An Overview of The Efficient Market Hypothesis

Sattar Badekhannavar ***M.Com, M.Phil***

Assistant Professor
Govt First Grade College for Women,
Gadag
Karnataka State, India

Introduction

The efficient-market hypothesis is a hypothesis in financial economics that states that asset prices reflect all available information. A direct implication is that it is impossible to "beat the market" consistently on a risk-adjusted basis since market prices should only react to new information.

Financial markets are influenced by money flows and information flows in free and highly competitive markets, demand and supply pressure determine the price or interest rates. In a theoretical sense, markets are said to be efficient if there is a free flow of information and market absorbs this information fully and quickly. The efficiency means, the ability of the capital market to function, so that price of securities react rapidly to new information. Such efficiency will produce price that are appropriate in terms of current knowledge, and investors will be less likely to make unwise investments.

Meaning of the Efficient Market Hypothesis:

The efficient market hypothesis (EMH), alternatively known as the efficient market theory, is a hypothesis that states that share prices reflect all available information and consistent alpha generation is impossible. According to the EMH, stocks always trade at their fair value on exchanges, making it impossible for investors to purchase undervalued stocks or sell stocks for inflated prices.1 Therefore, it should be impossible to outperform the overall market through expert stock selection or market timing, and the only way an investor can obtain higher returns is by purchasing riskier investments.

Concept of the Efficient Market Hypothesis (EMH)

Although it is a cornerstone of modern financial theory, the EMH is highly controversial and often disputed. Believers argue it is pointless to search for undervalued stocks or to try to predict trends in the market through either fundamental or technical analysis. Theoretically, neither technical nor fundamental analysis can produce risk-adjusted excess returns (alpha) consistently, and only inside information can result in outsized risk-adjusted returns. While academics point to a large body of evidence in support of EMH, an equal amount of dissension also exists. For example, investors such as Warren Buffett have consistently beaten the market over long periods, which by definition is impossible according to the EMH. Detractors of the EMH also point to events such as the 1987 stock market crash, when the Dow Jones Industrial Average (DJIA) fell by over 20% in a single day, and asset bubbles as evidence that stock prices can seriously deviate from their fair values.

Study of Efficient Market Hypothesis

Proponents of the Efficient Market Hypothesis conclude that, because of the randomness of the market, investors could do better by investing in a low-cost, passive portfolio. Data compiled by Morningstar Inc., in its June 2019 Active/Passive Barometer study, supports the EMH. Morningstar compared active managers' returns in all categories against a composite made of related index funds and exchange-traded funds (ETFs). The study

found that over a 10 year period beginning June 2009, only 23% of active managers were able to outperform their passive peers. Better success rates were found in foreign equity funds and bond funds. Lower success rates were found in US large-cap funds. In general, investors have fared better by investing in low-cost index funds or ETFs.

While a percentage of active managers do outperform passive funds at some point, the challenge for investors is being able to identify which ones will do so over the long term. Less than 25 percent of the top-performing active managers can consistently outperform their passive manager counterparts over time.

Market efficiency

Market efficiency refers to how well prices reflect all available information. The efficient markets hypothesis (EMH) argues that markets are efficient, leaving no room to make excess profits by investing since everything is already fairly and accurately priced. This implies that there is little hope of beating the market, although you can match market returns through passive index investing.

Importance of Efficient Markets Hypothesis

The validity of the EMH has been questioned on both theoretical and empirical grounds. There are investors who have beaten the market, such as Warren Buffett, whose investment strategy focused on undervalued stocks made billions and set an example for numerous followers. There are portfolio managers who have better track records than others, and there are investment houses with more renowned research analysis than others. EMH proponents, however, argue that those who outperform the market do so not out of skill but out of luck, due to the laws of probability: at any given time in a market with a large number of actors, some will outperform the mean, while others will underperform.

There are certainly some markets that are less efficient than others. An inefficient market is one in which an asset's prices do not accurately reflect its true value, which may occur for several reasons. Market inefficiencies may exist due to information asymmetries, a lack of buyers and sellers (i.e. low liquidity), high transaction costs or delays, market psychology, and human emotion, among other reasons. Inefficiencies often lead to deadweight losses. In reality, most markets do display some level of inefficiencies, and in the extreme case, an inefficient market can be an example of a market failure.

