
- Market price gets adjusted on issue of rights shares.
- Company gets better cash flow which may be used to develop the business and may help amplify effective Earnings per share.
- Usually a shareholder may not back out from applying for the rights issue unless the offer is almost same as the existing market price. This is because if a stock is trading at 100 and a rights issue in the ratio 1:1 at a price of 40 will make the stock trade at 70 soon after the ex-rights date.

Usually, when a rights issue is announced, the price will go up because investors now want to buy the shares so that they can make use of the rights issue.

1.9. Implications of the Semi-Strong Form Market Efficiency:

- Stock prices are anticipated to amplify over time, but future returns are expected to be steady with the systematic risk.
- Investments in financial assets are expected to be ZERO Net Present Value. This means that one should expect to earn an average future return that is determined by the systematic risk of the investments⁵⁸.
- What if no one performed security analysis? Then the first person that becomes an analyst will find countless mispriced assets and trading rules that earn surplus or abnormal returns. Such profitable opportunities would definitely lead to many more individuals entering the analyst field. Competition will promptly begin to eliminate most of the mispriced assets⁵⁹.

- Due to extreme competition, it will become difficult to earn abnormal returns. The marginal benefit of analysis will just equal the marginal cost of analysis for the average analyst or investor.
- It thus follows that individuals should be extremely suspicious of anyone that advertises some investment technique that earns abnormal returns. If the method really works, then any rational person would keep the technique undisclosed! This holds for the weak-form market efficiency as well, as many attempt to sell methods for technical analysis⁶⁰.

1.10. TESTS OF SEMI-STRONG FORM EFFICIENCY

Event studies concentrate at stock price reaction to new information released to the public. Delayed responses or overreaction to new public information projects a violation of the semi-strong form EMH. There is slight mixed observed proof from event studies, but efficiency is generally supported⁶¹. In addition, the problem of mutually testing the underlying asset pricing model and market efficiency is still unresolved, i.e., first one should know what the normal returns should look like before any inference can be made regarding market efficiency⁶². Also, it should be remembered that the true asset pricing model is not known. Corporate stock performance studies compare the return on actively traded stocks to returns on passive broad-based index securities, e.g., a stock that only attempts to match the S&P BSE SENSEX indices. Given that trading on insider information is unlawful, most active security traders have to rely on public information to devise their investment strategies⁶³. The majority of event studies discover that most active security traders do not outperform passive index securities, supporting the semi-strong form EMH. The study concentrates on whether Indian capital markets obeying semi-strong form EMH while announcing internal corporate events such as Bonus shares, Dividend, Mergers & Acquisitions and Rights issue. Generally, security prices reflect historical, new public available information and also insider information which is not yet known to public. The present study considers only internal events but other extraneous factors also influence the security prices.

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