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## Effect of Momentum on the Equity Returns in Kenya: A Review of Literature

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### **Abstract:**

*This Paper review literature on momentum and equity returns, it focuses on theoretical review analyzing the main theories anchoring this study, namely Efficient Market Hypothesis (EMH), Behavioral Finance Theories, and Fama and French Theory. The paper further explores the concept of momentum and the concept of equity returns and finally the empirical studies of various studies and identifying the gaps in these studies.*

**Keywords:** *Efficient market hypothesis, Fama and French, Momentum, Equity returns*

### **1. Theoretical Review Framework**

#### **1.1. Efficient Market Hypothesis**

A theory has been formalized to organize the growing empirical evidence by Fama (1970). The theory has been explained in terms of a fair game model. From the perspective of the allocation efficiency, cost efficiency, this theory also has been explained efficiency (Blume&Durlauf, 2008). According to Goedhart, Koller&Wessels (2010), an efficient stock market is a market to reflect firm's fundamental information. A market can be treated as efficient if it yields higher return compare to market rate (Allen, Brealey& Myers, 2011). For Eakins and Mishkin (2012) for an efficient market, the asset price consists of all information available.

If the market is weakly, efficient, technical analysis yields no excess return (Degutis and Novickyte, 2014). It is impossible to earn excess profit while trading on insider information which seems to be unlikely (Malkiel, 2011). Empirical studies have revealed weak form of market efficiency in different capital markets (Palan, 2004). On the other hand, (Schwert, 2003) posits that the strong form of market efficiency. Mishkin, Eakins (2012) concludes that the results of the semi-strong market efficiency studies vary considerably, results indicate market inefficiencies. According to Shleifer (2000) a share price is positively affected by a random purchase. Goedhart, Koller and Wessels (2010) shows that it was the intrinsic value investors who have a major impact on securities prices as their trades were concentrated and large. In mathematical terms, prices follow a martingale which is a model of a fair game where knowledge of past events never helps predict future winnings (Gosalia and Lefebvre, 2013).

According to the EMH, by using available information, all market participants arrive at 'rational expectations' forecasts of future security returns, and these forecasts become fully reflected in the prices that are observed in financial markets. Changes in asset prices will occur on account of news which cannot be predicted in any systematic manner. In other words, asset prices respond only to the unexpected part of any news, since the expected part of the news is already embedded in prices. However empirical studies supporting the notion of randomness in security prices focused on measures of short run serial correlations between successive security price changes, (Malkiel, 2003). The conclusion of these studies supported the view that stock markets have no memory and therefore how stocks behaved in the past is not useful in divining how it will behave in the future, (Cootner, 1964; Lo and MacKinlay, 1999). Lo, *et.al* (2000) find that stock signals may actually have some modest predictive.

Behaviorist find this short-run momentum to be consistent with psychological feedback mechanisms such that individuals see a stock price rising and are drawn into the market in a kind of 'bandwagon effect,' (Malkiel, 2003). Shiller (2000) describes the rise in the U.S. stock market during the late 1990s as the result of psychological contagion leading to irrational exuberance. The behaviorists offered another explanation for patterns of short-run momentum a tendency for investors to underreact to new information. If the full impact of an important news announcement is only grasped over a period of time, stock prices will exhibit the positive serial correlation found by investigators.

Evidence of negative serial correlation, return reversals over longer holding periods exist, (Fama and French, 1988; Poterba and Summers 1988). This have been attributed to forecast ability to the tendency of stock market prices to 'overreact.' Malkiel, (2003) asserts that investors are subject to waves of optimism and pessimism that cause prices to

deviate systematically from their fundamental values and later to exhibit mean reversion and also this view further support the notion that investment techniques that rest on a 'contrarian' strategy, that is, buying the stocks, or groups of stocks, that have been out of favor for long periods of time and avoiding those stocks that have had large run-ups over the last several years.

