

Efficient Market Hypothesis V/S Behavioural Finance

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Abstract: The present paper reviews two fundamental investing paradigms, i.e. efficient market hypothesis (EMH) and the theory of behavioural finance (BF), which has a substantial impact on the manner investors tend to develop their own strategies of investing funds. The study elaborates on the inherent irrationality of the theory of efficient market, and it discusses the potential reasons for its recent decline, arguing in favor of behavioural finance. In addition, the study highlights that the theory of behavioural finance, which endorses human behavioral and psychological attitudes, should become the theoretical framework for successful and profitable investing.

Keywords: Efficient Market Hypothesis; Behavioural finance; investor psychology; investment portfolio.

I. Introduction

Decades ago, the efficient market hypothesis was widely accepted by all financial economists where they believed that securities markets are extremely efficient in reflecting information about the stock prices. The accepted view was that when new information arises, the news spreads very quickly and is incorporated into the prices of securities without any delay. Thus neither technical analysis nor even fundamental analysis help investors to select “undervalued” stocks, which would enable an investor to achieve returns greater than those that could be obtained by holding a randomly selected portfolio of individual stocks at least not with comparable risk.

By the start of the twenty first century, the intellectual dominance of the efficient market hypothesis had become far less universal. Many financial economists began to believe that stock prices are at least partially predictable. A new breed of economists emphasized psychological and behavioral elements of stock-price determination, and they came to believe that future stock prices are somewhat predictable on the basis of past stock price patterns. Moreover many of these economists were even making the far more controversial claim that these predictable patterns enable investors to earn excess risk adjusted rates of return. Hence behavioral finance came into picture.

II. An Overview Of Basic Investment Theories

a. Efficient Market Hypothesis

The Efficient Market Hypothesis is based on the idea of a “random walk theory,” which is used to characterize a price series, where all subsequent price changes represent random departures from previous prices. The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow’s price change will reflect only tomorrow’s news and will be independent of the price changes today. Moreover news is here by unpredictable and thus price changes must be unpredictable and random. As a result, prices fully reflect all new information and even uninformed investors buying a diversified portfolio at a price given by the market will obtain a rate of return as generous as that achieved by the experts. According to Kendall (1953), ‘stock price fluctuations are independent of each other and have the same probability distribution’. Stock prices are commonly perceived as random and unpredictable (Lo & Hasanhodzic, 2010). Malkiel (1973) advocates that ‘the market and stocks could be just as random as flipping a coin’, whereas Shiller (2000) states that ‘stock prices approximately describe random walks through time: the price changes are unpredictable since they occur only in response to genuinely new information, which by the very fact that it is new, is unpredictable’.

Efficient markets, according to economists, ‘do not allow investors to earn above-average returns without accepting above-average risks’ (Malkiel, 2003). In detail, Efficient Market Hypothesis advocates the efficiency of the financial market in terms of the overwhelming information, news, or communication involved. According to Fama (1970), efficient markets are markets where ‘there are large numbers of rational profit maximizers actively competing with each trying to predict future market values of individual securities and where important current information is almost freely available to all participants’. In effect, both individual stocks and the aggregate stock market are characterized as efficient when they ‘fully reflect’ available

information and can integrate it in current stock prices. In Malkiel's (2003) terms, 'the accepted view was that when information arises, the news spreads very quickly and is incorporated into the prices of securities without delay'.

Efficient market also states that 'when 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'. Efficient Market Hypothesis, however, was acknowledged as a prestigious financial model in Eugene Fama's Ph.D dissertation in the 1960s. Karz (2012) states that 'Fama persuasively made the argument that in an active market that includes many well-informed and intelligent investors, securities will be appropriately priced and reflect all available information'. Apart from Fama, the specific model is also associated with P. Samuelson. It is worth noting that both researchers have independently developed the concept of the efficient market, which remained the only dominant theory in financial studies until 1990.

According to Fama, efficiency is distinguished in three different forms that is strong form, semi-strong form and weak form of efficient market hypothesis.

Strong-form is where information (public, personal, even confidential) contributes to stock pricing, and, therefore, does not enable investors to achieve a competitive advantage in investing processes. **Semi-strong form** is where stock prices reflect public financial information (announcements of listed companies, balanced sheets, assets etc). Lastly **Weak efficiency form** is where all past stock prices are integrated in current prices; therefore, they cannot be used for future predictions. Clearly, the classification of market efficiency enables the understanding of the fundamental principles of Efficient Market Hypothesis.

