Calendar Anomalies : Existence and Persistence

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Abstract

Predicting the behavior of the stock market is considered as one of the most challenging tasks performed by securities analysts and researchers the world over. The presence of calendar anomalies in stock markets has been one of the most researched topics of research among economists, academicians, statisticians, and market experts for many decades because it provides the possibilities of making unusual profits for investors. Many surveys have been conducted not only in developed countries like the UK, but also in emerging markets like China in order to provide evidence for the presence of any stock market anomalies. Globally, evidence of seasonal anomalies in stock market returns has generated considerable interest among the general public in recent years, and a significant amount of research has been devoted towards documenting the existence and potential of an anomaly for generating superior risk-adjusted returns. Even so, for decades, investors, whether individual or institutional, have always been interested in finding an answer to the question of how securities are priced (Ziemba & Hensel, 1994). To fill this gap in research in presence of calendar anomalies, the present literature review study examined major calendar anomalies prevailing in India and abroad. The current study stressed examining their existence and persistence in the economy domestically or internationally. For this purpose, most of the studies conducted in the period from 1953 upto 2016 have been considered.

Keywords : calendar anomalies, capital market, day-of-the-week effect, January effect, existence, persistence

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Efficient Market Hypothesis (EMH) states that markets are rational and prices of stock fully reflect all available information. Security prices fully adjust to new information as soon as information is available (Latif, Arshad, Fatima & Farooq, 2011). This theory had been propounded by a distinguished statistician M. Kendall in 1953 (Ziemba & Hensel, 1994) and has been documented by a number of statisticians later on (Alexander, 1961; Degutis & Novickyte, 2014 ; Fama, 1965 ; Lee 2001 ; Working , 1960). In fact, Kendall has been looking for regular price cycles, but according to him, there exists no pattern in the movement of share prices and it was proved in his study that the change in securities prices is a random event. According to Malkiel (2003),

> A capital market is said to be efficient, if it accurately reflects all relevant information up to the full extent to determine security prices. Formally, the market is said to be efficient with respect to some information set, if security prices would be unaffected by revealing that information to all participants. Moreover, efficiency with respect to an information set implies that it is impossible to make economic profits by trading on the basis of that information set (p. 739).

The debate about efficient markets has resulted in hundreds of empirical studies attempting to determine whether specific markets are in fact efficient and their level of efficiency. Even certain regularities in the prices of

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common stocks have been discovered and some cross-sectional differences among stock returns have been found to occur with regularity (Bohl, Gottschalk, Henke, & Pal, 2005). To support this, a well-established pricing model i.e. Capital Asset Pricing Model (CAPM) [1] explains a few regularities as this model asserts that different securities should have different trading returns because they have different betas. But a number of irregularities known as *Anomalies* have not been explained by any of the traditional asset pricing models (Marquering, Nisser, & Valla, 2006). *Anomalies* are the empirical results that seem to be inconsistent with established theories of asset-pricing behavior and indicate some market inefficiency (Schwert, 2003).

Thus, it can be said that the ability of investor to pick winner stocks and make excess returns by using new information is directly related to the speed and efficiency of a market. So, efficiency is considered in terms of the fair game concept. Even a market is regarded as efficient with respect to a particular set of information if investors using that information are faced with fair game, that is, they receive on average the return expected for the risk involved and make no consistent abnormal returns.

A well known objection to efficient markets in this nature seems from seasonality in stock market returns. The apparent violation of the EMH in the form of stock market anomalies is confounded by the joint hypothesis problems of whether there is a rational variation over time in expected returns or whether models used in the measurement suffer from systematic deviations from fundamental values. Seasonal anomalies or calendar effects in securities markets are much discussed phenomenon among academics and practitioners. As EMH is related to the random walk theory as the random walk is used to refer to successive price changes, which are independent of each other. In other words, tomorrow's price change (and therefore, tomorrow's price) cannot be predicted by looking at today's price change, that is, $P_{t+1} - P_t$ is independent of $P_t - P_{t-1}$.

