

## Market Inefficiencies and Corporate Investments: Insights from Extended Literature Review

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**Abstract:** This study intends to examine the effects of market inefficiencies on corporate investments through literature review. This study finds that there are three types of market efficiencies- allocation, operational and informational efficiency, and allocation efficiency depends more on informational and operational efficiency. Furthermore, the investors cannot beat the market and earn more profit if the market is efficient; however, the degree of efficiency varies across markets; thus, the markets are categorized into three forms of market efficiency. In the existence of asymmetric information, the corporate prefers to raise funds by issuing debts and invest less amount. The study ascertained that transaction costs, anomalies, asymmetric information, information unavailability, and discrepancy of investors cause capital market inefficiency which further affects the corporate investment decisions.

**Keywords:** Market inefficiencies, corporate investments, financial system, efficient market hypothesis (EMH)

### I. INTRODUCTION

An effective financial system is considered as the backbone of the economy because of generating productive projects through pooling resources and domestic savings. The mobilization of savings is assisted by the capital market; thus, an effective capital market means to increase the efficiency as well as the volume of investments that further leads to enhanced economic growth. The capital market is a market in which long-term debt or financial securities are purchased and sold. The capital markets redirect the wealth of savers to the long-term productivity-making industries, such as corporations or governments that spend long-term. In order to defend investors from manipulation, among other responsibilities, the regulatory bodies are meant to control the functioning of the market to remove inefficiencies (Lavington, 2013). For its well-functioning, capital market organisations must aggregate scattered information and deliver the right prices. Prices assess prospects and accurate prices for sellers in capital markets ensure clearer markets and increased net exchange profits.

Furthermore, the efficient market hypothesis (EMH) is the traditional fundamental theory that aims to justify efficiency in the capital markets, and it is based on the strict assumption of rationality, explaining that prices of the securities fully reflect all the available information, including past prices information, as well as public and private information. Besides that, the prices adjust quickly for any newly available information (Latif et al., 2011). In contrast, behavioural finance argues that the prices are affected by the behaviour of the investors. Sometimes security prices follow unusual patterns called anomalies that cannot be explained by EMH. Nonetheless, this price changes reject the random walk theory. However, EHM claims that the prices of securities in an efficient market follow a random walk which makes it impossible to forecast the price changes for future, based on historical past prices (Cowles, 1933, 1944). Despite all that, many markets in the world reject market efficiency to some extent (Latif et al., 2011). Additionally, there are many professional investors that imply using either fundamental or technical analysis strategies that beat the market; while others trade based on insider information which leads to moral hazard or adverse selection (i.e., asymmetric information) which further cause inefficiencies. Furthermore, the level of efficiency is different in various capital markets. Therefore, the efficiency of the markets is categorised into three forms, weak, semi-strong and strong form. The weak form is that the security reflects all the historical prices (Chong, Tai-Leung, and Yan, 2012). The semi-strong form means that both historic and recent publicly accessible and available information is incorporated in the prices of securities/stocks, and in the

strong form that it, incorporates all the accessible information (past prices, private and public) into price changes. The proponents of EMH claim that the high degree of efficiency of the market renders it impossible to beat the market. While on the other side, the market is not always efficient and rational as evident by many studies, irrationality causes inefficiency in the market which offers the opportunity to earn profits. Additionally, the literature indicates that capital markets of advanced economies are more efficient than emerging markets; hence, the emerging markets can be exploited by investors for inefficiencies to make extra profits. The firms try to maximize their shareholder value by making investments in such profitable projects. The firms have two choices for making investments; i) to invest in long-term assets known as capital investment, and ii) to invest in capital markets which are known as financial investments. Among other reasons, the decision of investing in financial assets is affected by the inefficiencies of the capital markets (Dessaint et al., 2019). However, the investment decisions regarding capital investment depend on the net present value (NPV) of projects (Roychowdhury, Shroff and Verdi, 2019).

