AN INSIGHT INTO BEHAVIORAL FINANCE MODELS, EFFICIENT MARKET HYPOTHESIS AND ITS ANOMALIES

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ABSTRACT

This research attempts to explain the literature on Efficient Market Hypothesis, its anomalies and also a brief discussion on different trading Strategies. In this part, we will discuss various Behavioral Finance Models like Over and Under-reaction, Mental Compartments, Over Confidence, Disjunction Effect, Limits to Arbitrage in addition to the theories of human behavior like Prospect and Expected Utility Theories.

In the initial part of this research, we have explained how security prices incorporate all information immediately without giving the chance to the investors to profit from them. We have also discussed the foundation of market efficiency to exist on satisfaction of any of the three conditions that are 'Rationality', 'Independent deviation from Rationality' and 'Arbitrage' (Andrei Shleifer). Our research also gives answer to the question that how prices incorporates the various types of information given in different sets i.e. Weak, Semi-strong and Strong forms. Behavioral Finance models such as prospect theory, expected utility theory, overconfidence, over and under reaction, mental compartments, Disjunction effect and limits to arbitrage are also studied as none of the three conditions given above satisfies in reality and hence explained as anomalies of market efficiency. The three different trading strategies i.e. Momentum, Contrarian and Technical are also analyzed but only momentum and contrarian are much preferred by the academics and investors.

Keywords: Behavioral Models, Outperformance, Anomalies, EMH

INTRODUCTION:

Incorporation of information in the stock prices leads to the explanation of what is called as "Efficient Market Hypothesis" (Harry Roberts (1967)). In other words, "*this is the hypothesis that financial prices efficiently incorporates all public information and the prices can be regarded as optimal estimates of true investment value at all times*" (Shiller (2001)). Research is done in considering the adjustment of the security prices to three information subsets namely '*Weak form tests (Information about Historical Prices)*', '*Semi-Strong form tests (Publicly available information)*', '*Strong form tests (All Information)*' (Fama (1970)). According to Shiller (2001), Efficient Market Hypothesis is based on the ancient belief of investors being rational by processing all available information for maximizing the expected utility. On the contrary according to Mackay (1841), a feeling of something "egregiously wrong" with the concept of Efficient Market Hypothesis can be felt. This brings us to the explanation of what is called as 'Anomalies of Efficient Market Hypothesis' because the principle of *rational behavior of investors is not entirely correct* and has to be studied along with the other human behavior models like prospect theory, expected utility theory (Theories of human behavior), overconfidence, over and under reaction, mental compartments, disjunction effect (Cognitive Psychology or anomalies) etc. and limits to arbitrage (inefficient markets). The last part of this research also covers the different trading strategies that are: Momentum, Technical and Contrarian strategies.

EFFICIENT MARKET HYPOTHESIS:

Many researchers defined "EMH" in the similar fashion as, "Market in which security prices fully incorporate or reflect any available information" (Fama (1970)). Now we'll illustrate an example to understand the true timings of new information into the security prices and its implication (Ross et al. 2008). Suppose XYZ Car Company Ltd. plans to launch a car that should run on dual fuel and expects to have a minimum per kilometer cost of running. In an efficient market, the share price is expected to rise for this Company, if it is likely to have a monopoly in that technology. Now the next question arises that when will be the rise in share prices expected? Let us assume that the news related to the Car manufacturing and its new technology, is released on Thursday morning. Hence, in an efficient market, the share price of this Company will immediately incorporate the release of this information. In this case EMH predicts that investors did not have the opportunity to gain from releasing such information as the stock on Thursday afternoon is already trading by incorporating the morning released information. This brings us to the IMPLICATIONS of the Efficient Market Hypothesis that stands both for the investors and for the companies. Firstly, even by knowing the information, an investor can only expect to earn a normal rate of return as prices incorporate new information immediately. Secondly, Firms are expected to receive only the "fair value of their securities they sell" and hence cannot earn profit by befooling investors by the valuable financial opportunities. Next in the "Efficient Market" explanation, we will discuss the academic perspective of "FOUNDATION OF MARKET EFFICIENCY". According to Andrei Shleifer, satisfaction of any of the three given conditions can lead to the market efficiency namely, 'Rationality', 'Independent deviation from rationality', 'Arbitrage'. *Rationality* is one important factor that leads to the market efficiency, according to which all investors are considered to be rational and will adjust their estimates as soon as the new information is released in an efficient and rational way. For example, it is known that after releasing the information by the XYZ Car Company, the stock prices will rise until 50 dollars as compared to 40 dollars per share. In that case rational investor will trade at 50 dollars per share of the XYZ Car Company instead of 40 dollars per share. *Independent deviation from rationality* can be defined as the excess optimism or pessimism (i.e. irrationalities) of the investors for some stocks that leads to offsetting the prices (due to the assumption of "countervailing irrationalities") and hence produces market efficiency (Ross et al. 2008). For example, if XYZ Car Company will not address issues like sales target, price of the Car etc. in their released information, then due to many unaddressed questions the investors will not be able to quantify such information. Some will treat it on the basis of their optimistic behavior and some with their pessimistic behavior leading to the prices which will not be in-line with that of efficient market prediction. But because of the assumption of the offsetting irrationalities (practically unrealistic), it will produce market efficiency. ***Arbitrage*** can be defined as, "profit generated from the simultaneous buying and selling of different but substitute securities (profit from mispricing)". It is known that market contains two types of investors that are 'irrational amateurs' that tend to carry stock at prices different from the efficient prices (if two amateurs doesn't offset) because of their wrong notions of stocks to be under or overvalued. Secondly 'rational professionals', that predicts the nature of the stocks efficiently, clearly and come to some conclusions. Hence, efficient market can still be observed if the arbitraging activities of the professionals rule over the speculative amateurs.