According to Anastasios KONSTANTINIDIS, Androniki KATARACHIA, George BOROVAS And Maria Eleni VOUTSA, investors cannot outperform markets and as a result, they cannot achieve high returns, in view of the fact that information is not exclusive but available to everyone. Thus individuals cannot be said as investment experts or market specialists as the specific attributes can be equally applied to all investors.

On the other hand, any new information cannot elicit abnormal profit, as it is directly available to markets and is easily reflected on stock prices. Fama (1965) postulates that 'in an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices'.

The information which is rapidly integrated in market prices is not only public, but also available. Even active managers are not able to achieve a high-return performance by means of exploiting the available confidential information. The market anticipates, in an unbiased manner and therefore information is integrated and evaluated into market price in a much more objective and informative way than insiders.

Overall, within the framework of EMH, the fundamental analysis of company stocks is conducive to stock assessment rather than prediction or future movements, whereas technical analysis cannot be employed for encountering future changes over time. Graph representation analysis and study based on past stock prices do not produce extra profits for investors because past pricing is integrated in current prices.

Market efficiency is also contingent upon the investment method employed by individual investors. According to Efficient Market Hypothesis, the individuals who tend to invest in stock markets, are characterized by rationality. Rational investors are concerned with expected-utility characteristics, which direct to high return performance, combined with rational expectations. Lucas (1978) argues that 'in markets, in which all investors have 'rational expectations', prices fully reflect all available information and marginal-utility weighted prices follow martingales'. Efficient Market Hypothesis asserts that the investor's rational attitude is assumed in all investing actions. Investors may sometimes act with a view to achieve easy and quick profits. When they do not act rationally and their investing decisions are random, equilibrium prices deviate. This is a provisional and short-term deviation since irrational actions are counterbalanced with each other. In effect, the actions taken by irrational investors are offset on account of the fact that there is no communication between investors and their transactions are not interdependent. In addition, due to the fact that irrational investors proceed to overpriced or underpriced investments, they seem to achieve lower returns than rational investors; thus, they are bound to lose money, their assets are likely to diminish, and, consequently, their status in the stock market will diminish, as well (Spyrou, 2003). On the other hand, the involvement of rational investors in arbitrage incurs price equilibrium and efficiency, which implies that markets continue to be efficient, and, therefore, profit maximizing. In terms of EMH, despite the fact that all investors do not act rationally, markets are always rational and efficient. To conclude the discussion on Efficient Market Hypothesis, it is also worth noting that the Hypothesis, apart from the stock market, has expanded to include further areas of financial activity, such as efficiency of funding, efficiency of human resources, prediction, dividends and portfolio construction.

b. Behavioural Finance

Behavioral Finance is a study of investor market behaviour that derives from psychological principles of decision making, to explain why people buy or sell the stocks. It is related to behavioral cognitive psychology, which studies human decision making, and financial market economics.

It focuses upon how investors interpret and act on information to make informed investment decisions. Investors do not always behave in a rational, predictable and an unbiased manner. Behavioral finance places an emphasis upon investor behavior leading to various market anomalies.

According to Shefrin's (2001), Behavioural Finance is 'the study of how psychology affects financial decision making and financial markets', and according to Thaler

(1993) it is 'simply 'open-minded' finance'. Moreover Sewell (2005) states that 'Behavioural finance is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets'. In this respect, some

financial effects are likely to depend upon the investors less rational behaviour (Barberis, 2007), which results from biases, psychological variables, and heuristics.

However, the forefathers of BF are the prominent psychologists Kahneman and Tversky, who advocate that heuristics and biases affect judgment under uncertainty (1974) and formulated Prospect Theory in their work 'Analysis of Decision under Risk' in 1979.

Typically, the most common cognitive heuristics or reasons which explain why behavioural Finance leads to irrational behaviour are:

Firstly **Representativeness** where people attempt to fit a new and unknown event into an existing one and therefore discover common elements in completely different events. Tversky and Kahneman (1974) maintain that people often judge probabilities 'by the degree to which A is representative of B, that is, by the degree to which A resembles B.' Secondly **Anchoring** is a cognitive heuristic which involves decision making based on an initial 'anchor'. In many situations, people tend to make estimates 'by starting from an initial value that is adjusted to yield the final answer. The initial value, or starting point, may be suggested by the formulation of the problem, or it may be the result of a partial computation. In either case, adjustments are typically insufficient' (Slovic, & Lichtenstein, 1971).