An extensive range of researcher have focused on testing EMH, and most of the studies rejected EMH. The researchers have revealed factors causing market inefficiency such as anomalies, irrationality, and asymmetric information, etc. In addition, literature shows that corporate choice of investment is also affected by market inefficiency. In other words, the adoption of investment strategies mostly depends on the efficiency level of the capital market. Thus, there is a need for a comprehensive study to review the literature by searching and analysing the theories, and empirical studies to identify the main causes of market inefficiency and how corporate investment choice is affected by market inefficiencies. Hence, the aim of this study is to obtain insight in understanding capital market inefficiencies, its main drivers, and the corporate choice of investment through an in-depth and comprehensive study of literature to know about the theoretical bases of market inefficiency and its impact on corporate investment

## II. CAPITAL MARKET

The term financial markets in a financial sector refer to markets used to raise capital. The financial markets can be categorized into two groups; capital market corresponding to long-term finance, and money market to short-term finance (Aggarwal, 2017). Furthermore, a capital market is a place for intermediation and mobilization of long-term funds (Nwankwo, 1980). Capital market is defined by many other researchers such as Ezirim, (2005), Osaze, (2007) and, Okodua and Ewetan (2013) the definitions could be summarized as a market where the securities are traded that have the maturity of more than one year; for instance, shares (common/preference), bonds or debentures. These markets are the source of long-term funds for businesses as well as corporations. The funds are mobilized from surplus area to deficit area for the purpose of investment through the financial intermediaries. Therefore, as we all know, the capital market is a major means and mechanism to transfer surplus funds from savers to the investors for investment (Abina and Maria, 2019).

Moreover, the capital market is categorised into the debt market, where bonds are traded, and the equity market where shares are traded. Thus, companies raise capital by either issuing debt (i.e., bonds) or equity (i.e., shares) to expand their business activities. Furthermore, the investors have two options to invest either in new issues or in existing assets. Hence, based on the issuance of the securities, the capital market is divided into two markets; the primary market where new shares are issued, and the secondary market where existing shares are traded. In other words, trading and investment in new shares are handled by the primary market, whereas the trading and investment in existing securities are handled by the secondary market. Thus, companies, as well as the public sector institutions, issue new stocks/bonds in order to obtain funds through primary markets. The instruments of the secondary market are summarized in Figure 1. According to Figure 1, the secondary market has three main instruments: fixed, variable, and hybrid. The fixed income instrument is further categorised into four types: bond, debentures, fixed deposits, and preference stocks. Similarly, variable and hybrid instruments are categorised into two types each: equity and derivatives, and convertible preferential shares and mutual funds accordingly.

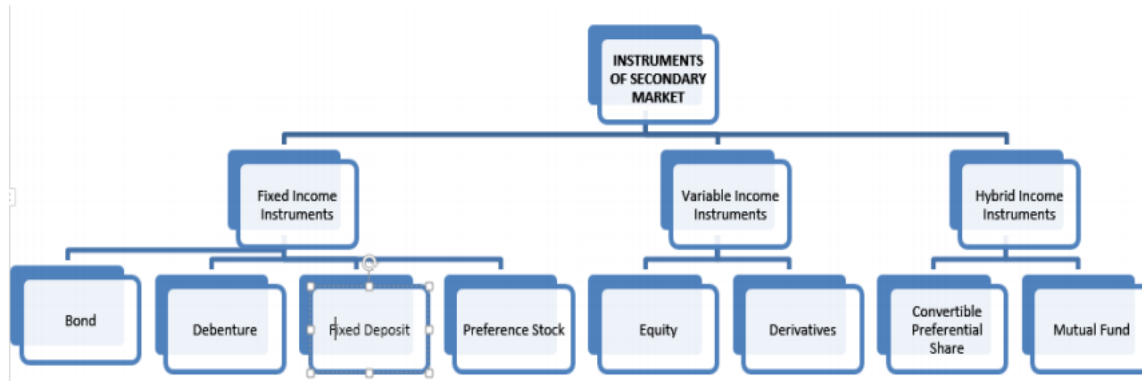


Figure 1: Instruments of Secondary Market

Source: (Aggarwal, 2017)

## 2.1 Capital Market Efficiency and Causes of Inefficiency

The efficiency of the capital market is used for describing market asset prices that fully reflect all the relevant available information. Due to the rapid impounding of information into prices the investors are not able to earn above the market profit from investment strategies (Woo et al., 2020). This section of the study discusses the origin of market efficiency, types, and forms of market efficiency, and causes of inefficiency through supporting literature.