The next part in the 'Efficient Market Hypothesis' is understanding of the various forms of the information sets that are available in the market and hence categorized as 'Weak form',' Semi-Strong Form', 'Strong form'.

Given below is the possible explanation of how prices incorporate the information given in the three different information sets and what are its effects.

THE WEAK FORM:

The Weak form of trading strategy can be defined as the strategy that prescribes to buy share if the past trend of the share is bullish or sell share if the past trend is bearish. In other words, the weak form uses the past information regarding the prices of the stock and is reluctant to any other information like the accounting numbers, sales figure, earnings etc. "*A market is said to be weakly efficient if it fully incorporates the information in past stock prices and hence expected to generate profits if the weak efficiency holds*" (Ross et al. 2008).*Mathematically, it can be said that Prices today (P_t) is equal to the summation of the prices yesterday (P_{t-1} i.e. last observed price), expected return (function of security's risk) and random error (because of new information about the stock).* According to Fama (1970) *if it satisfies the above explanation, the stock prices said to follow a 'random walk'* (Ross et al. 2008).

THE SEMI-STRONG AND STRONG FORMS:

A semi-strong efficient market is one in which prices incorporates all the publicly available information and on the other hand if the prices incorporates every information be it private or public then it is known as Strong form efficient market (Ross et al. 2008). If the market is said to be Strong Form Efficient, then it is understood that every information regarding historical prices, earnings, mergers, accounting statements and all publicly & privately traded etc. is already incorporated in the prices of the stocks. In other words both Weak and Semi-Strong Forms of efficient market are the subsets of the Strong Form of efficient market. A Strong Form efficient market is one where even if an individual investor knows an insider news about the company cannot benefit from such information as the market came to know from such an act and also prices incorporates the news before he /she can trade and benefit from that stock. It is also known that there are no secrets in the market and as soon as insider news came, it gets fully disclosed in the prices of such stocks.
Initially we have discussed about the 'foundation of market efficiency' that in order to achieve market efficiency any of the three discussed conditions i.e. Rationality, Independent deviation from Rationality and Arbitrage has to be satisfied but in reality none of the three conditions actually holds. This will bring us to what is called as "*Behavioral Finance*".

BEHAVIORAL FINANCE:

According to Ritter (2002), the foundation of the behavioral finance is laid on two factors i.e. '*Cognitive Psychology*' (people's way of thinking) and '*limits to Arbitrage'* (effectiveness of arbitrage in different circumstances). In '***Cognitive Psychology'***, we will study various factors and theories of human behavior which tells us about the systematic errors made by the people in the way they think and take decisions regarding their stock selection. In this section, along with the *Anomalies of Efficient Market Hypothesis* like 'Overconfidence' (Ritter (2002), 'Over and Under Reaction', 'Mental Compartments', we will also take into account the *theories of human behavior* like 'Prospect Theory', 'Expected Utility Theory' (Shiller (2001).

