Investors' Behavioural Biases and the Security Market: An Empirical Study of the Nigerian Security Market

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Abstract

Behavioural biases describe a replicable pattern in perceptual distortion, inaccurate judgment, illogical interpretation, or what is broadly called irrationality. This paper adopts a primary data approach to investigate the effects of behavioural biases on security market performance in Nigeria. The objectives are in twofold: one, to examine the extent of behavioural biases among security market investors in Nigeria and, to examine the effects of behavioural biases on stock market performance in Nigeria. The paper employed questionnaire as instrument and the technique of correlation with Pearson Product Moment Coefficient to analyze a survey of 300 randomly selected investors in Nigeria security market. We find strong evidence that behavioural biases exists but not so dominant in the Nigeria security market because a weak negative relationship exists between behavioural biases and stock market performance in Nigeria. The paper recommends that individual investors in the market should engage the services of investment advisors which will reduce personal biases in the management of their portfolios.

Keywords: Bias, Behaviour, Security market, Market performance, Psychology

JEL: G11, Z10

1. Introduction

Researchers in the field of behavioural finance have compiled an impressive body of analysis suggesting that individuals do not act rationally all the time when making investment decisions. These findings have significant implications for the development of the securities market. The Nigerian security market is gradually pulling out of the 2008/2009 market crash and it is relatively stable now, but the stability of the future market is dependent on the decision making patterns of individual as well as institutional investors who trade daily in the market. Economic and financial theories are built around the key assumptions that human beings are rational agents who always behave in a logical way, taking all related information into consideration before making decisions, and with stable and consistent preferences over time. Classical economics defines rationality very logically, for instance, if an individual loves A better than B and B better than C, an economist would conclude that the individual prefers A to C, but this may not be so in real life situation, especially with financial investment.

Though the field of economics has propounded many theories over the years on human behaviour, it has not been able to explain why people routinely make financial decisions that are irrational. There have been studies in the field of finance that explain and prove the way financial markets work, there are also studies that makes us understand the dynamics behind investments upon which many rules have been formulated. Although these rules on investment are simple, most investors have trouble consistently applying them. This leads to most investors either trading too much, buy and sell at precisely the wrong times, allow emotions to overrule logic, misjudge probabilities, or futilely chase performance.

While classical economic models explain what we should do, behavioural finance examines what we really do. Behavioural finance recognizes that our financial decisions are impacted by our human psychology, and uses the term "quasi rational" to describe how, when and why we sometimes behave "irrationally' as the classical economists put it. Behavioural finance classifies and categorizes the circumstances where the outlook we really have differs from the rational outlook we need to have in order to implement theories propounded by classical economist. This makes investors trade holdings when they should not, depending on instincts (Huckle, 2005).

The Nigerian security market has been described by both market operators and professional bodies as illiquid as a result of the 2009 market crash. This is because many of the stock broking firms operating in the market incurred huge debt after the crash of equity prices and are unable to trade actively as they used to do. Investors also, in a bid to trade cautiously at times, conduct trade at the wrong times leading the market to underperform (Egwuatu, 2012). They belatedly chase past performance, inadvertently selling low and buying high, and are swayed by emotions, the majority of investors have earned far less than posted returns: these actions are behavioural.

Behavioural finance identifies two primary reasons which make investors to behave quasi-rationally. The first is because investors are human and cannot help but experience a range of emotions as investment prices move. These emotional reactions can inadvertently conflict with rational minds to distort the way market activities are perceived or misperceived. For instance, though it is understood that it is perfectly normal for investments to move in cycles, investors feel excited and euphoric when an investment is generating strong returns in the above-average part of its cycle - which sparks a powerful urge to buy when markets are high rather than following economic theory to buy when market is low. In the lower part of an investment cycle, poor returns create different view. Investors become despondent, anxious and panicky, and would instinctively seek to end the unpleasant experience by selling when they should be buying. Still, investors are tempted to replace these holdings with assets which make them feel excited. Thus selling low and buying high - although rationally it is understood that the greatest financial opportunities occur at market bottoms, and risk is highest when investment cycles are at their peak. Therefore, logic and emotions are in conflict.

The second area of irrationality has its roots in human cognitive factors. Human perception of issues have developed fast and formed effective processes to swiftly handle information and speed our decisions. While these are extremely useful in many areas of life, they can short-circuit our decisions in investment. When investing we're instinctively compelled to take more risks to avoid losses than to achieve gains. These counter reactions short change the market and retard development in the security market because we unconsciously become optimistic in a high market and pessimistic in a low market. For example, a study showed that 86% of Japanese investors expected further increases at the peak of the Japanese market, but after the market had collapsed a third of investors expected a further crash (Tokyo Watch,1997).

Huckle (2004) comments that most investors' preferences are inconsistent. The investor's ability to think rationally is compromised further when his/her pattern-seeking traits combine with loss aversion to reinforce the urge to shy from low prices - even though research proves that asset classes and categories move in cycles. A basic requirement for profitable investment is to buy low and sell high as markets move through these cycles.

