

FACTORS AFFECTING INVESTORS' OVERCONFIDENCE

BIAS IN TANZANIA:

A CASE OF DAR-ES-SALAAM STOCK EXCHANGE

By

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**A dissertation submitted in partial fulfillment of the requirement for Award of
Degree of Masters of Science Accounting and Finance of Mzumbe University**

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend the acceptance by the Mzumbe University, a Dissertation entitled **exploring factors affecting investors' overconfidence bias in Tanzania** in partial fulfillment for the requirement of award of the degree Masters of Science Accounting and Finance of Mzumbe University.

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DECLARATION

I, Gideon Emmanuel Tumwidike, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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LIST OF ABBREVIATION AND ACRONYMS

BTA	- Better Than Average
BOT	- Bank of Tanzania
CEO	- Chief Executive Officer
CBO	- Calibration Based Overconfidence
CFO	- Chief Financial Officer
CMSA	- Capital Market and Security Authority
DSE	- Dar-es-salaam Stock of Exchange
IOC	- Illusion of control
SPSS	- Statistical Package for Social Science
USA	- United State of America

ABSTRACT

The main objective of the study is to determine factors that may explain overconfidence bias of individual investors within Tanzanian context, more specifically the research has employed: a survey methodology to determine whether investors are suffering from better than average effect, a survey methodology to determine whether investors are suffering from illusion of control and methodology to determine whether individual investors are miscalibrated

This study followed a descriptive approach using the SPSS (Statistical Package for Social Science) version 16 as the data analysis tool. The study was based on the primary data collected through the questionnaires as the method of data to collection. A sample size of 50 respondents has been used in this study. Basing on the fact that this is a case study, this study was carried out at the DSE. Data were collected from the respondents who visited brokerage firms for investments activities, individual investors who were found in different learning institutions, and in any other areas where it was possible to find individual investors.

The researcher found that, individual investors in Tanzania are suffering from overconfidence because they exhibit certain psychological biases when making the investment decisions. Better than average effect, illusion of control affect the investors' overconfidence bias in Tanzania.

Individual investors should be educated on how to trade in the stock market without being overconfident as overconfidence leads to higher trading volume and reduces returns on investment. However, if the investors have correct information and perfect knowledge on how to analyze information, trading frequently can lead to higher returns on investment. For the case of stock exchange authority, should be aware of type of investors they are dealing with, so that they should incorporate advice to investors in their handbook.

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CHAPTER ONE

THE RESEARCH BACKGROUND

1.1 Background to the Study

Overconfidence as a part of the behavioral finance has currently attracted the attention of many researchers because of its importance in the decision making of the individual investors. The psychology and behavioral science literature characterize people that behave as if they have more ability than they actually possess as being overconfident (Campbell, Goodie, and Foster, 2004; Lichtenstein et al., 1982.). Investors who attribute past success to their skills and past failure to bad luck are likely to be overconfident.

Overconfident investors believe that stocks that they are holding are performing much better than the stocks that they are not holding. (Hirshleifer, 2001) claim that overconfident investors will underestimate the risk of their investments. As a result, they trade more frequently. (Odean, 2001) show that overconfidence leads to a higher trading volume and reduces portfolio returns. The higher trading volume reduces the portfolios returns because of the effect of commission cost, the higher the trading volume, the higher the commission cost, the lower the portfolios returns. High commission costs are not the only problems caused by excessive trading. It has been observed that overconfidence leads to trading too frequently as well as to purchasing the wrong stocks, which are risky. The portfolios of overconfident investors will have higher risk for two reasons. First is the tendency to purchase higher-risk stocks. Higher-risk stocks are generally from smaller, newer companies. The second reason is a tendency to under diversify their portfolio.

Stock market efficiency implies that prices respond quickly and accurately to the relevant information (Abidin, 2008). Efficient market theory and random walk model have been at the center stage of debate in financial literatures for several decades. An efficient stock market is characterized by the random walk, the unit root, which implies that stock market returns cannot be predicted with accuracy.

In an efficient stock market, any shock to the stock prices is permanent and there is no tendency for the stock prices to return to the trend price overtime. In contrast, the mean reverting (trend stationary), any shock to the stock prices is temporary and there is a tendency for the stock prices to return to trend price overtime.

A survey of the efficient market studies by Fama (1970) provides an overwhelming evidence to support the efficient market hypothesis for the U.S. stock market. In recent years, however, numerous departures from the market efficiency in form of anomalies have attracted the attention of academicians and practitioners alike. Fama (1998) maintains that such anomalies tend to disappear in long run with reasonable change of methodology.