Furthermore, the EMH is in essence an extension of the zero profit competitive equilibrium condition from the world of classical price theory to the dynamic behaviour of prices in speculative markets under conditions of certainty i.e., a market is efficient with respect to information set θ_t if it impossible to make economic profits by trading on the basis of information set θ_t (Jensen, 1978).

As explained by Fama (1970), there are three broad categories of EMH (Alt, Fortin, & Weinberger, 2002):

(i) Weak Form : The market is said to be efficient in weak form, if current market prices reflect all the information contained in the past price movements which is contrary to technical analysis that forecast future prices based on past data. Technical analysts claim that history repeats itself whereas, weak-form of EMH states that market has no memory. As a result, market participants cannot forecast future prices in order to buy/sell securities to earn more than what is earned under a policy of buy and hold securities on the basis of past prices of stocks.

(ii) Semi-Strong Form : The market is considered to be efficient in semi-strong form, when current prices reflect not only the past prices, but all publicly information available too. This implies that market participants cannot make superior decisions on the basis of published information to earn more trading returns than what is earned under a policy of buy and hold securities. This form represents the accepted paradigm and explains what is generally meant by unqualified references in the context of EMH. Of course, the precise meaning of publicly available must be defined to give the hypothesis content (Jensen, 1978).

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[1] The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free (rf) rate in the formula and compensates the investors for placing money in any investment over a period of time. The other half of the formula represents risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by taking a risk measure (beta) that compares the returns of the asset to the market over a period of time and to the market premium (*rm-rf*) (Source: Notes on CAPM from www.wikipedia .com).

(iii) Strong Form: This form of market efficiency contains not only all published and known information, but also all significant information including information which may be available with insider traders and further results in earning above average profits.

Thus, empirically EMH's implication can be:

(i) Prices should react quickly and accurately to new arriving information into the stock market.

(ii) Price changes should be random and unpredictable (prices follow a random walk).

(iii) It is impossible to find profitable trading strategies on risk-adjusted basis.

(iv) Knowledgeable investors do not perform better than average investors.

In addition, EMH has been supported by a number of researchers (Dimson & Mussavian, 1998 ; Fama, 1991; Kendall, 1953 ; Lee, 2001 ; Poshakwale, 1996 ; Working, 1960). A few researchers support the weak form of EMH (Abeysekera 2001; Basu, 1977) while others contradict their existence (Buguk & Brorsen, 2003; Malkiel, 2003). As regards the strong form of EMH, evidence casts a serious doubt upon its existence in the real world situation (Rabin & Thaler, 2001 ; Thaler, 1987).

Stock Market Anomalies

In the context of security markets, EMH explains how the share prices should behave in an efficient market. As EMH states that in an active market which consists of a large number of well-informed and objective investors, stocks will be appropriately priced by reflecting all available information. If so, no one can beat the market except by taking a higher risk.

In recent years, the testing for market anomalies in stock return has become an active field of research in empirical financial management and has been receiving attention globally (Loughani & Chappell, 2001; Pandey, 2002a). Over the last 25 years or so, one of the most puzzling and consequently investigated areas of financial market research is the presence and documentation of security price anomalies.

Anomaly means deviation from the established principle *or w*hat is normally expected or believed. These patterns in prices are not in accordance with theoretical expectations and anomalies that are found in stock returns *in various forms* i.e. large firms versus small firms trading returns, long-term versus short-term trading returns, over and under reactions of the firms to information, seasonal effects of trading returns and so on. The conventional wisdom is that knowledgeable traders should eliminate them. Yet, market anomalies are frequently reported in empirical finance and economic literature. Therefore, these potential departures from the EMH must be rigorously analyzed and tested. This understanding, in turn, provides an insight towards an explanation of the anomaly (Keef & Roush, 2005).