Stock market returns in January has been very unusual, where returns from an equally weighted stock index have tended to be unusually high during the first two weeks of the year, especially stocks with relatively small total capitalizations, (Malkeil, 2003). Malkiel, 2003 further asserts that these predictable patterns or anomalies, are *not* dependable from period to period and do not appear to offer arbitrage opportunities that would enable investors to make excess risk adjusted returns.

The theory presents evidence that information is frictionless where and individual investor while investing, can either have strong, semi strong or weak position. However, the investor can be irrational while investing and hence does not necessarily follow the information that the market presents, and further the assumption that the information is universally shared may not hold since various investors can hold information to benefit themselves in order to take advantage of the market. Still on the assumption that information follows a random walk may not be necessary true since investors have taken advantage of company announcement and press releases where negative information rationally may mean that the returns will be lower, which is not the case for companies presumed to be growth companies. Informed traders may transact at lower cost hence there is ease in exchange of securities and hence excess return in equity returns.

### 1.2. Behavioral Finance Theory

The traditional finance paradigm seeks to understand financial markets using models in which agents are 'rational'. Rationality means two things. First, when they receive new information, agents update their beliefs correctly, in the manner described by Bayes' law. Second, given their beliefs, agents make choices that are normatively acceptable, in the sense that they are consistent with Savage's notion of Subjective Expected Utility (SEU) (Thaler and Barberis, 2003).

The theory of Behavioral finance explains the application of psychology to finance, with a focus on individual level cognitive biases, (Hirshleifer, 2014). The theory was set in motion by Daniel Kahneman and Amos Tversky in 1979 in their report on prospect theory which began to look specifically at how people choose between two different outcomes that involve risk, with the probabilities of the outcomes known. Specifically, their paper offered prospect theory as an alternative to the widely held expected utility theory as they found people often weight alternatives incorrectly when dealing with risk (Hammond, 2015; Fieger, 2017). One common problem established by Kahnmann and Tversky 1979 is that people have in their approach to analyzing risk is a propensity to be risk-averse in their financial decisions, with one example of this being the popularity of insurance. (Fieger, 2017) This study laid a foundation the possibility of human psychological biases interfering with their financial decisions. (Fieger, 2017)

Building on the findings of Kahnmann and Tversky (1979), Thaler (1980) critiqued the rational maximizing model, which put forth the idea that consumers take all of the available information for a purchasing decision and make the most rational decision to best serve their interests. Thaler (1980) identified observable decision- making mistakes people make such as underweighting opportunity costs, failing to ignore sunk costs, and regret aversion. At this point, the field of behavioral finance was born. (Fieger, 2017)

Framing refers to the way a problem is posed for the decision maker. (Barberis and Thaler,2003). Chen and Lai (2013) present evidence of framing on companies and how it affects expected returns. They focused on the effect where reclassification 352 Taiwanese companies that had their Standard Industrial Classification (SIC) code changed as the result of a government initiative or because the nature of their business changed. Theoretically, this reclassification should have had absolutely zero impact on the stock prices as nothing in the underlying companies had changed. There was significant price change days after the reclassification which was attributed to framing and the changes were both positive and negative. Similarly, a stock's ticker symbol also deals with the framing of a company and its stock. As one can see from perusing any list of stocks and their symbols, some companies have symbols that make complete sense and almost form the company's name, while others have less descriptive ticker symbols. (Fieger, 2017). Though this has been disputed by Peterurgsky (2014) who concluded that there was no discernable difference between the attractiveness of stocks with fluent names versus those with influent names. Notably though Head et. al. (2009), that suggests companies with clever tickers actually perform better than those that do not, but Peterurgsky (2014) argues the excess return on stock is not necessarily attributed to clever tickers but to more clever competent management team.

Cognitive dissonance is defined as the resistance of holding two ideas that are in conflict with one another, and accurately describes the problem of ascribing to traditional finance theory while also believing in the proven facts of behavioral finance (Hammond, 2015). Olsen (2008) argues that several broad themes of traditional finance create the most cognitive dissonance. The Adaptive Markets Hypothesis (AMH) is presented as an alternate to Efficient Market (Soufian, Forbes and Hudson, 2014).