Tversky and Kahneman (1992), opine that behavioural finance complements classical economic theories which are extremely effective when applied. However, investors are influenced by emotions and mental short-cuts that tend to disregard these rules. By using the lessons from behavioural finance to understand investment psychology, it is possible to recognize the likelihood of deviating from proven principles - and with this awareness effectively adapt and control our behaviour to dramatically increase the return from the market. Tversky and Kahneman (1981) explain that many anomalies in behavioural finance stem from the way information is framed - the way such information is viewed and interpreted before making a decision. Oslen (1998) argued how behavioural finance can help explain the puzzle of stock price volatility using chaos and adaptive decision making theories. Despite increase activities in behavioural finance studies, the trend in research has not provided sufficient justification for the link between behavioural finance and security market performance. Besides, empirical evidence emerging from various studies only show trends in behavioural biases which are sometimes not properly situated in any particular market. Research has also shown that most of the studies on behavioural biases that have been reported were carried out in mature markets. These mean that there is a gap in relevant literature on developing countries particularly Nigeria which happen to be the most populated country in Sub-Saharan Africa (SSA) with an emerging security market.

This study attempts to fill the gap in literature by examining the situation in Nigeria and providing empirical evidence on the relationship between behavioural biases and security market development. This is the overall objective of this paper. The specific objectives are to: (i) ascertain the extent of behavioural biases in the Nigeria security market; (ii) ascertain the type of relationship that exist between behavioural biases and the security market development (iii) examine the effects of behavioural biases on security market development in Nigeria. The rest of the paper is divided into four sections. In section

II, relevant theoretical postulations and literature are reviewed while the methodology of the study is explained in section III. The findings of this study are presented in section IV, while section V contains the concluding remarks.

2. Theoretical Framework and Literature Review

The field of behavioural finance has gained popularity over the last three decades as the validity of assumptions underlying theoretical frameworks (such as the capital Asset Pricing Model and the Efficient Market Hypothesis) developed to analyse financial markets and hence, the practical application of these frameworks in the real world, have been increasingly questioned. Behavioural finance suggests that investors do not always act rationally when making investment decisions, even if they possess the inputs required to make a rational decision, such as information, knowledge, and understanding.   Attention was first drawn on the impact of human psychology on the stock market when Selden (1912) proposed that the movements of prices on the exchanges are dependent to a very considerable degree on the mental attitude of the investing and trading public. Much was not available on the field of behavioural finance until Pratt (1964) study on how individuals perceive risk and how this determines their level of trading in relation to their total earnings on the security market. The study concludes that perceived risk and most of the time the fear within are what determine the level of trading by individuals and not necessarily the risk presented by the market indicators.

Tversky and Kahneman (1973) introduced availability heuristic - a judgmental heuristic in which a person evaluates the probability of events by availability, that is, by the ease with which relevant instances come to mind. The reliance on the availability heuristic leads to systematic biases which make people think that what they have in mind to do is the most correct despite what the market indicators present. This means that people do not always act rationally nor do they fully utilize all the information available to them.

Kahneman and Tversky (1979) presented a critique of expected utility theory as a descriptive model of decision making under risk and developed an alternative model, known as prospect theory. Expected utility theory is unable to explain why people are often simultaneously attracted to both insurance and gambling. The paper found empirically that people under-weigh outcomes that are merely probable in comparison with outcomes that are obtained with certainty; also that people generally discard components that are shared by all prospects under consideration. Under the prospect theory, individual is risk-averse in relation to a known gain but risk-seeking in an effort to avoid a certain loss. Actual behaviour in a given situation depends on the sequence of events prior to that situation. For example, if an individual wins immediately prior to the time of the decision he/she is less likely to take a further gamble. However, if a loss has been incurred recently, then the individual is more likely to take a gamble in the hope of recouping such loss.

Tversky and Kahneman (1981) introduced framing - that people often change their mind when the same issue is presented to them in different ways. They proved that the psychological principles that govern the perception of decision problems and the evaluation of probabilities and outcomes produce predictable shifts of preference when the same problem is framed in different ways. They show that many people vary their response to a question depending on how the question is asked or 'framed'. If a number of different options are presented, issues such as numbering, the order in which they appear and the degree of difference between them will affect the choice made.

Bondt and Thaler (1985) effectively started what is today known as behavioural finance. They discovered that people systematically overreacting to unexpected and dramatic news events results in substantial weak-form inefficiencies in the stock market. This was both surprising and profound. In an attempt to find out why people decide to hold on to their views when there are obvious reasons to change, Samuelson and Zeckhauser (1988) performed a series of decision-making experiments and find evidence of status quo bias. This means that people would prefer to maintain their current position rather than move to a new position. In other words, they need to have a strong positive incentive to be persuaded to change a previous decision.