Ritter and Chopra (1989) and Cadsby (1992) argued that higher equity returns are present in the anomalous period and are rewarded precisely due to higher risk element present therein. Under normal circumstances, seasonality implies that stock markets are not informationally efficient (Pandey, 2002a) which opens the opportunities for financial investors to formulate effective trading strategies to exploit the situation (Yakob, Beal, & Delpachitra, 2005). In fact, seasonal anomalies in stock returns have indicated that investors can have different required rates of return on risky assets depending on the Calendar month or day.

The violation of EMH gives the opportunities to arbitrageurs to earn abnormal returns and if these are considered, then the general rule of trading may be to buy *small stocks that have decreased in prices in the period and sell them when the prices are higher.* Such stocks can provide best chances for winning abnormal profits. Such irregularities exist in the market and raise the question whether EMH can be considered as sufficiently correct description of financial markets.

According to Ziemba and Hensel (1994), there are some basic reasons for which anomalies seem to yield higher short-term equity returns. These reasons might be:

(i) Behavioral considerations such as investor's sentiments leading to excess purchase or sale of equities in related but different securities;

(ii) Slow response of the market to the new information;

(iii) Increased cash flow just prior to and during the anomalous period;

(iv) Delay in reporting bad news;

(v) Institutional constraints and policies such as pension funds made on last day of the month; and

(vi) Market maker supply-demand balances and bid-ask spread preferences.

The present research concentrates on the selected anomalies related to EMH in the Indian context. In recent years, several anomalies have been identified (Bhattacharya, Sarkar & Mukhopadhyay, 2003; Holden, Thompson, & Ruangrit , 2005). Most commonly discussed calendar anomalies are given below:

- Day-of-the-Week effect (Boynton, Oppenheimer, & Reid, 2006 ; Chaudhary, 1991 ; Draper & Paudyal , 2002; Kato , 1990) ;
- January effect (Marquering et al., 2006; Rozeff & Kinney, 1976; Saad & Moosa , 2005);
- Turn-of-the-year effect (Dyl & Maberly, 1986; Ritter & Chopra, 1989);
- Turn-of-the-month effect (Bhattacharya , 1995; Karmakar & Chakraborty , 2000);
- Monthly effect (Lucey & Whelan, 2004) ;
- Holiday effect (Coutts & Sheikh, 2002 ; Pardo, 2004 ; Pettengill , 1989 ; Tan & Tat , 1998).

However, as already documented, there are many evidences to suggest that seasonality has been documented in many of the world's stock markets, both developed and emerging. Since the seminal work of Fama (1965), Calendar effects are one of the most extensively investigated subjects in finance literature. In addition to the existence of such anomalies, their persistent presence for such a long time since their first discovery is a puzzling phenomenon for many academicians and practitioners. Even though a vast amount of empirical evidence for the Calendar effects is produced, there is still some scepticism regarding the reality of that phenomenon as expressed.

Table 1. Various Types of Anomalies Discovered and Discussed in Financial Literature

Calendar based Anomalies	Announcement based Anomalies	Other Anomalies
❖ Day-of-the-Week effect	❖ Earning-Surprise effect	❖ Book-to-Market effect
❖ End-of-the-Day-effect	❖ Information Releasing Hypothesis	❖ Low-Beta-Firm effect
❖ Holiday effect	❖ IPO's, Seasonal Equity Offerings and Buy-Backs	❖ Low Price Stock effect
❖ Intra-Day effect	❖ Pay-Out effect	❖ Momentum effect
❖ January effect	❖ P/E Ratio effect	❖ Reversion to the Mean effect
❖ Monday/Week-End effect		❖ SEO Underperformance effect
❖ Monthly/Turn-of-the- Month effect		❖ Size effect
❖ Tax-Year effect		❖ Weather effect
❖ Week-of-the-Month effect		

Recently, it is suggested that the explanation for the Calendar effects could be behavioural. As a result, anomalies often seem to disappear, reverse or attenuate, after they are documented and analyzed (Akhtar, Ahmad, Tareq, & Rabbi, 2016 ; Rosenberg , 2004 ; Steele , 2001).