Investors read and observe different things and view things differently and, on this premise, behavioral finance exist, because not every person can possibly have and invest upon the same amount of information. (Hammond, 2015). Behavioral biases in investing arise when people form beliefs, and on people's preference, (Barberis and Thaler, 2003). Rieger (2010), concludes that several lead investors to make bad estimates on the probability of various outcomes tied to the payoff of the structured financial products, but that there may be ways to frame information on the products so as to not mislead investors. Behavioral biases abstractly are defined in the same way as systematic errors are in judgment (Chen et al, 2004). A number of these biases have been advocated by researchers (Akbar *et.al.* 2013). Hassan *et. al.*, (2013) established that investors who are not literate enough would do their detailed financial analysis decision. Behavioral finance mainly focuses on the ineffectiveness of human decision making in various economic circumstances (Pompian,

2006). Some researchers have referred biases as heuristics experts (Joo and Durri, 2015). A complete account for risk aversion can be provided by loss aversion for risks (Novemsky&Kahneman, 2005). However, the boundaries of loss aversion can be explained through emotional attachment and cognitive prospective (Ariely *et al*, 2005).

People tend to segregate their money into different accounts based on varying criterions and treat these accounts differently leading to another behavioral bias known as mental accounting. (Thaler, 2008). Ritter, (2002) posits that such 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.

The effect of noise traders on the volatility of closed- end mutual funds was explained by Brown (1999). He established that when there is a shift in sentiments, these traders move together which increases the crisis and the volatility of the securities during trading hours, the noise traders normally tend to follow newsletter writers, who in turn tend to follow the herd. Herding contributes to excess volatility (Economou *et al*, 2010; Welch, 2000). Most of the investors are concern with what others think of their investment decisions and the reason they apply herding behavior (Durri and Bashar, 2015) and it been seen that gender has a remarkable effect on herding (Lin, 2011).

Both EMH and Behavioural theories are factual but none the less none of the theories can be considered absolute inoperative. Behavioural finance acts as a supplement, and not as a replacement, in order to explain those phenomena that cannot be explained by the classical finance theory (Birau, 2012 & Akhtar, 2012). Theories of behavioral finance that are built on the models of standard finance can help the investors to understand their own behavior and thus help them to improve upon their decision-making process (Sewell, 2007 and Kannadhasan, 2006).

The theory points out various bias or cognitive behaviors depicted by individuals especially when transacting making the efficient market hypothesis inefficient to explain the nature or movement of transactions and asset returns. Specifically, the theory points out that despite the prior knowledge ether in terms of information available, previous performance and earnings announcement, the investor will continue to behave irrationally, manifesting biases namely conservatism, overconfidence, momentum, illusion of knowledge etc. therefore receiving less return from invested assets. Therefore, there is need to critically analyze momentum and how it affects equity returns in the Kenyan capital market.

### 1.3.Fama and French Model

The Three Factor Model initiated by Fama and French in 1993 takes a different approach to explain market pricing. Fama-French found that investors are concerned about three separate risk factors rather than just one. Actually, they found that in the real world, investors care about lots of different risks. But the risks that have systematic prices attached to them and that in combination do the best job of explaining performance and pricing are market, size and value (Odera, 2010)

The systematic factors in the FF model are firm size and book-to-market ratio (B/M) as well as the market index. These additional factors are empirically motivated by the observations, that historical-average returns on stocks of small firms and on stocks with high ratios of book equity to market equity (B/M) are higher than predicted by the security market line of the CAPM. (Bodie, *et.al* 2016). They also introduced a general method to generate factor portfolios and applied their method to these firm characteristics. Exploring this innovation is a useful way to understand the empirical building blocks of a multifactor asset pricing model (Bodie, *et.al* 2016).