COGNITIVE PSYCHOLOGY:
Overconfidence:

This is the common characteristic that can be found in most of the people and especially entrepreneurs (Ritter (2002)). "Too little Diversification" is one of the activity that symbolizes this behavior because of the restriction of too much knowledge or their love for a particular sector let say Computer for Software professionals , real estate for architects' etc. Probability studies were also conducted in the same field by Litchtenstein, Fischhoff and Phillips (1977) whereby subjects were asked the probabilities supporting the correctness of their answers. It was reported that subjects overestimates the probabilities for their answers to be correct for most of the questions asked. Much Criticism also exists in the same field (Giberenzer (1991)) explaining the subjective and frequentist definitions of probability but Fischhoff, Slovic and Lichtenstein (1977) proved the argument in their favor and reported that the subjective probability does not reconcile the initial results. Overconfidence can also be seen in an investor after talking or interviewing them (Shiller (2001)). According to Ross (1987), "*overconfidence can be clearly related to some deep-set psychological phenomena*" or even to some broader complexity like "*incapability of making adequate allowance for the uncertainty in one's own view*", "*a more global difficulty tied up with multiple mental processes*". Tversky and Kahneman (1974) also suggests that people assigns higher probabilities after looking at any *event and tries to categories it as a representation of a*

well known class disregarding the proof behind the principal probabilities and often know as "representativeness heuristic". And hence in order to feel confident they started looking for the patterns behind the movements of the data and believe it to follow a non-random walk whereas in reality it follows a random walk (Rabin (1998)). To conclude with, it is very important to mention the quotes given by Odean (1998a) in respect of distorted behavior of the investors because of overvaluing easy to understand information and reluctant to any statistical information which is hard to understand and hence affects the aggregate market levels.

Overreaction:

From the research carried out by DeBondt and Thaler (1985), it was clear that the reason behind the low returns on Glamour stocks {Stocks with high returns in the past (3-5 years) and are more preferred by the investors} as compared to the Value stocks {Stocks with low returns in the past (3-5 years) and are not generally preferred by the investors} in the future is because of the overreaction of the investors. Since, investors form expectations by looking at the past performance of the stocks. An exception to this is Lakonishok et al, (1994) which measures past performance by the ratio that are proxy for stock prices. "*It is also known that firms list their stocks to take advantage of the market's overreaction arises because of their recent superior performance*" (Dharan and Ikenberry (1995); Fama (1993)). An alternative explanation in favor of investor overreaction with respect to Price/Earnings ratio is given by Basu (1977) and Dreman (1982) and called as "price-ratio" hypothesis .According to which companies with high P/E are considered to be "Overvalued" . It is also known that overreaction of the investors is one of the possible reason behind the frequent movement of security prices following stock splits (Ohlson and Penman (1983), Jain (2011)) and initial public offerings (Ibbotson and Ritter (1988) and Ritter (1991)). This frequent movement of security prices also known as volatility of stock is found evident first by Shiller (1979, 1981a, b) and LeRoy and Porter (1981) in their literature on "*excess volatility of speculative asset prices". They showed "statistical evidence that speculative asset prices are different as implied by the long-term trend by the present-value of Efficient Market model and hence made stock prices more volatile as predicted by efficient market model which shows as if it overreacts to some news*" (Shiller (1989), Campbell and Shiller (1988, 1989), West (1988) and Campbell, Lo and MacKinlay (1997, ch. 7)). To conclude with the Overreaction as one of an anomaly of Efficient Market Hypothesis, it is proved that people/investors "*Overreact to unexpected and Dramatic news*" which is in violation of Bayes' rule (DeBondt and Thaler (1985).

Underreaction:

According to study conducted by Ball and Brown (1968) and Bernard and Thomas (1990), the evidence of underreaction can be seen in the stock prices response until a year of earnings announcement. The recent study by Jegadeesh and Titman (1993) also identifies the higher returns until three to six months for the stocks with higher past returns over the year and termed as "Momentum effect". This is because; investors think the earnings to be mean-reverting resulting in underreaction whenever any change in earnings occurred but when at a later stage, they prove to be wrong then stock prices exhibit a slow response to the earnings announced in the past (Barberis, Shleifer and Vishny (1998)).The higher returns enjoyed by the firm even after one to two year after the split occurred as compared to the matching firm is also one of the example that investor underreacts to information and hence "*concludes the post split returns to market underreaction to the positive information signaled by the split*" (Desai and Jain (1997); Ikenberry et al. (1996)). The fact that investors underreacts in the financial markets laid its foundation of what is explained by Barberis , Shleifer and Vishny (1997) in a psychological model and known as "Principle of Conservatism" (coined by Edwards (1968)) . According to which if any change occurs, individual tend to take time in order to adjust to that change and hence underreacts (Ritter (2002)). Hence in the end it can be said that due to the slow reaction of the investors to either earnings announcement or any event (like mergers, stock splits (Jain (2011)) etc.), market levels tends to get upset making them inefficient.