Types of Stock Market Anomalies

As stated earlier, efficiency in capital markets requires that there are no predictable patterns in security returns that investors might use to make abnormal profits. Because, there is no asset pricing model to predict the returns in the seasonal pattern i.e., anomalies and due to a number of reasons, these anomalies do not lead to a complete rejection of market efficiency (Gu, 2003; Bohl et al., 2005). Even as the bid-ask spreads could be higher than the potential profit opportunities and it is found that these anomalies may not be exploitable to make a profit in the real world situation (Gu & Simon, 2003). Instead, it poses a question on the validity of asset pricing models too.

By virtue of this, the existence of Calendar anomalies is a contradiction to the weak form of the EMH. The weak form of the EMH states that the market is efficient in past price and volume information and stock movements cannot be predicted using this historic information as this form infers that stock returns are time invariant, that is, there is no identifiable short-term time based pattern. The existence of seasonality in domestic and international markets suggests market inefficiency, so that investors should be able to earn abnormal rates of return incommensurate with the degree of risk.

As a result, the EMH and most of the CAPMs are based on the idea that individuals act rationally and consider all available information in their decision-making process. Recently, evidences in human behavioral psychology indicate that the tendency to find patterns may be a natural framework for human beings while observing any phenomenon. Table 1 demonstrates various types of anomalies discovered and discussed in financial literature.

Calendar Anomalies

The EMH states that the distribution of daily, monthly and yearly returns should exhibit a uniform pattern across all the weekdays, months and years. But, a number of empirical studies document some significant variations in the distribution patterns of stock returns over a period of time i.e., weeks, months or years. These variations are known as Calendar anomalies which help in devising trading strategies to earn an abnormal return in the security market (Du , 2003; Lucey & Pardo, 2005; Rabin & Thaler , 2001). The most prevailing calendar anomalies in stock market are day-of-the-week effect, January effect, turn-of-the-year effect, tax-year effect, monthly effect, turn-of-the-month effect and holiday effect.

(1) Day-of-the-Week Effect : According to EMH, expected daily returns on stocks are same for all trading days of the week which indicates that the expected return on a security is same for Monday as it is for Tuesday, as it is for Wednesday and so on. Thus, it can be said that trading returns on a stock over different trading days of the week should be evenly distributed. However, a number of studies have provided evidences that refute this belief known as Day-of-the-Week effect. The effect had been first documented by Osborne (1962), and subsequently analyzed by Cross (1973), French (1980), Gibbons and Hess (1981), Dickinson and Peterson (1995), Lian and Chen (2000), Bayar and Kan (2002), Apolinario, Santana, Sales, and Caro (2006), Kenourgios and Samitas (2008), Singhal and Bahure (2009), and Chandra (2011). They provided empirical results for the presence of different trading returns on different trading days of the week.

(2) End-of-the-Day Effect : Trading volumes and share prices tend to depict an increasing trend during the last fifteen minutes of the trading day (Guin, 2005). It is also referred to as hour-of-the-day effect.

(3) Holiday Effect : Holidays are those trading days which directly precede a day where the market is closed, but would normally be open for trading. The holiday effect states that trading returns tend to be higher on the trading day before a holiday (French, 1980; Kim & Park, 1994; Liano, Marchand, & Huang, 1992; Pardo, 2004; Tong , 1992). Empirical works [2] document that stock returns on trading days immediately before a holiday are nine to fourteen times higher than average daily returns. The average daily returns are the deviation of closing price of two days before the holiday to the opening price on the day after the holiday (French, 1980).

As post-holiday trading returns are generally positive, the firms use to release bad news on holiday, so that they can enjoy the positive trading returns on post-holidays. This effect could be attributed to imperfections of the stock market such as higher transaction costs, taxes and psychology of the Indian investors.

(4) Intra-Day Effect : Prices rise sharply during first-forty five minutes and returns are high near the end of the day particularly on last trade of the day known as Intra-Day effect. In addition, the day-end price changes are the highest, when the final transaction is within last five minutes of trading (Thaler, 1987). The role of private and asymmetric information in the price formation process can be taken as a cause responsible for intra-day effect (Andersen, Bollerslev & Cai, 2000).