Since the seminal Fama-French three-factor model was introduced, a fourth factor has come to be added to the standard controls for stock return behavior. This is a momentum factor Jagadeesh and Titman (1993) uncovered a tendency for good or bad performance of stocks to persist over several months, a sort of momentum property. momentum effect has been to the three-factor model as a tool to evaluate mutual fund performance. (Bodie, *et.al* 2016).

The theory plays a key role in this study, since we expand the various factors in the multifactor model to include Momentum

## 2. Conceptual Framework

### 2.1. The Concept of Momentum

Momentum is one the most debated yet the most popular factor influencing equity market returns, (Srivastava *et.al*,2019) Momentum as defined by Berger *et.al* (2009) is the tendency of investments, in every market and asset class, to exhibit persistence in their relative performance for some period of time. When applied to stock picking, momentum is about relative performance among stocks, and not about overall trends in the market. It works whether a market is in an upswing or downswing. Momentum can be used to identify securities likely to outperform, making it a powerful investment tool. It is also negatively correlated to value investing, making it an effective diversification component. Regardless of investment philosophy, virtually all investors can expect improved risk-adjusted returns by including momentum (Berger *et.al* 2009)

According to (Gosalia and Lefebvre, 2013) Momentum is the rate of acceleration of a security's price or volume. The idea of momentum in securities is that their price is more likely to keep moving in the same direction than to change directions. In technical analysis, momentum is considered an oscillator and is used to help identify trend lines. Once a momentum trader sees acceleration in a stock's price, earnings or revenues, the trader will often take a long or short position in the stock in the hope that its momentum will continue in either an upward or downward direction. This strategy relies on short-term movements in a stock's price rather than fundamental value, and it is not recommended for novices. Existence of momentum leads to momentum effect. The momentum patterns in case of stock price have been

highlighted by Jegadeesh and Titman (1993). DeBondt and Thaler (1985), Lehmann (1990) highlighted that over three- to five-year periods outperform past winners. For long-term and short-term returns have been performed by Jagadeesh and Titman (2011). Chan, Hameed and Tong (2000) found the momentum effect existed in the national stock market.

Nine are from the Asia-Pacific, eleven are from Europe, and two are from North America (Canada and the U.S.), where the difference between the returns of winner and loser portfolios is at least 0.25 percent per week. Bhojraj and Swaminathan (2001) further confirm the qualitative results by Chan, Hameed and Tong (2000) for their total sample of 38 countries over the period 1975 to 1999 their result, where strong momentum is evident up to three quarters after the portfolio formation date, with winners outperforming losers significantly by 1.40% to 2.33% per quarter over the next 3 quarters. Bacmann, Dubois and Isakov (2001) documents the profitability of momentum strategies in member countries of the G-7 i.e., USA, Canada, Japan, UK, France, Germany and Italy. While Griffin, Susan and Martin (2003) finds that momentum profits for Asia are decidedly weaker than those around the world, particularly for Europe. The momentum strategy will tilt towards high beta stocks (Jegadeesh and Titman 2011).

## 2.2. The Concept of Equity returns

Investors invest their savings in equity market with an expectation of earning some income (Reddy and Narayan, 2016). According to Brooks (2012) the total return to holding a stock is the sum of the capital gain and any dividends paid during the holding period. Literature evidence on momentum in the Kenyan Capital Market is limited therefore the need to investigate the effect of momentum on asset return on the Kenyan capital markets.

## 3. Empirical Review Framework

### 3.1. The Effect of momentum on Equity Returns

Fama and French (2012) study Size, value, and momentum in international stock returns focusing on four regions namely, North America, Europe, Japan, and Asia Pacific, the sample period being from November 1989 to March 2011, they find out that and there are strong momentum returns in all regions except Japan. Our new evidence centres on how international value and momentum returns vary with firm size. Except for Japan, value premiums are larger for small stocks. The winner minus loser spreads in momentum returns also decrease from smaller to bigger stocks. In Japan there is no hint of momentum returns in any size group. They also find that Integrated pricing across regions does not get strong support in our tests. For three regions (North America, Europe, and Japan), local models that use local explanatory returns provide passable descriptions of local average returns for portfolios formed on size and value versus growth. Even local models are less successful in tests on portfolios formed on size and momentum. Little is known on price momentum in Kenyan markets; therefore, this study is not conclusive predict the same effect on Kenya as other regions studied.