Poterba and Summers (1988) investigated transitory components in stock prices and found positive autocorrelation in returns over short horizons and negative autocorrelation over longer horizons, although random-walk price behaviour could not be rejected at conventional statistical levels. Tversky and Kahneman (1992) developed a new version of prospect theory, which they called cumulative prospect theory. The theory employs cumulative rather than separable decision weights, applied to uncertain as well as to risky prospects with any number of outcomes that allows different weighting functions for gains and for losses. The theory which they confirmed by experiment—predicts a distinctive fourfold pattern of risk attitudes: risk aversion for gains and risk seeking for losses of high probability; risk seeking for gains and risk aversion for losses of low probability.

Lakonishok, Shleifer and Vishny (1994) propose value strategy that is, with understanding of investment life cycle, buy stocks that have low prices relative to earnings, dividends, book assets, or other measures of fundamental value and this will yield higher returns because these strategies exploit the sub-optimal behaviour of the typical investor. Bikhchandani,

Hirshleifer and Welch (1998) argue that the theory of observational learning, and particularly of informational cascades, can help explain the phenomena of stock market crashes. Motivated by a variety of psychological evidence, Barberis, Shleifer and Vishny (1998) present a model of investor sentiment that displays under-reaction of stock prices to news such as earnings announcements and over-reaction of stock prices to a series of good or bad news.

Fama (1998) defends the efficient market hypothesis, and claims that apparent overreaction of stock prices to information is about as common as under-reaction. His argument is unconvincing, because under- and overreactions appear to occur under different circumstances and/or at different time intervals. He concluded that the way people react to stock prices depends on what they are going through at the moment. In support of Fama's hypothesis, Daniel, Hirshleifer and Subrahmanyam (1998) propose a theory of security markets based on investor overconfidence explaining overconfidence to mean overrating one skill in a range of activities about the precision of private information and biased self-attribution which causes changes in investors' confidence as a function of their investment outcomes which leads to market under- and overreactions.

Odean (1998) tested and found evidence for the disposition effect, the tendency of investors to sell winning investments too soon and hold losing investments for too long. He demonstrated further that overall the trading volume in equity markets is excessive, and one possible explanation is overconfidence. He also found evidence of the disposition effect which leads to profitable stocks being sold too soon and losing stocks being held for too long.

Psychological research has established that men are more prone to overconfidence than women (especially in male-dominated areas such as finance), while theoretical models predict that overconfident investors trade excessively. Barber and Odean (2001) found that men trade 45 percent more than women and thereby reducing their returns and conclude that this is due to overconfidence. Nofsinger and Sias (1999) found institutional investors having positive-feedback trade more than individual investors and institutional herding impacts prices more than do individual investors. This could be because the institutional investors trade in high volumes more than individual investors.

Hong, Lim and Stein (2000) propose that firm-specific information, especially negative information, diffuses gradually across the investing public, and this is responsible for momentum in stock returns. Grinblatt and Keloharju (2001) identify the determinants of buying and selling activity and find evidence that past returns, reference price effects, tax loss selling and the fact that investors are reluctant to realize losses are all determinants of trading.

Huckle (2007) describe behavioural finance as that aspect of finance that uses scientific models to explain how people make financial decisions in the real world, rather than in theory. Behavioural Finance shows how our human psychology influences our financial decisions and it identifies the consistent, predictable mistakes humans make when investing.

Shefrin (2002) identified three main themes in behavioural finance explained as follows:

    a.   Heuristics – People often make decisions based on approximate rules of thumb, not strictly rational analyses.

    b.   Framing – The way a problem or decision is presented to the decision maker will affect his reaction.

    c.   Market inefficiencies – There are explanations for observed market outcomes that are contrary to rational expectations and market efficiency. These include mispricing, non-rational decision making, and return anomalies.

Mercer Consulting (2006) identified the following behavioural finance 'biases' affecting the actions of market participants on a daily basis.

    a.   Overconfidence – People continually overrate their own skills in a range of activities. This trait has been shown to exist in business and finance, with decision makers overconfident of their abilities.

    b.   Loss aversion – People appear to realize gains too quickly in the fear that their unrealized profit will disappear. In addition, they have trouble cutting their losses and tend to hold onto loss-making stocks too long in the hope of recovering their shortfalls.

    c.   Confirmation bias – As an extension of overconfidence, people tend to see positive outcomes as confirmation that an earlier decision was soundly biased. When a favourable outcome occurs, they are less likely to reassess the underlying reasons for that outcome and the probability that gains will be repeated.

    d.   Framing – Many people vary their responses to questions depending on how such question is presented or framed.

    e.   Anchoring – People naturally tend to focus on specific values as bases for which to compare or estimate future possible outcomes.

    f. Status quo bias – People would prefer to maintain their current positions rather than move to new positions.

g. Myopic loss-aversion – People are more influenced by recent short-term fluctuations in the value of their investments than by the long-term implications.

It is on these behavioural biases as identified by Mercer Consulting that this study is based.