A random walk model asserts that, prices of the securities do not follow any trend or path and future price movements cannot be predicted by basing on the past prices movements. Evidence against the random walk hypothesis, for stock returns of developed capital markets, is reported by French (1988) and Mackinlay (1988). Malkiel (1973) found that prices have no memory, hence future prices movements cannot be predicted by basing on the past prices movements, prices move in random and only adjust when there is new information in the market, such adjustment is so quick that it is difficult to profit from it, prices do not follow any trend, so using technical analysis to predict the future prices is work in futility.

According to the literature, three forms of market efficient exist which are, weak form of market efficient, semi-strong form of market efficient and strong form of market efficient. Weak form of market efficient implies that past information are fully reflected in stock prices, so technical analysis is of no use. Semi-strong form of market efficient implies that publicly available information is fully reflected in the stock prices, so fundamental analysis is of no use. Strong form of market efficient implies that all public available information and the insiders' information are fully reflected in stock prices.

According to behavioral finance, the market structure and characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes. According to behavioral finance, investor market decision derives from the psychological principles of decision making, to explain why people buy or sell stocks. Behavioral finance focuses on how investors interpret and act upon the information to make investment decisions. In addition, behavioral finance places an emphasis upon investor behavior leading to market anomalies.

Cognitive biases are thought processes that involve erroneous inference or assumptions. An example of the cognitive bias is the "ease to recall" bias, which means that those events which are current and are vivid, are easy to recall in the memory, so people tend to overestimate the actual frequency of occurrence of such events. Biases of this sort are natural and most common. Many people exhibit biases in their thinking and one special form of this bias is overconfidence bias. Overconfidence bias is tendency of people to overestimate the accuracy of initial estimates in answering moderate to difficult questions.

The DSE was incorporated in 1996 as a company limited by guarantee without a share capital. It became operational in April, 1998. The DSE is a non-profit making body, created to facilitate the Government implementation of the reforms and in the future to encourage wider share ownership of privatized and all the companies in Tanzania. The vision of the DSE is to become the model security exchange in the region. The missions of the DSE are; to provide a responsive security exchange that mobilizes the funds and channel them to the productive sectors, to encourage the saving culture that contribute to the economic development of the country and to enhance the wider access of the resources.

DSE has currently seventeen listed companies, if compared to other financial markets, DSE is still frontier market. This is contributed heavily by the economic level of Tanzania. Tanzania still has few companies all over the country and the economic status of the majority of citizens is still very low, so even the participation of citizens to invest in the financial market is affected very much by their economic status.

Notwithstanding these facts, DSE is striving hard to make sure that the stock market keeps on expanding by fulfilling the following functions, First to provide the customers for the listed companies by enabling the companies which were initially not listed at DSE, to become the member of DSE, second to facilitate the price discovery by ensuring the prices are determined by demand and supply and not by the particular listed company. Thirdly, facilitates the privatization and wide ownership of the resources and up to this moment, DSE has facilitated the privatization of many parastatal organizations, and continues to facilitate the privatization of parastatal organizations, which are owned by the government and whose shares are traded by the government through DSE. Fourthly, it facilitates the transparency by ensuring that all listed companies are disclosing the price sensitive information, so as to enable investors to make informed decisions about which stock to invest. Fifth, it facilitates creation of the wealth through investing in listed companies.

1.2 Statement of the Problem

This study is meant to explore factors affecting investors' overconfidence bias in Tanzania. Being overconfident can be harmful in the financial market. In a large sample of private investors, Odean and Barber (2001), show that overconfidence leads to a higher trading volume and reduces portfolio returns because overconfident investors trade often and underestimate the associated risks of active stock investing (Kyle and Wang, 1997; Odean, 1998b). Thaler (1995) note that the high trading volume observed in financial markets “*is perhaps the single most embarrassing fact to the standard finance paradigm.*”. Insight knowledge about financial markets may help overconfident investors to understand that they should seek the advice of the professional analyst before they make investment decisions, by doing so they will improve returns of their portfolios.

Many studies have been conducted to determine factors affecting the investors' overconfidence bias using large and well developed capital markets in various countries including Deaves (2009) performed an asset market experiment in order to investigate whether overconfidence bias induces trading.