(5) January Effect : It is not obvious to expect the stock returns to be higher in certain months in a year (Brown, Keim, Kleidon & Marsh, 1983 ; Givoly & Ovadia, 1983 ; Reinganum, 1983). January effect has been first described by Wachtel (1942). It states that stocks in general and small stocks in particular have historically generated abnormally high returns during the month of January (Griffiths & White, 1993 ; Odgen, 1990 ; Tong, 1992). That is why it is considered that January is the best month to make investment in stocks and at times referred to as turn-of-the-year effect (Chen & Singal, 2004 ; Pandey, 2002b).

(6) Monday/ Week-End Effect : Monday tends to be the worst day to make an investment in stock because it has been observed that the average trading returns on Monday tend to be much lower than the average trading return on other trading days of the week (Aggarwal, 2004 ; Chang, Pinegar, & Ravichandran, 1993 ; Chaudhury, 1991; Gupta & Aggarwal, 2004 ; Lawrence, 1986 ; Poshakwale, 1996). However, Monday effect in trading returns might enable investors to take advantage of relatively regular shifts in the market by designing trading strategies for such predictable patterns (Kiymaz & Berument, 2003).

(7) Monthly Effect/Turn-of-the-Month Effect : According to Lakonishok and Smidt (1988), trading days are partitioned into two sets to capture the effect. The first set consists of the first fifteen trading days and the other set contains the last fifteen trading days for each month and it is empirically proved that the average trading returns in the first half are greater than the trading returns in the second half. The average trading returns for stocks are positive for days immediately before and during the first half of the calendar month (Boudreaux, 1995; Dickinson & Peterson, 1995; Ziemba & Hensel, 1994) is known as monthly effect whereas turn-of-the-month effect states that stocks consistently exhibit higher trading returns on the last day and first four days of the month (Cadsby & Ratner ,1992 ; Odgen , 1990).

(8) Tax-Year Effect : The prices tend to rise as the selling pressure disappears at the end of the tax year and the

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[2] Ariel (1990) has detected Pre-Holiday effect in several organised stock markets. Liano et al. (1992) find abnormal evidence of a Pre-Holiday effect in several over-the-counter stock markets. Pettengill (1989) provides some evidence of returns on Pre-Holidays in both large and small firms grouped into portfolios and Kim and Park (1994) as well as Brockman and Michayluk (1998) have observed the same pattern in markets with different trading systems.

investors tend to buy back those securities (Brown et al., 1983 ; Ogden, 1990). This, in turn, encourages the decisions of investors related to their portfolios by motivating the investors to sell declining securities. Thus, as a result, resultant short-term capital losses could be offset against taxable income. It further indicates that selling pressure before the expiry of tax year might depress prices of securities. In the US, the tax year coincides with Calendar year but the situation is different in India, as the tax-year commences on April 1st and ends on March 31st. It is most evident in the securities that have experienced price declines which falls in the tax year.

(9) Week-of-the-Month Effect : Week-of-the-month effect states that firms usually have higher trading returns during the first week of the month as compared to the trading returns of last three weeks of the month. Here, weeks are constructed such that first trading of the month defines the first trading day of the first week. In this way, if the first trading day is Wednesday, then the first week consists of three days (a Wednesday, a Thursday, and a Friday).

Announcement Based Anomalies

Announcement based anomalies create higher trading returns after the announcement is made at the corporate level. The good announcement will put the stock market under positive and favourable moves whereas negative announcement will push the market into downstream. In other words, the trading returns will be maximum if the corporate announcement is the good one and visa-versa. These can be categorized as:

(1) Earnings Surprise Effect : Stocks which report earnings considerably different from the consensus earnings forecasts tend to move by exceptional amounts and this price movement continues to remain on high scale for several weeks after the announcement is made. This implies that an investor can still make profits from such information that has been made known to the public (Guin, 2005).