3. Research Methodology

This study was designed to combine primary survey-based data with information extracted from secondary sources on stock market performance over the last twenty years. The population of the study consists of the entire security market investors in the country. However, the study was restricted to Lagos, as it has the largest concentration of investors in the country. Besides, Lagos is the commercial nerve centre of the country with a vibrant stock exchange that opens for trading daily. Simple random sampling technique was employed to select security market investors used in the study.   Applying the Taro Yamane sample size determination as reviewed by Glenn (2009), 300 was obtained to constitute the sample size. The 300 security market investors were randomly selected for the study to ensure unbiased sampling. Primary data was collected through administration of questionnaire. The questionnaire is made up of twenty items on the seven behavioural biases tendencies as identified by Mercer Consulting in 2006. The criterion for inclusion in the study includes the trading activities of the investor, as well as the pattern of decision making by the investors. To ensure the validity of the questionnaire, experts in the field of psychology were consulted to review the questionnaire on items with relation to comprehensibility, logicality and suitability. To ensure the reliability of the instrument used, the split-half method was used. To use the split-halves method, the samples were randomly divided into two halves and alternate form of reliability measure was estimated for half of the group. Results from the two halves are then compared. The alpha (α) reliability coefficients for the first and second halves of questionnaire are 0.7905 and 0.7890 respectively. This indicates that the research instruments are quite reliable. A pilot test which took the form of test re-test method was conducted prior to the actual study. Data collected from the questionnaire were analysed using one sample *t-test* and Pearson correlation coefficient techniques.

4. Analysis of Results and Discussions

4.1 Profile of Respondents

The table below provides information on socio-economic profile of the respondents. Table 1 shows that 131 (63%) of the respondents were male while 78 (37%) were females. This confirms the fact that most investors in the security market are men. Finance and investing is often seen as male dominated field, although women also invest in the security market, but most of the activities in the security market are carried out by men. With respect to age distribution of respondents, the table also shows that 53 (25%) of the respondents are within the age group 18 – 24 years. Eighty- seven (42%) are within the age group of 25-34 years, 48 (23%) are within the age group of 35 - 50 years of age, 21 (10%) are within the age group of 51 years and above. This implies that most of the respondents are within the economic active age group, of 25 – 50 years which represents 64% of the total respondents.

The result on educational qualification of the investors reveals that 31 (15%) of the respondents have secondary school education, 32 (15%) possess ordinary national diploma (OND), 92 (44%) are university graduates, 29 (14%) have masters degree in various fields, 11 (5%) have doctorate degrees. 14 (7%) are categorised as others. most of these have other types of educational qualifications such as professional qualifications in accounting stock broking and management. The result obtained is expected, the educational qualification of the respondents is very important in determining the respondents interest in the security market and management of security. From the survey, the result reveals that that 81 (39%) are single, 86 (41%) are married, 32 (15%) are either divorced or separated, 10 (5%) are widowed. The marital status of the respondents is important to know their level of commitment to security management. In regards to the religion practice by the respondents, the table shows that 116 (55%) are Christians, 85 (41%) are Muslims, while 8 (4%) filled other forms of religion. Lagos state, where the research took place is not dominated by any religion. There are as many Christians as there are Muslims in Lagos State. On occupation of the respondents, the table reveals that there are 37 (18%) civil servants, 40 (19%) professionals in the fields accounting, banking, finance, engineering, medicine and stock brokering. 66 (32%) are categorised as other investors. Included in this group are students, lecturers, administrators, etc. The implication of this is that the sample cuts across diversified groups involved in investment in the security market.

4.2 Descriptive Statistics of Some Variables

Table 2 below displays the mean, standard deviation and standard error for the seven variables of Overconfidence, Loss aversion, Confirmation bias, Framing, Anchoring, Status quo bias and Myopic loss aversion. All the variables show the level of perception of the respondents and their attitude on each of the variables which indicates whether they are biased or not. Statistic values were used to form opinion based on measurement of scale.

Survey respondents indicated their perceptions using the scale, of 5 for strongly agree to 1 for strongly disagree. To examine the statement, "I trade excessively in the security market because I am sure of what step to take at all times to increase the worth of my investment": a variable to test if the respondent overrates own skill (over confidence).   The hypothesis is developed and the level of significance for rejecting/accepting the hypothesis is agreed. The null hypothesis is: I do not trade excessively in the security market to be less than (2.5) the mean rating of own skill as rated by the investor. Therefore, the alternative hypothesis is, "I trade excessively because I am sure what step to take to increase the worth of my investments". The test of the variable returns a mean difference of 2.06 as seen in Tables 2 and 3.   Table 3 shows that the result is in favour of the acceptance of the null hypothesis, and it is highly significant. This means that the respondents do not overrate their own skills and therefore not over-confident of their abilities at managing their investments. From this study, it can be concluded that investors in the security market do not overrate their skills. Therefore, this bias (over confidence) is not rampant in the Nigeria security market.

With respect to loss-aversion, the test of the statement ''the fear of losing the amount invested sometimes overwhelms me, therefore I sell my security before maturity'' was examined. The null hypothesis is taken as the fear of losing the amount invested does not overwhelm me. The alternative hypothesis is the fear of losing the amount invested sometimes overwhelms me. From the above table, the null hypothesis is accepted because the mean level is 2.28 and it is statistically significant. However, the mean level of confirmation bias shows a mean difference of 2.89, which implies that investors do not go back to reassess why a particular investment yields positive returns but are sure that future returns will still be positive. This means that the investors refuse to reassess future investments in anticipation that gain will be repeated. The t-test statistics for confirmation bias is 2.89 and the significance level is 0.00. Thus, the null hypothesis is rejected and the alternative hypothesis accepted.