They investigate three manifestations of overconfidence: calibration-based overconfidence (CBO), the better-than-average effect (BTA) and illusion of control (IOC). Novelty, the measure employed for calibration-based overconfidence is task-specific in that it is designed to influence behavior. They find that calibration-based overconfidence *does* engender additional trade, though better-than-average also appears to play a role. This is true both at the level of individual and also at the level of market. There is little evidence that gender influences trading activity. Abaoub (2008) conducted a study to determine whether investors in Tunisian stock market suffer from overconfidence bias. Their findings revealed that, Tunisian investors were overconfidence in general cases and in beating the market. Additionally they found that income and age were not related to self confidence. For the case of gender, men were more overconfident than women. To the best knowledge of the researcher, no such study has been conducted in Tanzania, moreover the factors affecting the investors' overconfidence bias are not known, and therefore this study is set to bridge the knowledge gap.

1.3 Objectives of the Study

The main objective of study is to determine factors that explain overconfidence bias of individual investors within Tanzanian context. More specifically the research has employed:

- i. A survey methodology to determine whether investors are suffering from better than average effect.
- ii. A survey methodology to determine whether investors are suffering from illusion of control.
- iii. A survey methodology to determine whether investors are miscalibrated.

1.4 Research Questions

With the above research objectives in consideration, the study is designed to answer the following main research question: what are the factors that explain overconfidence bias of individual investors within Tanzanian context? From the main research question, the following are the specific research questions.

- i. Are the individual investors suffering from better than average effect?
- ii. Are the individual investors suffering from illusion of control?
- iii. Are the individual investors miscalibrated?

1.5 Significance of the Study

Contributions made by this study in addition to exploring the factors affecting investors' overconfidence bias in Tanzania are;

First, the study educates the individual investors how to make correct investment decisions, that is, without basing on certain psychological biases. Overconfidence is one of the psychological biases. Overconfidence is the tendency to place an irrationally excessive degree of confidence in one's abilities and belief (Abaoub, 2008). Overconfident investors tend to underestimate risks of their investments; as a result, they trade more frequently. Frequent trading reduces portfolio returns; this is because of the higher commission costs. Each transaction is associated with commission cost, therefore, the more the transactions, the more the commission cost. Thus, highlighting the impact of overconfidence helps the individual investors to trade without being overconfident.

Second, the study identifies the relationship between trading frequency and three manifestation of overconfidence. Trading frequency is the function of better than average effect, illusion of control and miscalibration. Investors, who think that they have abilities above the average person, are likely to trade more frequently. Moreover, investors who think that they can control the outcomes of uncontrollable events are likely to trade more frequently. Nevertheless, investors who are miscalibrated, are likely to trade more frequently.

1.6 Organizations to the Study

This dissertation is divided into six chapters. In this first chapter the researcher has introduced the research problem.

The researcher has also explained the background to the research problem, statement of the problem, the objectives of the study and main research question guiding this

study. In the background to the study, the researcher has discussed about the efficient market hypothesis, the modern finance, a short background of DSE (Dar-es-Salaam Stock of Exchange) and cognitive bias. More specifically, the researcher has explained three forms of the efficient market hypothesis, namely: the weak form of the efficient market hypothesis, the semi strong form of the efficient market hypothesis and the strong form of the efficient market hypothesis. Nevertheless, the researcher has discussed about incorporation of DSE and main functions of DSE.

The remaining chapters are arranged as follows: chapter two has included the theoretical framework, empirical part, conceptual part and the hypothesis. In the theoretical framework, the researcher has discussed three theories of overconfidence, which are, miscalibration, better than average effect and the illusion of control. The empirical part comprises of research done by other researchers about overconfidence. For the case of the conceptual framework, the researcher has identified the dependent variable, the independent variables, and formulation of the hypothesis.

Chapter three comprises of the research methodology, in which, it includes the type of study, study area, study population, units of analysis, variables and their measurement, sample size and sampling techniques, types and source of data, and methods of data collection. Chapter four explains the presentation of the findings and it includes demographic difference, chapter five explains the discussion of the findings and chapter six explains the summary, conclusions and policy implications.

CHAPTER TWO

LITERATURE REVIEW

Theoretical Framework, Empirical Part and Conceptual Framework

2.1 Introduction

The purpose of the study is to determine factors affecting investors' overconfidence bias. Overconfidence bias is part of the heuristic theory. The heuristic theory comprises of availability bias, representativeness, gambler's fallacy, anchoring and overconfidence.