(2) Information Releasing Effect : EMH states that the ability of investor to pick up winners and make excess returns on the basis of new information is directly related to the speed and efficiency of a market to absorb that particular information. This phenomenon exhibits a significant decrease in trading volume before a scheduled announcement and when the announcement is made, the corporate information is released and the information asymmetry is resolved. This ultimately results in an increase in trading volume (Wilandh & Johansson, 2005).

(3) Initial Public Offerings (IPOs), Seasoned Equity Offerings, and Stock Buybacks : Numerous studies have concluded that IPOs in aggregate provide lower returns sometimes. This evidence seems to confirm the theory that managers tend to have inside information regarding the value of their company's stock. On the basis of value of company's stock, they take their decision whether to issue or buy back their stocks. This may signal over or under valuation of stock. The practical implication of this effect seems to be that investors may do better buying stocks of firms that is they repurchase their own stock rather than from firms that are selling or issuing more of their own stock.

(4) The Pay-Out Effect : When firms tender their stocks or announce share repurchases or dividend initiations they earn positive long-term abnormal returns and the magnitude of the abnormal returns is stronger in value firms than in growth firms.

(5) Price Earnings (P/E) Ratio Effect : This anomaly states that the low P/E portfolios experience superior trading returns than high P/E portfolios. Moreover, the prices of securities are biased and the P/E ratio is an indicator of this bias. Because of this reason, the low P/E stocks tend to outperform the high P/E stocks.

Other Anomalies

These are some other types of anomalies, which cannot be put under one common heading. These can be explained as:

(1) Book-to-Market Effect : This anomaly states that on an average, the stocks with high book-to-market ratios outperform stocks with low Book-to-Market ratios over a given period of time. Here, book-to-market effect indicates the value of the share according to books of accounts divided by market value of the share.

(2) Low Beta Firm Effect : Beta refers to that part of the total risk of a security that cannot be diversified. It measures the responsiveness of a security to the market in the terms of stock prices. Low beta firm anomaly states that the low beta stocks tend to outperform high beta stocks on an average over the time on risk-adjusted basis.

(3) Low-Prices-Stocks Effect : Stocks that have a low price tend to perform better than the stocks with high price underlying the basic assumption that earnings decrease while sale remains constant. A decrease in earnings is not as bad as a decrease in sales. If the sales hold up, the management can eventually solve the earnings problem causing the stock price to rise. If both sales and the price drop, an investor should avoid that stock to deal with (Guin, 2005).

(4) Momentum Effect : Momentum effect states that the stocks that have out-performed the market at a particular time usually continue the same trend for an intermediate period of time i.e., for three to five years on average. It also considers that recent past winner stocks tend to use the portfolios formed on the basis of past returns and as a result, they outperform in the market (Schwert, 2003). That may be the reason it is called Momentum effect but this strategy doesn't hold well every time.

(5) Reversion to the Mean Effect : Stock prices tend to reverse over long cycles of time which means that the biggest loser stocks over the past three to five years tend to be the biggest gainer stocks over the next three to five years on average and stocks that outperformed one month tend to under-perform the next month and vice-versa (Guin, 2005).

(6) SEO-Underperformance Effect : Anomalous long-term negative abnormal returns apply to firms raising capital from external markets and are often interpreted as overreaction. Loughran and Ritter (1995) and Spiess & Afflect Graves (1995) document that firms conducting Seasoned Equity Offerings (SEO) earn much lower trading returns over the next three to five years than non issuing firms with similar characteristics. Brav, Christopher & Gompers (2000) and Eckbo, Masulis & Oyvind (2000) have found that underperformance of stocks is more pronounced for small firms and a frequent conclusion in this literature is that firms time their external financing decisions to exploit the mispricing of their securities in capital markets because of overreaction of investors (Ritter, 2003).