Lewellen, (2002) studies momentum in stock returns, focusing on the role of industry, size and book-to- market (B/M) factors, the study uses all NYSE, AMEX and NASDAQ common Stocks on the Center for Research in Security Prices database from period 1941 to 1999. His Findings show that momentum cannot be attributed simply to firm-specific return. The size and B/M portfolios are quite diversified, so their returns reflect systematic risk. Macroeconomic factors, not firm specific returns must be responsible for size and B/M momentum. This study focused on the variable momentum with other variables namely, industry, size and book to market and there lacks literature on how the variable momentum affects return in presence of other factors namely illiquidity and asymmetric information.

Moskowitz, *et al* (2014) in their study value and momentum everywhere, their data consist of value and momentum portfolios of individual stocks globally across four equity markets: the United States, the United Kingdom, continental Europe, and Japan. The U.S. stock universe consists of all common equity in CRSP (share codes 10 and 11) with a book value from Compustat in the previous 6 months, and at least 12 months of past return history from January 1972 to July 2011, find consistent value and momentum return premia across eight diverse markets and asset classes, and a strong common factor structure among their returns. Value and momentum return correlate more strongly across asset classes than passive exposures to the asset classes, but value and momentum are negatively correlated with each other, both within and across asset classes. Their results also show that globally liquidity risk is a partial source of these patterns, which are identifiable only when examining value and momentum jointly across markets.

Lishenga, (2012) conduct a study an empirical analysis of momentum profitability, seasonality, reversibility at the Nairobi stock exchange, he formed relative strength strategies for all stocks listed over the period between 1996-2007. He reveals that the initial unrestricted tests revealed the existence of significant momentum, which could be the basis of profitable investment strategies. The further posit that there was absence of a calendar regularity to the profits, and that there was mild reversal of profitability in the medium term.

Fama and French (2012) found out that and there are strong momentum returns in all regions except Japan, on the contrary Lewellen (2003) Findings show that momentum cannot be attributed simply to firm-specific return, whereas Moskowitz, *et.al* (2013) find consistent value and momentum return premia across eight diverse markets and asset classes, and a strong common factor structure among their returns though the value and momentum premia in Kenyan capital markets is unknown. Lishenga, (2012) reveals that the initial unrestricted tests revealed the existence of significant momentum, which could be the basis of profitable investment strategies. Literature by Fama and French (2012) does not give results on Kenyan capital markets since the focus is on developed markets. Lishenga, (2012) focuses and give results on momentum profits and strategies but fail to explain how momentum affects asset returns and further the researcher does not present results on existence of industry momentum. Little is, therefore, known regarding the relationship between momentum and equity returns in Kenyan capital markets.

#### 4. Conclusion

This paper sought review literature on the effect of momentum on equity returns in Kenya. We conclude that though EMH presents evidence of frictionless market the investor can be irrational while investing and hence does not necessarily follow the information that the market presents, and further the assumption that the information is universally shared may not hold since various investors can hold information to benefit themselves in order to take advantage of the market. This supported by behavioral finance theory which points out that despite the prior knowledge either in terms of information available, previous performance and earnings announcement, the investor will continue to behave irrationally, manifesting biases namely conservatism, overconfidence, momentum, illusion of knowledge etc. therefore receiving less return from invested assets. Though studies have been done with regard to momentum and equity returns more knowledge is required regarding the relationship between momentum and equity returns in Kenyan capital markets, as evidenced in empirical review. Information gathered on this area would go along way on enabling key stakeholders such as regulatory authorizes especially on policy implementation.

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