Overconfidence heuristic is the tendency to overestimate the probability that one's judgment and predictions are correct (Swoyer, 2002). Overconfidence manifests itself in many forms: miscalibration, unrealistic optimism, control of illusion, confirmatory bias and better than average effect. The question of overconfidence looms large in the behavioral finance literature (Barber and Odean, 1999, 2001a, 2001b; Gervais and Odean, 2001; Odean, 1999).

2.2 Theoretical Framework

2.2.1 Representativeness

Representativeness is the degree of correspondence between a sample and a population, an instance and a category, an act as an actor or more generally, an outcome and a model. Representative heuristic has been appealed by one theorist or another to explain a wide range of phenomenon such as insensitivity to regression effect, insensitivity to sample size, the gambler's fallacy and insensitivity to base rates. The heuristic of representativeness has been used to help explain why investors often assume that recent events will continue into the near future. It has also been used to explain the prediction that individuals will under react to new information, but overreact when similar information is repeated (Thaler, 2003).

2.2.2 Availability Heuristic

Occurs when we estimate the probability or the frequency by ease with which the instances or situation can be brought to mind. Instance of large classes are recalled better and faster than the instances of less frequency classes, likely events are easier to imagine than unlikely ones and associative connections are strengthened when two events frequently co-occur (Tversky, 1982).

2.2.3 Anchoring and Adjustment

Anchoring and adjustment is another well researched bias in the psychological literature and has recently received attention in financial studies as well (Stephan, 1999; Stephan and Kiell, 2000; Statman, 2002; Tversky and Kahneman, 1982). The anchoring occurs when people make estimates from the initial value that is subjected to adjustment from where final answer is arrived. This heuristic can lead to bias because investors tend to believe too much on their well considered estimates. Anchoring it is well known that when people are asked to make quantitative assessments, their assessments are influenced by suggestions. An example of this is found in the results survey, researchers obtain. These researchers often ask people about their incomes using questionnaires in which respondents are instructed to indicate which of a number of income brackets, shown as choices on the questionnaire, their incomes fall into. It has been shown that the answers people give are influenced by the brackets shown on the questionnaire. The tendency to be influenced by such suggestions is called "anchoring" by psychologists.

2.2.4 Gamblers' Fallacy

Many people fall under the spell of gambler's fallacy, expecting outcomes in random sequences to exhibit systematic reversals. When observing flips of a fair coin, for example, people believe that a streak of heads makes it more likely that the next flip will be a tail. The gambler's fallacy is commonly interpreted as deriving from a fallacious belief in the law of small numbers or local representativeness, namely that a small sample should resemble closely the underlying population. For example, people seem to believe that heads and tails should balance even in small samples. On the other hand, people also sometimes predict that random sequences will exhibit

excessive persistence rather than reversals. While several studies have shown the belief to be fallacious, basketball fans believe that players have hot hands, being more likely than average to make the next shot when currently on a hot streak.

2.2.5 Overconfidence

Overconfidence is the tendency to place an irrationally excessive degree of confidence in one's abilities and belief (Abaoub, 2008). Overconfidence as a part of behavioral finance has currently attracted attention of many researchers because of its importance in decision making of individual investors. The psychology and behavioral science literature characterize people who behave as if they have more ability than they actually possess, as being overconfident (Campbell, Goodie, and Foster, 2004; Lichtenstein et al., 1982; Yates, 1990). Overconfidence is considered to be the most robust finding in the psychology of judgment (Thaler, 1995).

The overconfident model of Barber and Odean (2000) and Odean (1998a) argues that investors are overconfident and thereby underestimate public information, trade too much, and hold more risky stocks. Similarly, Xiao Lu Wang (2006) presents that overconfidence causes investors to trade aggressively and to experience higher price volatility because they overestimate the precision of their information. Daniel, Hirshleifer and Subrahmanyam (2001) and Gervais and Odean (2001) further suggest that the degree of overconfidence will vary with time. For instance, Gervais and Odean (2001) posit that, following market gains, investors mistakenly attribute their gains in wealth to their ability to pick stocks, which makes them feel more confident about the precision of their ability. As a result, overconfidence should be greater during bull markets. Odean (1998a) and Gervais and Odean (2001) suggest that change in trading volume is primary testable hypothesis for overconfidence theory.

DeBondt and Thaler (1985) document that overconfidence is one of the most prominent explanations for the excess trading volume since overconfident investors tend to trade too much. Past gains increase investors' overconfidence and they then will trade more aggressively in subsequent periods.

That is, there exists a positive causal relation between lagged stock returns and current trading volume. In addition to this, as investors become overconfident, they underestimate risk and, as such, trade in riskier securities. Investors who attribute past success to their skills and past failure to bad luck are likely to be overconfident.