The concept of market efficiency is based on Gibson (1889), who first defines it as “shares become publicly known in an open market, the value which they acquire may be regarded as the judgment of the best intelligence concerning them”. Later, Bachelier (1900) stated that market prices reflect past, present as well as discounted future events; however, they have no relation with price changes (Theory of Speculation). Further, appeared the study state that the mathematical expectation of a speculator is zero, which latterly was supported by the work of Samuelson (1965) who described the efficiency of markets in martingale terms. The empirical studies on the capital market show that the fluctuation of the asset’s prices is random, and their short-term movement cannot be predicted. The literature has identified three types of market efficiencies; i) allocation efficiency meaning that the resources are distributed optimally amongst participants of the market, ii) operational efficiency which means capital can be allotted at the least possible friction at fair competitive prices, and iii) informational efficiency which suggests that prices reflect all the information available. The degree of allocational efficiency depends, in particular, on both information and operational efficiency.

As the resources are scarce, therefore, a mechanism is required for the allocation of resources in such a way that maximizes their productivity. Hence, an effective method is needed to channel the funds efficiently for commercial and industrial companies, that have great potential of using those investment funds. In this regard, the equity market assists the process of resource allocations between competing real investments. Besides that, operational efficiency is related to the reliability, costs, and speed of transactions in assets on the exchanges. This means that the market is required to carry out its operations reliably and speedily at the lowest possible cost (Macaulay, 2017). In addition, informational efficiency is relevant to the pricing efficiency of the securities. All the available information either private or public is incorporated in asset prices. When the same information is available to all investors, the price movement should reach equilibrium very fast, and should not fluctuate much from that. However, this might not be true when we take into account that not all the investors may have the same information, and even if they have, the views or their interpretation of that information might be different. Thus, the information and meaning of available information differences can lead to instability of pricing, and cause incorrect prices (Bouchaud, Farmer and Lillo, 2009). Moreover, the securities pricing information efficiency also varies across markets and geographies. Fama (1970) presented a formal review of market efficiency theory and evidence, stating that, in reality, an efficient market model is not entirely achievable, but could serve as a benchmark against which market efficiency performance can be assessed. According to a weak form efficient capital market, it

is not possible to predict future prices using past historical prices because the information that could affect the prices is completely random and unpredictable. Thus, investors could not use past prices to outperform the market averages.

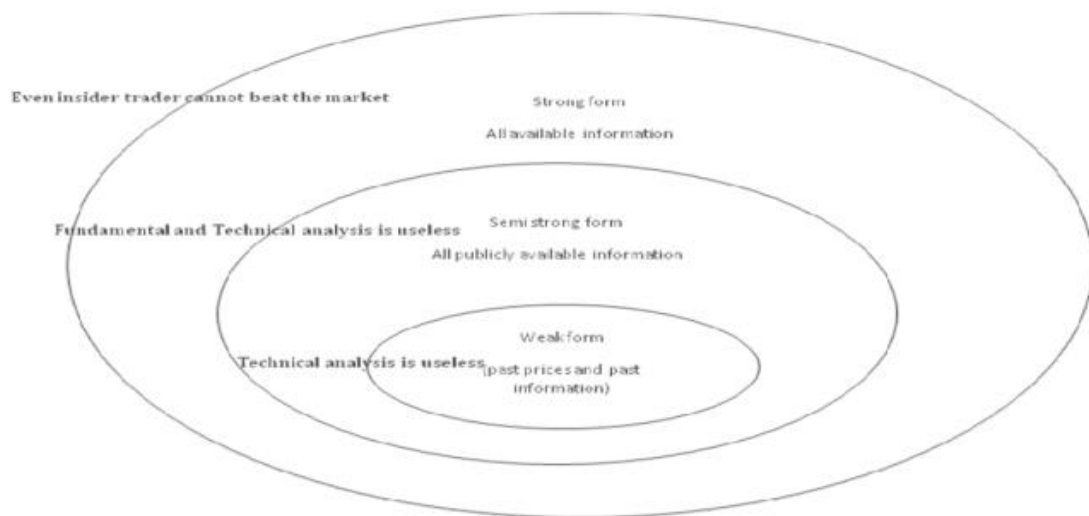


Figure 2: Forms of Efficient Market

Source: (Latif et al., 2011)

Previous studies such as Alexander (1961); Fama (1965a); Fama and Blume (1966) find evidence that supports weak-form efficiency such as that successive prices are independent and that prices follow a random walk; It is recognised later on by Fama (1970) that rejection of random walk theory does not imply that the market is inefficient, as the independence condition is too restrictive for market efficiency (EMH) and that only martingale process of security's return with zero expected profit is required to the investor for market efficiency.