Thirdly **Herding** describes that, individuals feel the need to join in groups (herds) and, consequently, develop herd behaviour in decision making situations. In other words, in the same context, 'people will be doing what others are rather than using their information' (Banerjee, 1992). Fourthly **Overconfidence** is defined as people's tendency to overestimate their skills or abilities, that is, to be too confident of their abilities, knowledge and received information, and, as a result, to make incorrect investing options; it also implies people's arrogant attitude towards stock markets. Plous (1993) asserts that 'no problem in judgment and decision making is more prevalent and more potentially catastrophic than overconfidence'. Fifthly **Loss aversion** which means the tendency of people being to be risk-averse for losses rather than gains. In Kahneman and Tversky's (1984) terms, 'losses loom larger than gains'. Prior gains reduce risk, whereas prior losses increase it. Sixthly **Mental accounting** is the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities (Thaler, 1999). In other words, it involves people's tendency to generate, depending on their special traits, different mental accounts, and register events they have experienced.

Lastly **Regret aversion** means that involves the investor's desire to avoid the pain incurred by a poor investment decision and as a result to postpone selling stocks so as not to finalize their loss.

According to Pieters and Zeelenberg (2004), 'people can anticipate emotions such as regret, because they compare possible outcomes of a choice with what the outcomes would have been, had a different choice been made'.

In addition to the above considerations, it is also worth emphasizing that, within the framework of Behavioural Finance, judgment and investing options are greatly affected by people's cognitive biases. These biases are argued to lead people to logical fallacy.

In conclusion, Behavioural Finance emerged as a model which, not only enhanced stagnating finance theories, but also refuted them. In a very short time, it managed to challenge academic and scientific attention and be recognized not simply as an alternative theoretical framework, but as the new dominant model for investing.

III. Behavioural Finance Vs. Efficient Market Hypothesis:

1. Access to information and availability of information

According to the Efficient Market Hypothesis, investing markets are 'informationally efficient'. All individuals can have access to available information, and as a result, investment news cannot be exploited. However, the specific theoretical model has generated considerable debate in terms of two concepts: access and availability. From a theoretical point of view, all people are able to have access to investing information; whereas in practice they are not. Daily routine and

different lifestyles imply different available time and method to have access to information. The rapid movement of events in time, globalized markets and the increasing number of the available investing methods make people incapable of catching up with changes. Information is disseminated through a huge number of different information channels (web sites, blogs, radio, TV), but people are incapable not only of assimilating, but also

elaborating on available information. Even individuals or groups of people who are involved in stock market analysis and monitoring are not completely (100%) competent. In effect, constant information on continuously changing investing contexts is commonly perceived as an investing battle with winners and losers, gains and losses.

Information availability is an additional weakness of EMH. Frequently, in investment processes, information is available only to a limited group of investors or it is available to speculators long before it becomes available to the general public. Therefore, the individuals who had access to such information are able to take full advantage of it. Apart from the importance of availability, emphasis should also be placed on the method available information is communicated. At this point, the role of impartial financial journals or market analysts is significant. Remarkably, stock ratings have frequently been a part of an expensive promotion project on behalf of a specific investors company. In this context, Behavioural Finance holds that stock markets (both in terms of access and availability) are 'informationally' inefficient.

2. Fundamental Analysis

The methods used to analyze securities and make investment decisions fall into two categories: fundamental and technical analysis. In investment processes, in order to develop a most profitable and valid relationship with a company, investors should employ an analysis of its fundamental components. In detail, when attempting to assess financial data, investors tend to form a picture of the company to be included in their portfolios and they subsequently foster a confidence relationship with it.

In the context of EMH, the fundamental analysis has been marginalized and replaced by the model of 'semi-strong form efficiency'. Proponents of the E.M.H. have often generated serious disputes over the specific analysis by employing tenuous and unsubstantiated arguments which evidently have led to characterizing EMH as paradoxical and have therefore concluded arguments in favour of refuting it.

3. Technical Analysis

Efficient Market Hypothesis contradicts the emphasis placed by technical analysis on forecasting the direction of prices through the study of past market data, and suggests that investment processes should be associated with current information and prices. In effect, the historical direction and development of a company or investment process are definitely reflected on their impact on investment decision making. Charts and past market data should not be the principal focus of research or the means to achieve high returns, but they should not be simply treated as memories.