2.6.1 Miscalibration

Miscalibration is unwarranted belief in the correctness of one's answers (Fischhoff, 1977). Miscalibration is a cognitive bias that rests on the fact that people tend to overestimate precision of their knowledge. People tend to overestimate the precision of their knowledge. As a result they are miscalibrated in estimating and forecasting by providing too narrow confidence interval (Lichtenstein, Fischhoff and Phillips, 1982). Current psychological research debates whether miscalibration is human trait or a statistical illusion (Gigerenzer, 1991). In the experiments on calibration, participants answer a series of general knowledge questions and stipulate their confidence of being correct for each answer. Klayman (2003) point out type of question matters and tasks which involve estimations of confidence interval typically lead to measures of miscalibration.

2.7.2 Better than Average Effect

Better than average effect, occurs when people perceive that they have abilities above the average. Taylor and Brown (1988) document in their survey that people have unrealistically positive views of the self, that is, they think about themselves as possessing above the average abilities (e.g. with regard to skills or positive personal traits) compared to other people. Alicke et al. (1995) study the better-than-average effect as one of self-serving biases allowing people to maintain a relatively high level of self-esteem. One of the most cited works by Svenson (1981) states that 82 percent of a group of students rank themselves among the 30 percent of drivers with the highest driving safety.

2.2.8 Illusion of Control

Subjects likely to suffer to the illusion of control, tend to underestimate the roles of chance of human affairs and misperceive the game of chance as the game of skills (Riepe, 1998).

Illusion of control is perceived as the exaggerated belief of control over external events (Langer, 1975). Subjects likely to suffer to the illusion of control perceive that they have abilities to control the outcome of uncontrollable events. The key attributes that foster the illusion of control are; choice which means that choice induces the control, active involvement which means that when investor participates in an activity, such an individual feels that he or she is in control of such an activity, familiarity of the task which means task that an individual is familiar with, makes the individual to feel in control of such activity, nevertheless the more the information, the more individual is feeling in control of task and outcome sequence which means that the earlier the positive outcome, the more illusion of control and also the earlier the negative outcomes, the less the illusion of control.

2.3 Empirical Literature Review

2.3.1 Introduction

The empirical studies present researches and studies by other authors on the overconfidence of individual investors in different stock markets. Overconfidence of individual investors has currently attracted the attention of many researchers due to its importance in the decision making of individual investors. Hereby is the presentation of studies conducted by some of the researchers.

2.3.2 The related researches on overconfidence

Overconfidence is a complex phenomenon with various facets. Glaser and Weber (2003) differentiate between three manifestations of overconfidence, miscalibration, better than average effect, illusion of control and over optimism. People tend to overestimate the precision of their knowledge.

As a result they are miscalibrated in estimating and forecasting by providing too narrow confidence interval (Lichtenstein, Fischhoff and Phillips, 1982). It has been observed that task difficult and blurred feedback leads to more overconfidence (Lichtenstein, Fischhoff and Phillips, 1982).

Odean (1998) argues that forecasting and estimating the market returns are not easy tasks and the available feedback is blurred, as the market prices of assets are affected by noise. So the chance to observe the overconfident behavior in the domain of financial market is high.

Current psychological research debates whether miscalibration is human trait or a statistical illusion (Gigerenzer, 1991). Klayman (2003) point out type of question matters and tasks which involve estimations of confidence interval typically lead to measures of miscalibration. Schoemaker (1992), report that many managers tend to formulate too narrow 90% confidence interval in a questionnaire about meta-knowledge. Participants' subjective confidence intervals in their sample contain correct solutions only in roughly half of the cases instead of 90% as required.

Deaves et al (2005) present similar evidence in the domain of financial markets as confidence intervals of the participants in their sample of professionals captured significantly less realized returns for economic forecast than required. They also note that the individual degree of confidence is stable across different tasks. This result indicates that people are in general overconfident not just within a particular asset classes or particular tasks. Campbell (2003) analyze economic forecasts on the equity risk premium from CFOs (Chief Financial Officers) in the USA (United State of America) over different time horizons and conclude that, the size of the average confidence interval is very narrowing compared to the volatility of equity markets. There is no doubt that individual characteristics affect overconfidence but, the evidence about the relationship between those individual characteristics of a person and its degree of overconfidence is ambiguous.