Accepting the EMH in its purest (strong) form may be difficult as it states that all information in a market, whether public or private, is accounted for in a stock's price. However, modifications of EMH exist to reflect the degree to which it can be applied to markets:

- **Semi-strong efficiency:** This form of EMH implies all public (but not non-public) information is calculated into a stock's current share price. Neither fundamental nor technical analysis can be used to achieve superior gains.
- **Weak efficiency:** This type of EMH claims that all past prices of a stock are reflected in today's stock price. Therefore, technical analysis cannot be used to predict and beat the market.

In the above context, what will happen is that market making mechanism is free and unfettered there are no pockets withholding information or interested parties making undue gains by insider information by manipulation of supply and demand force. There will be no monopoly elements and mal practice or corruptions etc. are not prevalent. Information flow is free and cost less. In the normal course, capital or money flows into areas which are most profitable which in turn depends on their efficiency and competitiveness. Money flows also from less profitable to more profitable avenues if information flow is free, fast and cost less. In such market scenario, all investors will have the same information, which is immediately reflected in stock price and nobody can gain extra profits.

All instruments in the market will be correctly priced, as all the available information is perfectly absorbed and any investor entering the market any time will have the same advantage or returns. No excess profits are possible in this scenario. As the demand and supply force are playing their role freely, the emerging prices are

fair and move in a random manner. Prices of today are no more a function of the prices in the past as the day to day force move in an independent and random manner. This concept of randomness as led to the theory of random walk in the determination of prices. This random walk hypothesis is thus, a special case of the efficient market theory.

Random Walk Theory

As per this theory, changes in stock prices are independent of each other. The prices of today are independent of past trends. The present price is randomly determined and only information flow can influence prices. As information is free and independent and the resulting prices are free and independent. A word of caution is necessary here. This random walk hypothesis was postulated by researchers on the basis of empirical work on the market price behavior. It does not therefore tantamount to the same theory as the capital market efficiency theory. Only market efficiency promotes randomness and is therefore not a necessary condition. The fact that prices move independently has been found empirically and the analyst found an explanation for this in the efficient functioning of the markets and the market absorption of the information quickly and efficiently. The equilibrium price of a stock is determined by demand and supply forces, based on the available information. Quickly as the fresh information becomes available, a new equilibrium point is reached and the resultant price thus independent of the part.

Assumption of Random Walk Theory

1. Market is a supreme and no individual investor or group can influence it.
2. Stock prices discount all information quickly.
3. Markets are efficient and that the flow of information is free and un-biased.
4. All investors have free access to the same information and nobody has superior knowledge or expertise.
5. Market quickly adjusts itself to any deviation from equilibrium level due to the operation of free forces of demand and supply.
6. Market prices change only on information relating to the fundamentals, when the equilibrium level itself may shift.
7. The prices move an independent fashion, within undue pressers or manipulation.
8. Nobody has better knowledge or insider information.
9. Investors behave in a rational manner and demand and supply forces are the result of rational investment decisions.
10. Institutional investors or any major fund managers have to follow the market and market cannot be influenced by them.
11. A large number of buyers and sellers and perfect market conditions of competition will prevail.

Random Walk and Efficient Theory

The efficient-market hypothesis is a hypothesis in financial economics that states that asset prices reflect all available information. A direct implication is that it is impossible to "beat the market" consistently on a risk-adjusted basis since market prices should only react to new information.

Understanding Random Walk Theory

Economists had long argued that asset prices were essentially random and unpredictable—and that past price action had little or no influence on future changes. This, indeed, was a key assumption of the efficient market hypothesis (EMH). Random walk theory is based on the idea that stock prices reflect all available information and adjust quickly to new information, making it impossible to act on it.

Economist Burton Malkiel's theory aligns with the semi-strong efficient hypothesis, which also argues that it is impossible to consistently outperform the market. The theory thus has important implications for investors, suggesting that buying and holding a diversified portfolio may be the best long-term investment strategy.