Disjunction Effect:

It can be defined as the propensity for the people/investors to wait until they know everything about the market or the subject whether or not the information is of prime importance to oneself and if that information will make any difference in the decision making or not (Shiller (2001)). According to Savage (1954), "*disjunction effect is a contradiction to the sure-thing principle of rational behavior*". In the subsequent research and experiment undertaken by many researchers, it is known that disjunction effect explains the volatility of the speculative stock prices after or before any announcement occurs (Shafir and Tversky (1992)).

Mental Compartments:

The separating of the bigger activities into the smaller ones and caring for the decision to be taken on more recent or the immediate ones is the act that provides evidence of dividing it into separate "Mental Compartments" depending upon the nature of the activity (Shiller (2001)). This human nature can be easily seen in the activities like planning for the monthly household budget of dividing the amount to be spent in eating in the restaurants and amount to be spent for buying groceries. In this case instead of taking combined decision on how to allocate budget for the household and entertaining, individuals think separately for both these activities and hence end up spending more entertaining outside than eating at home (Ritter (2002)). Shefrin and Statman (1994) argued that "*people think naturally on the "safe" part of the investment i.e. protected against the downside risk and "risky "part of the investment is planned to earn higher abnormal return to become rich*". According to Shleifer (1986), the increase in the price of the newly added securities in S&P index is because of the tendency of the people to get prejudiced by their own mental compartments. And is also the reason behind one of an anomaly i.e. 'January effect' as January is the month in which maximum stock prices appreciation can be seen as individual treats January to be the starting of their new investments researched in as many as 15 countries (Gultekin and Gultekin (1983)). The concept of "Mental compartments" can become clearer by looking at the "Hedgers that hedges some specific trades neglecting their overall profit position" (Rene Stulz (1996); Shiller (2001)). Hence neglecting the hedging of future transactions (can expose the firm to long run risk) and concerning about only the present/current transactions are the activities that can be observed in the working of the firms as well (According to, The Wharton/CIBC Wood Gundy 1995 Survey of Derivatives Usage by US Non-Financial Firms; [Bodnar and Marston (1996)]).

Expected Utility and Prospect Theory:

Expected utility theory is always one of the best and the most preferred theory by most of the researches (Shiller (2001)). The Dominating nature of this theory against every other economic theory is because "*it offers economical representation of truly rational behavior under uncertainty*" (Shiller (2001)). Instead of the attractiveness of this theory, its applicability is questioned for many events/circumstances as it has "*systematically mispredicted human behavior*" (Shiller (2001); Allais (1953)). In an example, Allais (1953) proved that when "certainty" of a particular outcome has increased irrespective of the constant or the price of the bet, individuals changed their preference towards the events that were more certain. But according to the prediction of the Expected Utility Theory, this should not happen and individuals were supposed to stick to their preferences as the certainty increases not the price. This drawback of Expected Utility Theory brings us to what is '*mathematically formulated'* and called as "Prospect Theory".

Prospect Theory can be defined as a mathematically formulated theory that substitutes "weights" instead of "probabilities" and "value function" instead of "utility function" in expected utility theory. In Prospect Theory, individuals are working to maximize the weighted sum of value rather than utility whereby weights are not equal to probabilities (Kahneman and Tversky (1979); Shiller (2001)). According to Kahneman and Tversky (1979), *"weights are determined by a function of true probabilities which assigns zero weight to extremely low probabilities and weight one to extremely high probabilities."* In other words, people treat "*extremely improbable events as impossible and extremely probable as certain*" (Kahneman and Tversky (1979)). So according to this theory, (in the previous example given by Allais (1953)) people will assign very high weight to event which is very certain and little weight to event which is not very certain irrespective of the price/constant to be the same. "*Human behavior towards risk*" can also be studied by replacing probabilities with weights in the expected utility theory. For example "*public enthusiasm for high price lottery with low winning probability and hence low expected payout*" (Kahneman and Tversky (1979)) or "*overpaying for airline flight insurance*" (Eisner and Strotz (1961)).Hence we can conclude by giving an example for understanding the difference between 'Expected Utility' and 'Prospect Theory' more clearly. Suppose , subjects are asked to choose one bet per panel ,bets in the First Panel being; a) 30% probability to win 5000 pounds and b) 25% probability to win 7000 pounds and bets in the Second Panel being; a) 100% probability to win 5000 pounds b) 85% probability to win 7000 pounds. According to expected utility theory, subject's choice should have remained the same for both the two panels as the value/constant is the same (i.e. they should have select b) in both cases). But according to experimental evidence given by Kahneman and Tversky (1979) on one of such example (Allais (1953)), they found out that subject have selected choice b) in First Panel and choice a) in the Second Panel. Hence we can see that results are in line as per the 'Prospect theory' but contradict 'Expected Utility theory' as former depends on weights and latter on probabilities.