In the same way, semi-strong efficiency claims that prices reflect all the available public information. The prices in the market are quickly and accurately adjusted for the news revealed in the market which provides support to the market efficiency (semi-strong market efficiency) (Fama et al., 1969). Thus, investors could not use fundamental analysis for identifying shares that are priced incorrectly for obtaining advantage or earning profit (Figure 2). Similarly, in a strong form efficient market, all the information (private and public) is incorporated into the share prices; hence, it is not possible for the investors to trade on inside information to obtain an advantage. These three forms of market efficiency have been tested by a range of researchers; for instance, the weak form of market efficiency is tested with a random walk model and the market efficiency is confirm (Alexander, 1961; Fama and Blume, 1966). In the same way, semi-strong form is tested by researchers in different markets using different methods such as event study to investigate that how share prices response to a new event, and how much time it takes for adjusting prices. For instance, Fama et al. (1969) tested a semi-strong form of market efficiency for the stock split, and confirm market efficiency, that investors cannot beat the market based on past prices and public information. However, someone can beat the market by generating abnormal profit based on private information, or fundamental/technical analysis in case of a weak form, and on private/inside information in case of the semi-strong form of market efficiency (Bodie, Kane and Marcus, 2007).

Further, the strong form of market efficiency is tested to investigate whether the investors can outperform the market based on inside/private information by Jensen (1968), and revealed that the investors cannot beat the market based on private information which confirms the strong form of market efficiency. Woo et al. (2020) has reviewed the literature on market efficiency and its forms and summarize EMH tests (see table 1).

Table 1: Fama's (1970) taxonomy of efficient-market-hypothesis (EMH) tests

<b>Kinds of tests</b>	<b>Relevant information</b>	<b>Methodology</b>	<b>Literatures</b>
<b>Weak form</b>	Past historical prices	Filter tests, random-walk tests	Alexander (1961); Fama (1965a, 1965b); Fama and Blume (1966) Fama et al. (1969);
<b>Semi-strong</b>	Public information including past prices	Event study	Ball and Brown (1968); Waud (1970); Scholes (1972)
<b>Strong</b>	All private and public information	Mutual fund performance	Jensen (1968)

Source: (Woo et al., 2020)

The market efficiency assumes that the investors are always rational, this means that they make the decision based on the optimal benefits, and there is no role of their behaviour in their decisions. However, all the investors of capital markets are not always rational, there might be some irrational investors; the assumption of market rationality could be relaxed by including the irrational investors who could trade independently and randomly which results in the offsetting of effects on each other (Fama, 1965a). But it is not necessary that irrational investors will always trade independently and randomly, the situation might be the opposite which will affect the stock prices; it is justified that, this effect on prices of securities could be eliminated by rational arbitrageurs, selling expensive stocks and buying cheaper close substitutes, in this way markets are quickly brought back to efficiency by these highly competitive profit seeking arbitrageurs (Fama, 1965a). However, substitutes are not always available, hence efficiency equilibrium cannot always be reached with the help of arbitrage. Therefore, there are two schools of thought: traditional finance and behavioural finance. According to the proponents of traditional finance, the investors are always rational; while the proponents of the behavioural finance argue that investors can be irrational (DeLong et al., 1990), and the investment decision, as well as prices of the securities, are affected by psychological factors of investors such as human heuristics- the shortcuts used to process different information, simple rules that ignore information, and biases (DeBondt and Richard, 1985; DeLong et al., 1990). There are two main perspectives of investors' irrationality: beliefs, and preferences of investors. The preferences are about how the investors take investment decisions given different investment options with risky outcomes. The traditional view argue that investors are always risk-averse and try to minimize risk. However, this may not always be the case. Furthermore, the investors' attitude is explained by the prospect theory which states that investors do not always judge the outcome on an absolute scale but compare the outcomes within an initial reference point. Additionally, the proponents of behavioural theory, claim that the beliefs are erroneous, which means that investors can wrongly interpret information (Nanayakkara, Nimal and Weerakoon, 2019).