In contrast, Glaser (2003) found that professionals are more overconfident than a sample of students about their trend recognition abilities although they do not provide more accurate estimations.

Graham (2006) and Glaser (2005) present evidence that the degree of overconfidence in the domain of financial markets is different among individuals.

In a model from Odean and Gervais (2001) more experience is related to a smaller degree of overconfidence. Inexperienced but successful investors are most prone to overconfidence as they self-attribute their success solely to their abilities. Mann (2001) confirms this theory empirically as they find no indication of miscalibration among highly experienced traders on the Chicago Mercantile Exchange (CME). Tversky (1991), show that people prefer to bet on their own judgment if they feel comfortable in a domain than on chance-matched lottery and vice-versa.

Deaves (2009) perform an asset market experiment in order to investigate whether overconfidence bias induces trading. They investigate three manifestations of overconfidence: calibration-based overconfidence, the better than average effect and illusion of control. Novelty, the measure employed for calibration-based overconfidence is task specific in that it is designed to influence behavior. They find that calibration-based overconfidence *does* engender additional trade, though the better than average also appears to play a role. This is true both at the level of the individual and also at the level of the market. There is little evidence that gender influences trading activity.

Keloharju (2009) analyze the role that two psychological attributes sensation seeking and overconfidence play in the tendency of investors to trade stocks. Equity trading data from Finland are combined with data from investor tax filings, driving records, and mandatory psychological profiles. They use these data, obtained from a large population, to construct measures of overconfidence and sensation seeking tendencies. Controlling for a host of variables, including wealth, income, age, number of stocks owned, marital status, and occupation, they find that overconfident investors and those investors most prone to sensation seeking trade more frequently. People's 90% subjective confidence intervals typically contain the true value about 50% of the time, indicating extreme overconfidence.

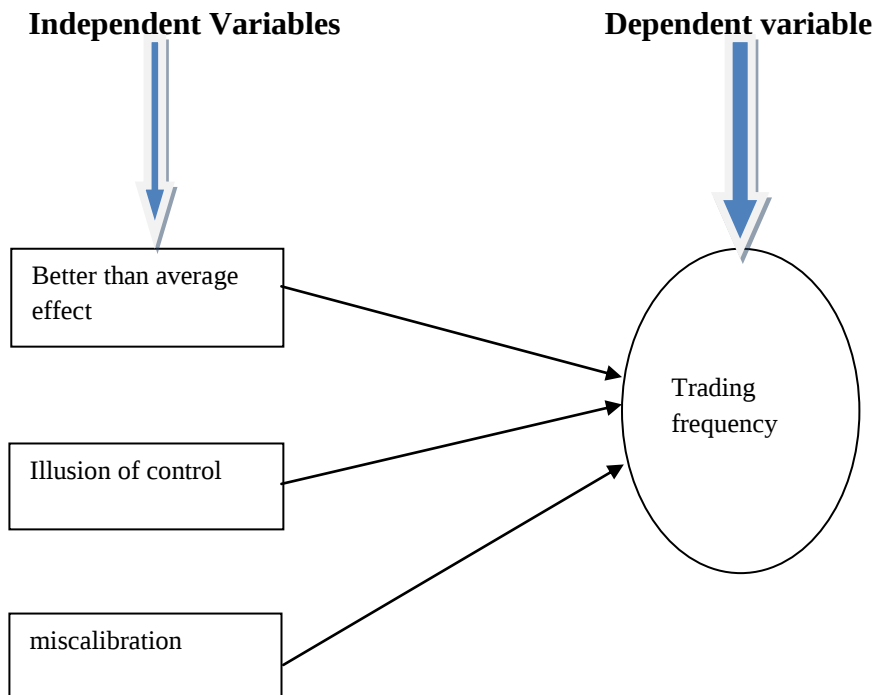
Lukas Menkhoff (2006), note that empirical research has shown that inexperienced fund managers yield significantly higher returns than their more experienced colleagues. If the portfolios of inexperienced are not more risky, this result would contradict the hypothesis of market efficiency. Therefore, it is an important question whether inexperienced fund managers tend to take higher risks. Higher risk taking may be explained by a higher degree of overconfidence, less herding behavior, or a lower degree of risk aversion. Since the results concerning the relationship between experience and risk taking in previous studies are rather contradictory, they provide complementary survey evidence of 117 German fund managers, which can improve their understanding in this field. In line with the results of previous studies, they find that herding is decreasing with experience while the evidence concerning risk taking and overconfidence is mixed. Nevertheless, their results provide some support for the hypothesis that inexperienced managers do indeed take higher risks.