LIMITS TO ARBITRAGE:

The term Arbitrage means "the simultaneous buying and selling of same or substitute securities in different markets to benefit from mispricing" to bring back the prices to their fundamental value and to make market efficient (Sharpe and Alexander (1990)). Arbitragers take long position in cheaper or underpriced securities and short the expensive or the overpriced one and hence make the share price to converge to its fundamental value. But in the real world, it is not as easy as it sounds like. The Arbitragers in the real world faces risk and also needs money for executing trades unlike given in textbooks. According to Shleifer and Vishny (1997), "risk-arbitrage" can be one of the outcomes even for a basic trade in which an arbitrager does not make money with full certainty but still need money to execute the trade and cover the losses incurred by him. "*A market with millions of small arbitrager taking large number of tiny positions can make the market efficient by making the price to drive towards the fundamental value in different markets*" (Fama (1965); Sharpe (1964) and Ross (1976)). But the problem with this approach is that not all of the million arbitragers do have the knowledge of the position they undertook in the market. Behavioral Finance suggests that there are "limits to Arbitrage" as there are some investors that buys the overpriced and sell the underpriced securities in turn disturbing the parity condition in the short run and hence giving losses to the arbitrager which restricts them to take small position because of the risk perception (Ross et al. 2008). Hence, in order to trade in a real world arbitrager trades with the money of the other investors and when due to some reason arbitrager cannot find profit in his trades, he/she compels to exit from his position and therefore incurring losses which will lead to inefficient markets and hence known as "performance-based arbitragers" (Grossman and Miller (1988); De Long et al. (1990) and Campbell and Kyle (1993)). "*Window dressing of the portfolio returns*" to attract investors is also one of the activities that are adopted by the money managers and hence lead to inefficient markets (Dow and Gorton (1994)). So we can conclude by saying that arbitraging activities are also limited because of the capital requirements, lack of perfect knowledge and the risk involved to make the markets efficient and hence is one of the anomalies of 'Efficient Markets'.

TRADING STRATEGIES :

There are generally three different trading strategies that are adopted by the investors or by the fund managers to invest in the stocks markets. These are: 'Momentum Trading Strategy' ("buying past winners and selling past losers"), 'Technical Trading Strategy' (buy when '*buy signal*' emits and sell to hold cash when '*sell signal'* emits) and 'Contrarian Trading Strategy' which is opposite to momentum strategy i.e. "buying past losers and selling past winners" to avoid herding with the other participants in the stock market. The individual explanations of these strategies are given below.

MOMENTUM STRATEGY:

Momentum trading strategy can be defined as the strategy that involved "*buying the past winners and selling the past losers and hence categories as investing with the herds*" (Grinblatt, Titman and Wermers (1995)). According to Grinblatt, Titman and Wermers (1995), funds invested as per the momentum strategy on an average gives more returns than other funds. In an experiment conducted by Jegadeesh and Titman (1993), it is discovered that strategies involving "*buying previous 3-12 months winner and selling the past losers (of the same time period) will fetch profit of about one percent per month for the following year". "The behavioral model states that higher holding period return is because of the delayed overreaction to information that make the prices of the winners higher than the loser stocks*" but in subsequent time period when they revert back to their fundamental values , losers will be higher than winners (Jegadeesh and Titman (1993)). It is assumed that due to the presence of the transaction costs, momentum profits for larger stock will disperse faster. And also because of cost of short selling, profits from past winners disappear quickly than past losers (Jegadeesh and Titman (1993)). The winners outperforms losers in almost every month except January as investors thought January to be starting of their new investment month (Mental Compartments as an anomaly) also known as "*Seasonality in Momentum profits*" by Jegadeesh and Titman (1993). Hong and Stein (1999) categorize the investors as 'informed' (who actively trades as per the news but ignores the past information regarding prices) and one with "*limited history of prices but ignores fundamental information*". The informed investors underreact to the information and hence information partially incorporates into the prices leads to momentum profits. On the other hand, investors based on historical prices overreact placing the past winners above their fundamental value (Hong and Stein (1999)). In the end we want to conclude with the words given by Jegadeesh and Titman (1993), "*positive momentum returns are sometimes associated with postholding period reversals and sometimes are not, suggesting that the behavioral models provide at best a partial explanation for the momentum anomaly*".