Furthermore, the literature revealed that the stock prices can heavily deviate from their fundamental values because otherwise market bubbles would not exist. DeBondt and Richard (1985) argued that the stock price deviation is due to optimism and pessimism of investors. Behavioural theory states that the stock prices overreact to the past events and that the investors can be way too overconfident about their ability to forecast future corporate earnings and security prices. Besides that, the literature is evident that

many equity markets deviate from EHM assumptions, and the deviations are due to certain events or movements; GameStop incident is a good such example. The EMH is unable to explain such events, and these are known as anomalies; a situation where the securities perform as opposed to the conventional wisdom is the definition of this term. Furthermore, some securities follow many specific abnormal patterns, one of which is known as size effect anomaly for small firms, which shows that small firms can earn higher than predicted returns, another anomaly type is the value anomaly which refers to the underestimation or overestimation of earnings, of value firms or growth firms, and happens due to the wrong forecasts of investors. Also, there is the momentum anomaly which states that the firms who perform well will tend to continue to perform well and that the past underdogs tend to continue to underperform (Jegadeesh and Titman, 1993), calendar anomalies- etc. The calendar anomalies provide the opportunity to the investors to beat the market by generating more profit, which contradicts the weak form of efficiency that claims the future could not be predicted based on historical prices (Boudreaux, 1995). In this regard, the presence of calendar anomalies is confirmed by Agrawal and Tandon (1994) in eighteen countries. Hence, these unusual patterns are indicators of inefficient markets, some might occur once and disappear, others tend to appear repeatedly and persist for longer periods (Latif et al., 2011). The literature shows that financial market anomalies cause inefficiencies in markets, and although it is not likely to consistently profit from anomalies, corporations could occasionally earn above the market returns from exploiting such inefficiencies.

The above literature shows that there are two schools of thought regarding market efficiency that is contradicting each other. The earlier empirical studies assume that markets are efficient. Additionally, that the returns are uncertain due to the fact of market efficiency and its unpredictability factors (Lean, McAleer and Wong, 2015; Qiao and Wong, 2015; Tsang, Wong and Horowitz, 2016). On the contrary, the other empirical work partially rejects the market efficiency stating that EMH is half-truth theorem, and that systematic and significant shifts from efficiency are expected to continue for sufficiently long durations, for there exist some anomalies in capital markets that cause inefficiencies (Alajbeg, Bubas and Sonje, 2012; Guidi and Gupta, 2013; Lee, Lee and Lee, 2010; Narayan, 2008; Ozdemir, 2008). Continuing, the aim of professional investors is to identify market inefficiencies for profit-maximisation. Prior literature shows that advanced markets usually have higher market capitalization and are more efficient and that the developing emerging markets can be more profitable, as they can be defined as less efficient with lower market capitalization and liquidity, thus higher room for growth. Hence, partially rejecting the weak market hypothesis, indicating the possibility of exploiting these markets for inefficiencies for higher market returns (Shamshir and Mustafa, 2014). It can be argued that these markets have higher levels of risk associated with them, however, some of the risk can be diversified away.

Emphasising on investment, however, reflects the concept that investment decisions are the key means by which companies produce value for their investors and shareholders. Moreover, the efficiency of investments, could be determined on the basis of net present value (NPV) or discounted future cash flows (DCF) (Roychowdhury, Shroff and Verdi, 2019). In addition, the literature indicates that asymmetric information also causes market inefficiency and can lead to market failure. The next section of the study has discussed in detail the existence of asymmetric information in capital markets, and its implications.

## **2.2. Asymmetric Information, Market Inefficiency, and Corporate Investment**

Asymmetric information can occur in any transaction if one party has more or better information insights than the other party, which leads to an imbalance of the available information in transactions. The asymmetric information in the capital market refers to the differences between the information between buyer/seller or shareholders/managers on past, present, or future performance of a security. Although, EMH claims that the security prices reflect all the available information (past historical prices, public or private/inside information), and no one can earn more profit from trading on available information as discussed in detail in earlier sections of this study. The market is not always efficient, and there might be chances of asymmetric information such as managers might have more information than shareholders of the firm (Shanken and Smith, 1994) regarding the performance of a project or the overall firm. Thus, asymmetric information is something that exists in the market where both parties have access to different information, and this phenomenon can be explained by signalling theory. Signalling theory states that in some economic transactions, inequality exists between parties regarding information availability, and this is useful to describe the behaviour of both parties in such conditions; thus, it is said that it can result in

under investment and lower valuations since, because of the presence of these imperfect information, investors cannot differentiate good and bad businesses or projects.