Criticisms of Random Walk Theory

The main criticism of random walk theory is that it oversimplifies the complexity of financial markets, ignoring the impact of market participants' behavior and actions on prices and outcomes. Prices can also be influenced by non-random factors, such as changes in interest rates or government regulations, or less ethical practices like insider trading and market manipulation.

Market technicians argue that historical patterns and trends can, in fact, provide useful information about future prices, challenging the theory's assertion that past prices are not informative. They claim that technical analysis can intuit market psychology to identify. Other investors have also challenged the theory by pointing to examples of successful stock pickers, such as Warren Buffett, who have consistently outperformed the market over long periods of time by looking closely at company fundamentals.

Another critique is that a random walk implicitly assumes that all investors have the same information, when in reality; some investors have access to more and better information than others (such as large, institutional investors). Indeed, information asymmetries have been found in real-world markets that cause markets to be inefficient.

One key critic was Benoit Mandelbrot, a mathematician who argued that stock prices are not random and do not follow a normal distribution, which are key assumptions of random walks. He observed that stock prices exhibit long-term dependence and are better modeled by fractal geometry, where investors should consider the risks associated with extreme black swan events. These ideas were influential in the development of the field of chaos theory in finance.

Dow Theory:

One competing theory to a random walk is known as Dow Theory. Dow Theory is made up of several tenets, which include the idea that stock prices move in trends, that these trends have distinct phases (accumulation, markup, and distribution), and that volume is an important indicator of the strength of a trend. Developed by Charles Dow, the founder of Dow Jones & Co. and *The Wall Street Journal* in the late 19th century, his theory is based on the idea that stock prices can be analyzed to predict future movements based on current trends.

Dow Theory is generally at odds with random walk theory, which claims that stock prices are unpredictable and that investors cannot consistently outperform the market. Dow Theory does not dispute the fact that stock prices are subject to random fluctuations in the short term, but it argues that long-run prices do reflect underlying economic trends and that these trends can be identified through technical analysis.

Random Walk Theory in Action

A historical example of random walk theory in practice occurred in 1988, when *The Wall Street Journal* sought to test Malkiel's theory by creating the annual Wall Street Journal Dartboard Contest, pitting professional investors against darts for stock-picking supremacy. *Journal* staff members played the role of the dart-throwing monkeys.

After more than 140 contests, the *Journal* presented the results, which showed the experts won 87 of the contests and the dart throwers won 55. However, the experts were only able to beat the Dow Jones Industrial Average (DJIA) in 76 contests. Malkiel commented that the experts' picks benefited from the publicity jump in the price of a stock that tends to occur when stock experts make a recommendation. Passive management proponents contend that, because the experts could only beat the market half the time, investors would be better off investing in a passive fund that charges far lower management fees.

Correctness of Random Walk Theory

Random walk theory is widely debated among financial economists and market practitioners. While some agree with its basic tenets, others have challenged its assumptions and have proposed alternative theories of how and why prices move. Some have pointed out instances where stock prices do not follow a random walk, such as during bubbles or flash crashes. In these cases, prices may be driven more by emotional factors than by randomness.

Conclusion

Random walk theory claims that stock prices move randomly and are not influenced by their history. Because of this, the theory suggests it is impossible to use past price action or fundamental analysis to predict future trends or price action. If markets are indeed random, then markets are efficient, reflecting all available information. The theory remains popular among economists; however, it has been criticized by technical and fundamental traders alike for being overly simplistic and discounting real-world outperformance achieved by some traders. The goals of all the investors are to achieve the highest returns possible. Indeed, each year investment professionals publish numerous books touting ways to beat the market and earn millions of dollars in the process. Unfortunately for these so called "investment gurus" these investments strategies fail to perform as predicted. The intensive competition between investors creates as efficient market in which prices adjust rapidly to new information. Consequently, on average, investor receives a return that compensates them for the time value of money and the risk that they bear nothing and nothing less.

Reference

1. http://www.cmrcetmba.in/
2. http://www.academicjournals.org/
3. http://www.fastgraphs.com/
4. http://www.investopedia.com/