Table 2 shows the mean and standard deviation for framing, the mean value is 2.2. The t-test statistics for the statement, "I sometimes change my mind on an investment just because someone talks to me about it in a different way and not because of the facts I have on the investment". The null hypothesis is accepted and the alternative hypothesis is rejected. This implies that investors in the Nigerian security market do not just change their mind on a particular security just because pressures of persuasion is exerted on them, but rather rely on facts before taking decision on an investment. The result is significant at 0.00

With regard to the variable, anchoring, we examine the statement ''I rely on the high rate of return achieved in the market before as the benchmark for estimating future return on investment?''. We developed the statistical test to check the variable anchoring in the Nigeria security market, with the null hypothesis to be 'I do not rely on the high rates of return achieved in the market only to estimate the future outcome of my investment.' The alternative hypothesis is: high rate of return achieved on the market in the past, is the benchmark I used in estimating return on my future investment. From the above table we accept the null hypothesis because the mean level of anchoring is 2.02 which is lower than 2.5 and it is statistically significant. We accept the null hypothesis, which implies that investors in the Nigeria security market do not rely on high rate of return achieved in the market only to judge the future outcome of an investment in the Nigeria security market.

On status-quo bias, we examine the statement, "I prefer to maintain my current level of investment in the market rather than aim high". The t-test statistics show a mean difference of 1.81 which impels us to accept null hypothesis and reject the alternative hypothesis. This implies that the investors in the Nigeria security market do not prefer to maintain their current level of investment in the market but rather aim high notwithstanding the current market situation.   Lastly, we test for myopic loss aversion in the market. We examine the statement "recent collapse of the market is enough reason never to invest in the security market again. Table 3, shows the mean and standard deviation for myopic loss averse; the mean value is 2.12, lower than 2.5 the average scale of satisfaction. The t-test statistics for the statement "recent collapse of the market is enough reason for me never to invest in the security market again" is 2.12 and the significance level 0.000. This means that the null hypothesis is accepted and the alternative hypothesis is rejected.   We can conclude our decision from the analysis that recent collapse of the market does not deter many investors from investing in the security market. Behavioural biases are not so dominant in the Nigerian security market. This can be summarized to mean that the recent collapse of the market is not due to behavioural biases but a systematic risk which could not be diversified away.

4.3 Behavioural Biases and Stock Market Performance

This section of the paper examines the relationships between the various investors' behavioural biases and market capitalization, the variable used to measure stock market performance. The direction and the significant levels of the relationships that exist between each of the behavioral biases identified in the literature and market capitalization, using the Pearson Product moment coefficient correlation test are reported. The result obtained, shown in Table 4, below indicates that there are 209 cases which implies that there are no missing cases. For the first variable tested is

overconfidence. The table shows a correlation coefficient of -.244, this implies that the more the investors display a high level of overconfidence the lower the market performs. A low negative correlation between overconfidence and market capitalization, suggest a weak relationship. The coefficient of determination which is the square of the r shows 5.95%, that is, the variable overconfidence drops the market by 5.95% in Nigeria. This is significant at 5% significant level. Therefore, our null hypothesis which is there is no significant relationship between overconfidence and market capitalization in Nigeria is rejected, while we accept our alternative hypothesis, that there is a significant relationship between overconfidence and stock market performance in Nigeria. We conclude that overconfidence has a negative impact on stock market performance in Nigeria. Preliminary analysis was performed to ensure no violation of the assumption of normality, linearity and *homoscedasticity*. The result shows $r = -.24$, $n = 209$, $p < .038$, with low level of overconfidence associated with negative low level of market capitalization.

The table also shows the result of the variable, loss aversion and market capitalization. The table shows a correlation coefficient of r -.130, this implies that the more the investors sell off their investment before maturity due to the fear of losing the initial amount invested, the lower the market perform, a low negative correlation between loss aversion and market capitalization, suggest a weak relationship between the two variables. The coefficient of determination r shows 1.69%: the variable loss averse drops the market by 1.69%. This is also significant at 5%. Therefore, the null hypothesis which is there is no significant relationship between loss aversion and market capitalization in Nigeria is rejected, while we accept the alternative hypothesis, that there is a significant relationship between loss aversion and stock market performance in Nigeria, the result shows a weak negative relationship. It is therefore concluded that loss aversion has a negative impact on stock market performance in Nigeria. The result shows that, $r = -.130$, $n = 209$, $p < .023$.

With respect to the variable, confirmation bias, the result obtained shows a positive relationship between confirmation bias and market capitalization with a correlation coefficient of .018, this implies that the more the investors rely on the past gain only to estimate future investment outcome, the more the market grows. However, the relationship is weak and not significant. Hence, the result obtained for this variable cannot the relied on as inferential for the Nigeria security market, though the coefficient of determination, r is 64%. In this case we accept our null hypothesis, which is, there is no significant relationship between confirmation bias and market capitalization in Nigeria and reject the alternative hypothesis. It is therefore concluded that confirmation bias has no impact on stock market performance in Nigeria. The r obtained is .018, $n = 209$, $p < .800$.