Moreover, in a capital market, when insiders have more information regarding the value or performance of the security or asset, it leads to misprices which further leads to existing shareholder dilution. According to Myers and Majluf (1984) mispricings can be reduced by firms having less exposure to asymmetric information by issuing debt to raise capital instead of equity. Under these circumstances, the rationale behind this intuition is that, debt is less sensitive to private information than equity; hence the dilution can be reduced by issuing debt rather than equity (Myers, 1984). This phenomenon can be better explained by pecking order theory which states that the firms should prefer to finance themselves through internal funds (retained earnings), and if the internal funds are unavailable, then the firms should go for debt financing. At last, the firms should finance itself by issuing equity in case of unavailability of internal funds and debt financing. However, debt is only optimal in the case when firms need to acquire a relatively low level of capital, whereas equity is optimal in the case when the firm needs a significant larger amount of capital. Thus, for firms with lower investment needs the required funds can be raised by issuing securities like debt. In this way, they reduce the exposure to dilution. Whereas, the firms with high investment needs can raise the required funds by issuing equity (Fulghieri, Garcia and Hackbarth, 2020). Although the pecking order theory has not shown that a firm's capital structure is of first-order importance, literature states that is a good approximation of reality. Thus, the above discussion illustrates the main financing options and their importance in the case of investment decisions of firms. Additionally, the investment decision of the firms is affected by the asymmetric information in terms of diluting the value of shareholders.

Furthermore, literature identified two main types of asymmetric information; i) adverse selection refers to the situation in which one party has information that the other party does not have and this type of asymmetric information occurs before transaction take place, ii) moral hazard refers to a situation where a party take the risk but does not know the cost of the risk which means that the party is unaware of the risk. Thus, the imbalance in the capital market can be caused by the lack of equal information resulting in moral hazard and adverse selection. The asymmetric information leads to market failure which further creates market inefficiency where one party may be made off better than the other (Mustaruddin et al., 2017). Hence, the market can completely disappear when the information is sufficiently asymmetric (Akerlof, 1970). However, the information asymmetry can be eliminated by state regulations by increasing the availability of information to investors which further reduces the chances of adverse selection that is necessary for capital market efficiency. However, it is not possible to completely eliminate the information asymmetry. This might be due to the reasons that investors are not able to correctly interpret the available information regarding the performance of the firm, and managers who provide incomplete/false information to improve the image of the firm (Minovic, 2016). Also, developing markets have a comparatively high degree of asymmetric information due to a comparatively undeveloped market structure (Mustaruddin et al., 2017). The above discussion can be summarized that asymmetric information leads to market inefficiency.

### **2.3 Capital Market Imperfection and Investment**

The perfect capital markets assumption states that the private investment spending is not influenced by firm's exogenous determined costs (i.e. capital structure), as the firms have equal as well as unlimited access to investment finance and the cash flow generated is not affected by how the firm chooses to raise its capital (Modigliani and Miller, 1958). Additionally, empirical models of investment assume that firms respond to the security prices set in centralized markets. Later, the assumption has been questioned by a number of studies; for instance, the empirical studies of Fazzari, Hubbard and Petersen (1987) and Bond and Meghir (1994) finds that firms' investment decisions are significantly determined by liquidity factors (i.e. cash flows). Fazzari, Hubbard and Petersen (1987) argued that investments of private firms may be constrained by internal funds availability in the presence of capital market imperfections. They suggest that some firms are not able to respond to the changes in securities prices, cost of capital, and investment incentives due to lack of access to the external capital markets. Thus, the availability of internal funds of the firms affects the investment spending because they are not able to raise funds externally.

Furthermore, Demir (2009) finds differential effects of rates of return and profit from financial and fixed assets on fixed investment spending, while analysing the influence of cash flows from multiple investments. The study further revealed that the real sector firms of emerging economies start to increase their interests

on financial investments in the capital markets due to the growing accessibility and availability of alternative opportunities for investments in these financial markets. Thus, the earlier theoretical, as well as empirical studies, assume that the investment decisions of the firms are not affected by its capital structure under a perfect capital market, whereas some studies find that markets are imperfect and thus capital structure is relevant. For instance, Ağca and Mozumdar (2008) identified five factors related to market imperfection, and these are: institutional ownership, corporate governance, bond ratings, analysts coverage, and funds flow, followed by an analysis of their relationship with investment cash flow sensitivity the study showed that there were, under some circumstances, no specific investment choices in the financial system or financial policy.