2.4 Conceptual Framework

This section conceptualizes the dependent variable, the independent variables and the control variables. The dependent variable is the trading frequency and the independent variables are; miscalibration, better than average effect and the illusion of control. Nevertheless, this section has also incorporated the control variables namely; age, gender, education, income and past success.

Figure 2.1Dependent Variable and Independent Variables

Framework



Source: Researcher 2013

2.4.1 The Dependent Variable

Dependent variable of the study is the trading decisions or trading frequency. Trading frequency is the concept that is used to explain behavior of investors to trade time to time. odean (2001) argued that, trading frequency reduces portfolio returns, this is because of higher commission costs. The more the trading frequency, the higher the commission cost. It is not always that trading frequency is the sign of overconfidence, sometimes when an investor is trading frequently, is an indication that the investor has access to relevant and reliable information. The correct and relevant information may lead to higher portfolio returns.

The variable is measured by the following models;

- Trading frequency is the function of miscalibration, mathematically
$$[\text{trading frequency}] = a + b [\text{miscalibration}]$$
- Trading frequency is the function of better than average effect, mathematically
$$[\text{Trading frequency}] = a + b [\text{BTA}]$$
- Trading frequency is the function of illusion of control, mathematically
$$[\text{Trading frequency}] = a + b [\text{IOC}]$$

Where “a|” is constant and “b” is the slope of the model.

2.4.2 Independent Variables

2.4.2.1 Illusion of Control

Illusion of control is the tendency of the people to think that they have abilities to influence the results. Illusion of control causes individual investors to trade frequently. As a result they become overconfident. Therefore, I hypothesize that “people who think that they can pretty much determine what will happen to their lives, are likely to trade frequently”. The hypothesis is measured by the following model;

- Trading frequency is the function of illusion of control, mathematically
$$[\text{Trading frequency}] = a + b [\text{IOC}]$$

2.4.2.2 Better than Average

Better than average effect, is the tendency of people to perceive that they have abilities and skills more than those of the peers. Investors who think that they have abilities more abilities, tend to trade frequently, ultimately they become overconfident.

Therefore I hypothesize that “people who think that they will be able to achieve most of the goals that they have set for themselves, are likely to trade frequently”.

The hypothesis is measured by using the following model.

- Trading frequency is the function of better than average effect, mathematically

$$[\text{Trading frequency}] = a + b [\text{BTA}]$$

2.4.2.3 Miscalibration

Miscalibration is the tendency to overestimate the precision of their knowledge. Miscalibration is the systematic deviation from perfect calibration. For a perfectly calibrated judge, the probability assigned is equal to the proportional correct. People are calibrated differently when dealing with activities of varying difficulty. Even if people are perfectly calibrated still they suffer from systematic bias which is the overconfidence. Overconfident

Investors are always miscalibrated because they believe that they know more than what they actually know.

2.4.2.4 Experience

Studies conducted by other researchers have shown that highly experienced investors are less confident than investors with lower experience. Gervais and Odean (2001) show that investors whose overconfidence is a function of experience trade more in response to a given signal than less confident investors.

2.4.2.5 Gender

Psychologists have found that men are more overconfidence than women in task perceived to fall into the masculine domain, such as managing finance. Men generally are more overconfidence about their ability to make the investment decisions than women investors, therefore men trade more frequently than women investors do. Two financial economists Brad Barber and Terrance Odean examined the trading behavior of nearly 38000 households through a large discount brokerage firm between 1991 and 1997.

They examined the behavior in brokerage accounts owned by single and married men and women. They found that the men investors trade the most. The researcher will examine the impact of gender to the overconfidence of the individual investors in Tanzania through its only financial market, DS

2.4.2.5 Past Success

Investors attribute the past success to their own skills and the past failure to the bad luck. Miller (1997), claim that people tend to think that successes result from their own ability, whereas failures result from bad luck. This means that people not only think of themselves as being better than the average person, but also frame successes and failures in a way that will shed a favorable light on them. In a survey study of German financial market practitioners, Deaves et al. (2005) show that market forecasters are extremely overconfident, and overconfidence is increased by successes which they measure by correct predictions. Furthermore, they find that market experience, commonly seen to be resulting from past successes, is positively related to overconfidence. The investors who had succeeded for the past period, they become confident that the success is as a result of their skills and they live on such a believe that they don't need to make the evaluation of the investment before they make the investment decisions, as a matter of fact they end up making the losses

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that has been used in this study. The study was set to determine the factors affecting the investors' overconfidence bias in Tanzania. The chapter has included discussions on type of the study, the study area, study population, units of analysis, variables and their measurement, sample size and sampling techniques, types and source of data, and data collection methods

3.2 Type of the Study

A descriptive research methodology using a survey questionnaire was selected as the primary data collection method for this study. The researcher decided to use survey study because of the nature of study, individual investors are not confined in one area, instead, they are scattered in different areas, so necessitate the researcher to conduct survey. A survey questionnaire was utilized though it was expensive, time consuming but has the ability to provide both quantitative scale and qualitative data from a large research sample.