The next variable, framing has a correlation coefficient r as -.386. This implies that the more the investors subjectively change their decision on an investment as a result of persuasion and not based on facts, the market performance drops. A low negative correlation between framing and market capitalization suggest a weak relationship between the two variables. The coefficient of determination r shows 14.89% which is significant at 1%. Therefore, the null hypothesis, which is there is no significant relationship between framing and market capitalisation is rejected, while the alternative hypothesis, that there is a significant relationship between framing and stock market performance. The result shows a weak negative relationship. The r obtained is -.386, $n = 209$, $p < .001$.

With respect to the variable, anchoring, the result obtained shows there is a positive relationship. Table 4 shows r .062. This implies that the more the investor focus on a specific value (either negative or positive) as a basis on which to compare or estimate the future possible outcome of an investment, the more the market grows but the relationship is weak and not significant. Hence, the result obtained for this variable cannot be relied upon to make inference for the Nigeria security market. The coefficient of determination r is 0.3%. The null hypothesis states that there is no significant relationship between anchoring and market capitalization in Nigeria is accepted and the alternative hypothesis is rejected. This implies that anchoring has no impact on stock market performance in Nigeria. The result shows that $r = .062$, $n = 209$, $p < .375$.

Status-quo bias by the table shows a correlation coefficient of - r.146. This implies that the more the investors maintain their current level of investment and do not aim higher for fear of losing their investment, the more the market performance drop. A low negative correlation between status-quo bias and market capitalization means a weak relationship between the two variables. The coefficient of determination r is 2.13% which means that the variable, drop the market by 2%. The result is significant at 5%. The null hypothesis which says there is no significant relationship between status-quo bias and market capitalization in Nigeria is rejected, and our alternative hypothesis, which says there is a significant relationship between status-quo bias and stock market performance is accepted. Status-quo bias has a negative impact on stock market performance in Nigeria. The $r = -.146$, $n = 209$, $p < .037$.

Lastly, the result of the variable, myopic loss aversion shows a correlation coefficient of r -.178. This is interpreted to mean that the more investors are influenced by recent short-term fluctuations in the value of their investments than by the long-term implications, the more the market performs poorly. The coefficient of determination r is 3%. This is also

significant at 1%. Therefore, the null hypothesis is rejected, while the alternative hypothesis, that there is a significant relationship between myopic loss aversion and stock market performance is accepted in Nigeria. The result also shows a weak negative relationship. We therefore conclude that myopic loss aversion has a negative impact on stock market performance in Nigeria. The $r = -.178$, $n = 209$, $p < .001$, a low level of myopic loss aversion is associated with negative low level of market capitalization.

5. Summary and Conclusion

Although the field of behavioural finance has recently become rather popular an area for stock market performance, little or no empirical evidence exists to support behavioural theories in stock market performance in Nigeria. This is due to the fact that behavioural theories cannot be tested as easily as other traditional behavioural models. Proper assessment of behavioural theories requires detailed information on the trading strategies of various market participants, which are not easy to come by. This paper uses primary survey data combined with stock market performance data and offers a detailed look at the extent of behavioural biases in the Nigerian security market, as well as the consequence of such biases on stock market performance. The paper has tested certain behavioural biases as identified by behavioural finance experts on stock market performance: the trading attitude of randomly selected investors in the market was tested, using descriptive and parametric statistics. The investors were selected across discipline and age strata reflecting a cross section of the market participant.

The paper finds strong evidence that overconfident, loss averse, framing, status quo biases and myopic loss averse exists in the Nigeria security market, though not dominant in the market because the result shows a low negative relationship, the resultant effect is that the market depreciates in value as investors exhibit behavioural biases. The result obtained is significant for all the behavioural biases identified except for confirmation biases and anchoring. This suggests that behavioural biases are exhibited by individuals from all sphere of life in their everyday trading activities in the market but most Nigerians do not trade directly on the market, they trade through their stockbrokers who are probably well trained to handle such behavioural biases. The paper concludes that, being aware of behavioural biases is the crucial first step in ensuring that the decision making process is not adversely affected by them. Rational decisions are more likely when there is sufficient information available to decision-makers and when that information is presented and analysed to recognise common pitfalls.

Investors should be aware of the potential impacts behavioural biases can have in their investment decision making process at all levels, either as individual or institutional investors trading on the floor of the stock market, and also investment managers, consultants and trustees. Market participants should enter the decision making process with the objective of using the information, education, and understanding at their disposal to derive a solution being dispassionate in decision making.

6. Recommendations

1) Individual investors in the market should allow professionals to manage their portfolios; this will reduce personal biases in the management of the portfolio.

2) Professionals in consulting and investment management should be exposed to the field of behavioural finance through workshops and seminars such that when decisions are been taken, behavioural finance tendencies will reduce.