Moreover, the empirical studies find that in imperfect capital markets, the financial arrangement of the business would not impact its stock valuation. As a consequence, "true" company decisions is what matters (e.g., fixed investments) and it results on the maximisation of shareholders' wealth; whether their expectation is fulfilled or not, is irrespective of financial considerations such as liquidity, debt, and dividend payments. This fundamental observation leads to capital expenditure and reinforces the previously stated neoclassical theory of investment in which a decision between optimum capital stocks may be resolved without regard to financial factors. Thus, businesses face a cost of capital, which is calculated in central security markets as a financial component, and which does not rely on the company's specific financial structure. (Demir, 2009).

Furthermore, literature argued that if capital markets are efficient, then it is not possible for investors to earn risk adjusted profit by trading on available information; however, there are certain causes that show that inefficiency could not be completely absent from capital markets (Shanken and Smith, 1994). Thus, the appropriateness of investment techniques and strategies depends on the efficiency of the capital market. Hence, the firms adopt different strategies and techniques in the presence of inefficiency of capital market from those applied that are followed in case of efficiency of capital market (Samuels, 1981).

Two contradictory theories are related to market efficiency; technical analysis or fundamental analysis against random walk theory (Fama, 1995). Following are the theories that are related to firm investment based upon capital market information.

## 2.4 Random Walk Theory

The term "random walk" has been introduced by Pearson (1905) for describing a path taken by a drunk person, who staggers in a random and unpredictable pattern. An empirical study has been conducted by Kendall and Hill (1953) to investigate the securities prices and weekly data. The study found evidence that the prices follow a random walk pattern with almost zero correlation in price changes. The random walk argument is also supported by other empirical studies such as Roberts (1959) and Working (1934) who argue that the movement in the stock process looks like a random walk. Thus, the stock prices do not follow any specific pattern. Therefore, the prediction of the future path of asset prices is impossible to forecast. Hence, a successful prediction is not possible even by professional forecasters. Additionally, investors expected profit is zero-based on any trading strategies (Cowles, 1933, 1944; Working, 1949).

Moreover, the random walking theory implies independent shifts in market prices. It is therefore not possible to predict the future movement by analysing past movements or patterns of a stock price or market. Summarizing the random walk theory, markets are random and volatile in that all strategies for forecasting short-term stock fluctuations in prices are long-term unsuccessful. Random walks maintain that there are no specific trends for individual stocks and their potential short-term movements. Thus, cannot be predicted at any time. Given that overall market indices appear to increase over the long term, random walk theory followers might consider investing in a diversified index fund that is passively managed. The studies have shown that a random walk would look like an actual series of stocks. Additionally, Osborne (1959) showed that Brownian motion also follows the common stock price movements, and even the square root of the time law was demonstrated.

Furthermore, the theory of random walk has been linked to an empirical study on market efficiency by Fama (1965). The successive price changes are required to be independent as well as follow a normal probability distribution. The current price variations only reflect the current news (flow of current news into the market). This implies that the past prices or history of the assets cannot be used for predicting the



future prices, and for increasing the expected earnings. This is consistent with the presence of efficient markets (Woo et al., 2020). Thus, the corporates cannot earn above the market profit by following any financial investing strategies in the markets.

## **2.5 Fundamental and Technical Analysis**

The purpose of both fundamental analysis and technical analysis is to identify stocks that will over time outperform a certain market index or benchmark. Random walk theorists claim that it raises risk without further benefits (Nwidobie, 2014). Yet, fundamental analysts evaluate all financial information relating to various companies and their sector so that they can outperform the market. Although there is some evidence from the likes of Warren Buffet that outperformance may be achieved through value investing strategies, it can be argued that a larger sample data is required and that he may be regarded as an anomaly. On the other hand, technical analysts analyse specific trading patterns to predict short-term stock movements, with the aim of identifying the right time for the purchase and sale of stocks to surpass the entire market (Nazário et al., 2017). Furthermore, the literature indicates that technical analysis is useless over the long term and no strategy can achieve higher expected profits greater than zero in any type of markets and that it can be more associated with gambling as it is simply a game of trying to predict and outperform randomness. On the other side, it is argued that in a weak-form efficient market, investors can make risk adjusted profits by using fundamental analysis. However, this is not true when it comes to using fundamental analysis to beat the market in a semi-strong, or strong efficient market (Bodie, Kane and Marcus, 2007).