(7) Size Effect : The small firm effect or size anomaly relates to the finding that firms with low market capitalization earn higher risk adjusted returns than the firms documenting high market capitalization (Barry & Brown, 1984). Empirical evidences suggest that the majority of abnormal trading returns associated with small firms are found during January (Keim, 1983). Thus, it can be said that January effect occurs primarily due to the behavior of small firms and the size effect is concentrated mainly in January (Rogalski, 1984).

(8) Weather Effect : Sometimes, the behavior of market makers may be responsible for the relation between

trading returns and weather. The purpose of this anomaly is to examine whether there is any difference in the investor's trading behaviour when weather is considered. In other words, whether sunny or cloudy days have any good or bad impact on the sale/purchase of securities. Weather effect is tested on stock returns and liquidity in respect of humidity, sunny, cloudy, snowy and rainy days.

Implications

The present study could possibly help to understand and explain the typical and crucial nature of seasonality exists in Indian capital market. This will help investors to understand various issues related to the Indian stock market and they can adjust their portfolios accordingly to exploit maximum benefits. However, market imperfections, costs of information and blocks to the free flow of information may stand in the way of free play of market forces and speculators. However, there are some chances that groups of interested parties or even brokers may manipulate their trading strategies through cornering of shares and reducing the floating stock of the market.

Conclusion

In recent years, several stock market anomalies are identified in the burgeoning literature and present study will contribute towards the examination of most commonly discussed calendar anomalies, that is, day-of-the-week effect, January effect, turn-of-the-year effect, monthly effect/turn-of-the-month effect and holiday effect. Besides this, literature is available for a number of stock market anomalies, which are summarized here, that is, daylight saving effect, insider-trading effect, lunar effect and stock-split effect. Over the last hundred years, portfolio managers have reduced their sleeping hours by two hours; as a result, there is higher stress and slow response of the mind and body (Boido & Fasano, 2005).

The daylight saving effect has been documented by Franklin (1784) in USA and has been in found frequently. It is found much stronger between end of March and starting of October. Whereas Insider Trading effect states that there might be relationship between transactions by executives and directors in their firm's stock and performance of the stock as the insiders believe that stock is significantly undervalued and they expect that the stock will outperform accordingly in the future.

Anomalies reflect inefficiency within markets. Some anomalies occur once and disappear, while others occur repeatedly. History is no predictor of future performance always. Therefore, one should not expect that every Monday will be risky and every January will result into profits but there also will be days that will witness the presence of these anomalies in stock market. In addition, seasonal anomalies in stock returns have indicated that different investors can adopt different required rates of return on risky assets depending on the Calendar month or day on which the investor invests (Mangala & Sharma, 2014).

Hence, it can be said that in an efficient market, the prices of securities can reflect the trading return. As a result, there can be no undervalued securities offering higher than deserved expected returns. Therefore, it is considered that an investment strategy concentrated on the overall risk and return characteristics of the portfolio can be proved sensible in an efficient market. If markets are not efficient and excess returns can be made by correctly picking winners, then it will provide opportunities to the investors to spend time for finding undervalued securities.

Limitations of the Study

The present study is subjected to certain limitations and constraints. Some of its limitations are:

(1) The present study has examined only equity segment of the stock market and hasn't considered the debt and derivative segments of the Indian stock market.

(2) The study is based on secondary data collected from a number of sources.

(3) The present study has assumed that traders do not consider transaction cost.

Scope for Further Research

(1) Calendar anomalies can be examined empirically in national and international stock markets.

(2) Factors such as unfair competition, regulatory actions, and role of brokers can also be studied.

(3) Behavioural biases of individuals and institutional investors can also be examined.

(4) Some superstitious factors also contribute in decision making of investors. Such factors are ignored in the current review but can be included in future studies.

(5) The role of transaction costs to examine calendar anomalies will contribute a lot to studying the calendar based anomalies in the Indian stock market.

(6) Inter day stock prices can be examined in order to obtain further information in the context of behaviour of share prices.

(7) A comparative examination for the presence of calendar anomalies can be done on an international level.

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