3) Capital market analysts and information providers in the Nigerian security market should think of a proper way of releasing information about the market to the public as this have a way of affecting the decision taken by the investor about the market.

4) Institutional investors should impose limits on concentration on any one stock or sector that can be held by the organization.

5) Collective views on an investment should be applied by fund managers and investors as this has tendencies of reducing individual personal biases on an investment. Formation of committees could be employed, though the use of committees has its own implications.

References

Barber, B. M., & Odean, T. (2001). Boys will be boys: gender, overconfidence, and common stock investment. *Quarterly Journal of Economics*, 116(1), 261–292. http://dx.doi.org/10.1162/003355301556400

Bikhchandani, S., Hirshleifer, D., & Welch, I. (1998). Learning from the behaviour of others: conformity, fads, and informational cascades. *The Journal of Economic Perspectives*, 12(3), 151–170. http://dx.doi.org/10.1257/jep.12.3.151

Bondt,W., F. M. De, & Thaler, R.H. (1987). Further evidence on investor overreaction and stock market seasonality. *The Journal of Finance*, 42(3), 557–581. http://dx.doi.org/10.2307/2328371

Daniel, K.., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under- and overreactions. *The Journal of Finance*, 53(6), 1839–1885. http://dx.doi.org/10.1111/0022-1082.00077

Egwuatu, P. (2012). Capital market operators seek bailout as illiquidity trails market in 2011. [Online] Available: http://www.vanguardngr.com/2012/01/ Accessed 10/3/2012.

Fama, E. F. (1998). Market efficiency, long-term returns, and behavioural finance. *Journal of Financial Economics*, 49(3), 283–306. http://dx.doi.org/10.1016/S0304-405X(98)00026-9

Grinblatt, M., & Keloharju, M. (2001). What makes investors trade? *The Journal of Finance*, 56(2), 589–616. http://dx.doi.org/10.1111/0022-1082.00338

Hong, H., Lim, T. & Stein, J. C. (2000). Bad news travels slowly: size, analyst coverage, and the profitability of momentum strategies. *The Journal of Finance*, 55(1), 265–295. http://dx.doi.org/10.1111/0022-1082.00206

Huckle, P. (2004). The investor is the risk: the risk is not in the market but in the investors. Highbeam Business, [Online] Available: http://highbeam.com/435599/article

Huckle, P, (2005). Investor danger: psychology of loss is worse than the pain. South China morning post, [Online] Available: www.docstoc.com

Huckle, P. (2007). Behavioural finance and the psychology of investing. Seminar paper presented at Harvard Business School Association alumni dinner held on the 24th April 2007 at Hong Kong Club, Central. [Online] Available: www.philippahuckle.com   Accessed 20/8/2010.

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263–292. http://dx.doi.org/10.2307/1914185

Lakonishok, J., Shleifer, A., & Vishny, R.W. (1994). Contrarian investment, extrapolation, and risk. *The Journal of Finance*, 49(5), 1541–1578. http://dx.doi.org/10.2307/2329262

Mercer Consulting (2010). Do you act rationally when making investment decision? [Online] Available: http://www.secure.superfacts.com/public/trss/article.tpz?

Nofsinger, J. R., & Sias, R.W. (1999). Herding and feedback trading by institutional and individual investors. *The Journal of Finance*, 54(6), 2263–2295. http://dx.doi.org/10.1111/0022-1082.00188

Olsen, R. A. (1998). Behavioural finance and its implication for stock-price volatility, *Financial Analyst Journal,* 54(2), 10 − 18 Accessed 18/8/2010

Odean, T. (1998). Are investors reluctant to realize their losses? *The Journal of Finance*, 53(5), 1775–1798. http://dx.doi.org/10.1111/0022-1082.00072

Poterba, J. M. & Summers, L. H. (1988). Mean reversion in stock prices: evidence and implications. *Journal of Financial Economics*, 22(1), 27–59. http://dx.doi.org/10.1016/0304-405X(88)90021-9

Pratt, J. W. (1964). Risk aversion in the small and in the large. *Econometrica*, 32(1/2), 122–136. http://dx.doi.org/10.2307/1913738

Samuelson, W. & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1(1), 7–59. http://dx.doi.org/10.1007/BF00055564

Selden, G. C. (1912). Psychology of the stock market: human impulses lead to speculative disasters. New York: Ticker Publishing Company.

Shefrin, H. (2000). Beyond greed and fear: understanding behavioural finance and the psychology of investing. Financial Management Association Survey and Synthesis Series. Boston, Massachusetts: Harvard Business School Press.

Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behaviour and Organization*, 1(1), 39–60. http://dx.doi.org/10.1016/0167-2681(80)90051-7

Tversky, A. & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5(2), 207–232. http://dx.doi.org/10.1016/0010-0285(73)90033-9

Tversky, A., &. Kahneman, D. (1974). Judgment under uncertainty: heuristics and biases. *Science*, 185(4157), 1124–1131. http://dx.doi.org/10.1126/science.185.4157.1124

PMid:17835457

Tversky, A. & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453–458. http://dx.doi.org/10.1126/science.7455683

PMid:7455683

Tversky, A. & Kahneman, D. (1986). Rational choice and the framing of decisions. *The Journal of Business*, 59(4), S251–S278. http://dx.doi.org/10.1086/296365

Tversky, A. & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics*, 106(4), 1039–1061. http://dx.doi.org/10.2307/2937956

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, 5(4), 297–323. http://dx.doi.org/10.1007/BF00122574

Yartey, C.A. (2008). The determinants of stock market development in emerging economies: is south africa different? IMF Working paper, African Department, [Online] Available: http:/www.imf.org/external/pubs Accessed 6/3/2012.

Table 1. SOCIO - ECONOMIC PROFILE OF RESPONDENTS

Variables	Measuring Group	Frequency	Percentage (%)
Gender	Male	131	63
	Female	78	37
	Total	**209**	**100**
Age (Years)	18 – 24	53	25
	25 – 34	87	42
	35 – 50	48	23
	50 and above	21	10
	Total	**209**	**100**
Educational Qualification	Secondary	31	15
	OND	32	15
	B.Sc	92	44
	M.Sc	29	14
	PhD	11	5
	Others	14	7
	Total	**209**	**100**
Marital Status	Single	81	39
	Married	86	41
	Divorced/Separated	32	15
	Widow	10	5
	Total	**209**	**100**
Religion	Christianity	116	55
	Islam	85	41
	Others	8	4
	Total	**209**	**100**
Occupation	Civil Servant	37	18
	Professionals	40	19
	Stock brokers	66	32
	Other investors	60	29
	Student	6	3
	Total	**209**	**100**

  Source: Researcher's Analysis of Field Survey 2011

Table 2.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Overconfident	209	2.0680	.69510	.04843
Loss averse	209	2.2808	.85884	.06028
Confirmation bias	209	2.5971	.93067	.06484
Framing	209	2.2136	.77962	.05432
Anchoring	209	2.0276	.84644	.05897
Status quo bias	209	1.8128	.88689	.06225
Myopic loss	209	2.1268	.80044	.05590

  Source: Researcher's Analysis of Field Survey 2011

Table 3.

One-Sample Test

				Test Value = 0		
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Overconfident	42.700	209	.000	2.06796	1.9725	2.1634
Loss averse	37.838	209	.000	2.28079	2.1619	2.3996
Confirmation bias	40.052	209	.000	2.89709	2.4692	2.7249
Framing	40.752	209	.000	2.21359	2.1065	2.3207
Anchoring	29.633	209	.000	2.02757	1.6313	1.8638
Status-qou bias	29.123	209	.000	1.81281	1.6901	1.9355
Myopic loss	38.044	209	.000	2.12683	2.0166	2.2371

Source: Researcher's Analysis of Field Survey 2011

Table 4. Behavioural Biases and Stock Market Performance in Nigeria

		Overconfidence	Market Capitalization
Over confidence	Pearson Correlation	1	-.244*
	Sig. (2 – tailed)		.038
	N	209	209
Market Capitalization	Pearson Correlation	-.244*	1
	Sig. (2 – tailed)	.038	
	N	209	209
		Loss Averse	**Market Capitalization**
Loss Averse	Pearson Correlation	1	-.130*
	Sig. (2 – tailed)		.023
	N	209	209
Market Capitalization	Pearson Correlation	-.130*	1
	Sig. (2 – tailed)	.023	209
	N	209	
		Confirmation Bias	**Market Capitalization**
Confirmation Bias	Pearson Correlation	1	.018
	Sig. (2 – tailed)		.800
	N	209	209
Market Capitalization	Pearson Correlation	.018	1
	Sig. (2 – tailed)	.800	
	N	209	209
		Framing	**Market Capitalization**
Framing	Pearson Correlation	1	-.386*
	Sig. (2 – tailed)		.001
	N	209	209
Market Capitalization	Pearson Correlation	-.386*	1
	Sig. (2 – tailed)	.001	
	N	209	209
		Anchoring	**Market Capitalization**
Anchoring	Pearson Correlation	1	.062
	Sig. (2 – tailed)		.375
	N	209	209
Market Capitalization	Pearson Correlation	.062	1
	Sig. (2 – tailed)	.375	
	N	209	209
		Status-quo Bias	**Market Capitalization**
Status-quo Bias	Pearson Correlation	1	-.146*
	Sig. (2 – tailed)		.037
	N	209	209
Market Capitalization	Pearson Correlation	-.146*	1
	Sig. (2 – tailed)	.037	
	N	209	209
		Myopic Loss	**Market Capitalization**
Myopic Loss	Pearson Correlation	1	-.178*
	Sig. (2 – tailed)		.001
	N	209	209
Market Capitalization	Pearson Correlation	-.178*	1
	Sig. (2 – tailed)	.001	
	N	209	209

*. Correlation is significant at the 0.05 level (2-tailed).   ** Correlation is Significant at the 0.01 level (2-tailed).
Source: Author's Compilation, 2012