## **2.6 Impact of Capital Markets Inefficiencies on Firm's Investment**

The fact that the capital market can be inefficient has caused businesses to pursue alternative investment policies and procedures than those that are appropriate for an efficient market. The prices of the stock market cannot be presumed to represent the complete information; investors cannot be assumed to interpret the information published properly or available publicly and insiders cannot be assumed to be operating on a scale that is not adequate to impact their price. The firms, on the one side, have a higher propensity for influencing the market price of its securities. Its prices might be moved in such a way that could not be justifiable by the available information; thus, if the movement of the prices could not be justifiable, this shows the case of inefficiency. Moreover, the previous literature shows that the investment strategies and techniques are different in case of market efficiency and inefficiency to raise funds (McNichols and Stubben, 2008), for instance, to raise funds using equity of debts financing. The previous studies show that New York's markets are largely efficient. However, evidence shows that the capital markets are not efficient at all in other less developed countries (Durnev, 2010). Therefore, the market efficiency differs in different economies, and most of the emerging markets are proved as inefficient which provides more opportunities to earn more return on investment. Besides that, the levels of efficiency also differ in different capital markets. Thus, even, in weak efficient and semi-strong efficient markets, the investors can make an excess return. For instance, in a weak efficient market, the investors can use fundamental or private information to beat market and earn excess returns on investment. Whereas in a semi-strong efficient market the investors can trade on private information to generate an extra return.

However, inefficient market encourages the investors to generate extra profit based on technical or fundamental or inside information. Thus, Firms make investment in inefficient market to maximize profit. Inefficiencies encourage corporations to invest, because of opportunities to exploit inefficiencies for profit maximization. The securities might be overvalued or undervalued in inefficient markets, and additionally, most of the anomalies appear for a short time period that cause market inefficiency (Stambaugh, Yu and Yuan, 2012), which motivates the firms for short-term investment in the financial market. Due to market inefficiencies, the securities are mispriced, and the investors earn an extra return when mispricing corrects. The investors either involve in inside trading or react quickly to new information to identify undervalued securities (Pike and Neale, 2009). Hence, the investors used to purchase undervalued securities at low cost and sell them after correction of mispricing; while sell overvalued securities at a high price and purchase back after mispricing is corrected.

Further, highly skilled analysts/investors can exploit the inefficiencies that exist in markets by spotting them to get high financial gain through technical analysis (Ekweruo, 2011). They identify the repetitive patterns in the movement of share prices (Pike and Neale, 2012), and also can interpret the information in

a better way. The firms use fundamental and technical analysis to invest in inefficient market. In the same way, the higher returns on investment, the inefficient markets also attract the international investors for investing. As discussed earlier that developed markets are more efficient than emerging markets due to certain reasons, such as high market capitalization and liquidity. Hence, the firms from advanced economies invest in emerging inefficient markets to maximize their profit. However, inefficient markets have a higher risk than efficient markets; hence, the investors earn an excess return on investment at the cost of high risk.

There are some options, where efficiency is excessive at one end and inefficiency is severe to the other end. Also, various markets can be differentiated by different efficiency grades (Barth and Clinch, 2009), and firms adopt different investment strategies depending upon the degree of efficiency or inefficiency of the capital market. All from this discussion, we can conclude that the objectives of this research endorsed by literature that an inefficient market affects corporate investments.

### III. CONCLUSION

This study has carried out to examine the effects of market inefficiencies on corporate investments through literature review. The study has followed extended literature review methods to achieve the objective of the study. This study finds that there are three types of market efficiencies- allocation, operational and informational efficiency, and allocation efficiency depends more on informational and operational efficiency. Further, the investors cannot beat the market and earn more profit if the market is efficient; however, the degree of efficiency varies across markets; thus, the markets are categorised into three forms of market efficiency. The earlier empirical work claims that capital markets are efficient, whereas later on, some empirical studies reject EMH because of the presence of anomalies that cause inefficiency, and the inefficient market offer opportunity to the investors to earn more profit. Additionally, asymmetric information also causes inefficiency due to moral hazards and adverse selection which leads to market failure. Also, asymmetric information leads to mispricing and value dilution of existing shareholders which further affects the financing and investment decisions of the corporate. In the existence of asymmetric information, the corporate prefers to raise funds by issuing debts and invest less amount. The study concluded that transaction costs, anomalies, asymmetric information, information unavailability, and discrepancy of investors cause capital market inefficiency which further affects the corporate investment decisions.

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