Nevertheless, the premise that 'history repeats itself' and 'economy is running in a circle' has been strongly highlighted by people and in particular by investors

4. Uniformity of Investment

According to EMH, the individuals who are involved in investment and stock market are treated as uniform, colourless groups of investors sharing common investing traits, attitudes, methods and scope. Experience, gender, family and friends do not seem to have a decisive impact on investing behaviour. Components, such as personality, different investing culture, personal details and individual investment attitudes contribute to rendering efficient markets ideal.

5. Rational behaviour

Efficient Market proponents postulate that the individuals who invest in stock markets are characterized as rational. As already mentioned above, they are concerned with expected-utility outcomes and therefore for profit maximizing endorsed by rational expectations.

In this context, the specific implication creates a picture of investors resembling well-preserved machines. Investors, who faithfully abide by the same investing rule, that is, rationality, are compared to stock market soldiers marching in a parade. In investment processes, rationality is a destination, which is not always reached by investors, and which creates a competitive advantage. However, investors should not be perceived as robots investing in 'war stocks'.

6. Investment and emotion

Investors form beliefs and attitudes on the basis of their emotional involvement. Happy or sad feelings, optimistic or pessimistic attitudes, over or under-reaction encourage or discourage them from investing processes. In combination with biases, emotions are vital to influencing rational investing attitudes. Contrary to the belief of EMH proponents that emotions have no place in rational decision making processes, Behavioural Finance emphasizes the correlation of emotional reactions with market events and seeks that emotions are the backbone of its theoretical framework.

7. Investing bubbles or the bubble of efficient market hypothesis

As long as markets are efficient and investors act rationally, the question remains why investing bubbles have a regular appearance and a longer duration in the stock market. The dot-com bubble which involves the stock market bubble of Internet-based companies that enjoyed a stock price boom by simply adding a '.com' to the end, and the collapse of the real estate market are two of the many examples that corroborate the arguments in favour of the dominance of Behavioural Finance over the Efficient Market Hypothesis. An additional consideration against arguments in favour of EMH is the fact that the participation of rational investors in arbitrage processes is not efficient and the adjustment of stock prices is slow and rather detrimental.

8. A naive hypothesis

As already been stated, Behavioural Finance is an interdisciplinary framework combining elements from history, sociology, psychology and anthropology. Therefore its theoretical perspectives is more complicated, in contrast to Efficient Market Hypothesis which is characterized as a rather simplified or naive approach.

Efficient Market Hypothesis, despite being a naive paradigm, has been more popular among investors for a long time, as it is characterized by optimism and emphasizes the positive outcomes of investing decision making. The potential consequences for investors, however, are rather serious. In contrast, Behavioural Finance, on account of its complicated and innovative nature does not seem to be widely accepted by the majority of the investing community as a whole. However, the fact that investing decision making is considerably facilitated by various considerations encompassed in BF from other disciplines is conducive to enhancing its status and establishing its dominance over traditional financial paradigms.

IV. Conclusion

The new theoretical approach accepts people's behavioural weaknesses and asserts that investing failures are a natural consequence of the special traits of human behaviour. The key element of the emerging theory is the investor-human being rather than investors as machines. Within this framework, Behavioural Finance treats investors as individuals and highlights that emotions, biases, and illusions cannot be rationalized; in addition, it emphasizes that information is inefficient. Stock prices are not random; they are rather unpredictable as people's reaction to new information is unpredictable, as well.

Furthermore, Behavioural Finance seeks that investors cannot be cut off from their own investing past as they are human beings and, for human beings, past actions are a vital part of one's own history. In this perspective, past prices and fundamental values of previous years affect and guide their decision making.

Based on a number of disciplines, B.F. enables investors to encounter a number of investing conditions. Efficient markets and investing rationality are perceived as imaginary constructs which reassure conscience. When profit making is the cause, the effect is envy and avarice, at least for a part of investors. Remarkably, the weak points of the Efficient Market Hypothesis, which is perceived as a conservative and non-evolutionary paradigm, are the fundamental theoretical principles of BF.

Market functions provide evidence against the efficacy of EMH and the new investors' profile seems to encourage a new theoretical perspective.

To conclude, the new paradigm of Behavioural Finance emerged as a model that successfully attempted to challenge and refute the traditional financial theory.

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