TECHNICAL STRATEGY:

"*Technical trading strategy is also known as "charting" but is not the favorite topic of the academics as like other fundamental analysis*" (Andrew, Mamaysky and Wang (2000)). "Geometry and Pattern recognition" are the main tools used by the technical analysis. Due to the presence of geometric figures in the historical data and information, this strategy is known to be very subjective in nature and hence is one the reason behind its less popularity. Instead of less fame, it is researched by Lo and MacKinlay (1988, 1999) that technical strategy can be used to predict future returns to some degree with the help of past prices. "*Identifying regularities in the time series of prices by extracting nonlinear patterns from noisy data is the general Goal of technical analysis*" (Andrew, Mamaysky and Wang (2000)). In other words, to know which price changes are significant i.e. to be taken into account and which are random fluctuations and hence should be ignored? *The activity of "extracting nonlinear relations by averaging out the noise are done by a class of statistical estimators called as* ***smoothing estimators****"* (Andrew, Mamaysky and Wang (2000)). The main problem with the technical analysis is researched and illustrated by Campbell, Lo, and MacKinlay (1997) i.e. "linguistic barriers". It is very hard for the users to understand the recommendation provided by technical trading strategy even if resembles that with the fundamental analysis. Technical Analysis existed as it provides "visual" mode of analysis to the users which is more favorable to investors/individuals.

CONTRARIAN STRATEGY:

This Strategy as the name suggests is contrarian i.e. "buying the past losers and selling the past winners" to the strategy adopted by most of the people in buying or selecting their stocks and hence also known as "Value strategies" (Gregory, Harris and Michou (2001)). The stocks that lost in the past are referenced as "Value stocks" (Lakonishok, Shleifer and Vishny (1994)). The higher return on this strategy can be explained as the preference of normal investor to buy the stocks that gain in the past and hence being contrarian to this strategy, contrarian investors enjoy excess returns (DeBondt and Thaler, 1985 and 1987; La Porta 1996; Bulkley and Harris, 1997; Dechow and Sloan, 1997; Gregory, Harris and Michou, 2001). In a research conducted by Lakonishok, Shleifer and Vishny (1994) which is consistent to our results given in large sample analysis of this research, they divided the stocks into "Value" i.e. stocks with "*High Book-to-Market Ratio*" (Rosenberg, Reid and Lanstein (1984)), "*High Cash Flow to Price*" (Chan, Hamao and Lakonishok (1991)), "*High Earnings-to-Price ratio"*, "*Low Growth in Sales*" in the past (Lakonishok, Shleifer and Vishny (1994)) and "Glamour stocks" i.e. stocks with "*low Book-to-Market Ratio*", "*Low Cash Flow to Price*", "*Low Earnings-to-Price ratio*", "*Low Growth in Sales*" in the past . According to Fama and French (1992), the possible reason is because these strategies are "fundamentally riskier" e.g. Stocks with "*High Book-to-Market ratio bears Higher risk and hence higher return is just the reward for taking that risk*".

CONCLUSION:

In the end, it can be concluded by quoting some major findings that we mentioned in this research on Efficient Market Hypothesis. In the initial part of this research, we have explained how security prices incorporate all information immediately without giving the chance to the investors to profit from them. We have also discussed the foundation of market efficiency to exist on satisfaction of any of the three conditions that are 'Rationality', 'Independent deviation from Rationality' and 'Arbitrage' (Andrei Shleifer). Our research also gives answer to the question that how prices incorporates the various types of information given in different sets i.e. Weak, Semi-strong and Strong forms. Behavioral Finance models such as prospect theory, expected utility theory, overconfidence, over and under reaction, mental compartments, Disjunction effect and limits to arbitrage are also studied as none of the three conditions given above satisfies in reality and hence explained as anomalies of market efficiency. The three different trading strategies i.e. Momentum, Contrarian and Technical are also analyzed but only momentum and contrarian are much preferred by the academics and investors.

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