3.3 Study Area

Basing on the fact that this is a case study, the study was carried at the Dar-es-Salaam stock of exchange. DSE is the only stock market that is found in Tanzania categorized as frontier market according to FTSE classification.

3.4 Study Population

Study has involved only people who have invested in listed companies at the DSE. So the population included list of the individual investors in the brokerage firms, and in commercial banks that are dealing with trading of the shares on behalf of the investors. Nevertheless, the researcher also searched the investors in different learning institutions and in different places where it was possible to find the investors.

3.5 Methods of Data Collection

Data were collected from the respondent through questionnaire as the method of data collection. Questions were compiled after conducting the content validity in order to test whether questions were constructed in the required standard to test the overconfidence of the investors. The content validity included two groups which are the group of academicians and the group of the dealers in the field, that is, the brokers from brokerage firms that were found in Dar-es-Salaam city. 22 questions were used limiting individual response to tick only one box out of five boxes, for example first box represent “poor” and the last box represent “very strong”. Final sample of 50 questionnaires were used for all subsequent analysis. Protocol followed for data collection was as follows. The researcher surveyed in brokerage firms searching for respondent with shares at the DSE who were willing to respond to questionnaire and this was a voluntary activity and the survey was designed to consume on average 40 minutes of the respondent time. But due to the scarcity on the availability of the investors in the brokerage firms, the researcher also surveyed in different places apart from the brokerage firms to find people who have invested at the DSE. The questionnaire was distributed in English and Swahili language (for the benefit of the respondents who were not conversant in English).

3.6 Types and Source of Data

There are two types of data which are the primary data and secondary data. Data are said to be primary when they are collected directly from the respondents or from the events. Secondary data are normally already made data that were initially collected. This study was based on primary data that were collected from the respondents by issuing them with questions to answer. Since some of the questions involve confidential information of the respondent, example, the category of the annual income, highest level of education, the occupation group, the percentage of the total annual income invested in the shares and other questions that in one way or another reveal the personal information of the respondent.

The instrument was carefully planned to include the researcher's responsibility to the confidentiality of the information of the respondent. Information provided by the respondent has not been made to the public in any way that reveal the identity of the respondent to the third party, the aggregate result has been used for research purpose and has not been published in the scientific and academic studies, the personal information was not revealed, except on the request and on the authorization of the respondent. .

3.7 Method of Data Analysis

Data were analyzed by using descriptive statistics using histogram as the way of data presentation. Histogram was selected to present the data because it helps the readers to get a picture of the findings easily. Data was limited to descriptions only because of limit of data to perform factor analysis.

3.8 Sample and Sampling Techniques

The model was tested by basing on the incidental sampling of the investors with shares in DSE. For the purpose of this research, the incidental sampling of the investors means data was collected only from the investors who were willing to provide data to the researcher. Initial sample was collected from 50 investors, but this included investors who agreed to provide the information to the researcher.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents analysis of the demographic difference, assessment of respondents' knowledge and participation in stock market, trading behavior and selection of intermediary, assessment or better than average effect and assessment of illusion of control.

4.2 Reliability

Instrument validation processes that have been used in this study include content validity and reliability. In order to have reliable survey instrument and thus confidence in the research findings, the researcher employed content validity as a pre-data collection validity and reliability for post-data collection validity. Cronbach's coefficient alpha value was assessed to measure the internal consistency of measuring, suggest four points of reliability, excellent (0.9 and above), high (0.70-0.9), moderate (0.5-0.9) and low (0.5 and below). A high cronbach's value for all variables implies that they are internally consistent.

Table4.1 Reliability statistics for illusion of control

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.697	.697	8

Table4.2 Reliability Statistics for better than average effect

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.870	13

4.2 Analysis of Demographic Difference

Of these 50 usable respondents, the demographic background is as follows: 40.0% were females while 60% males. In terms of education, the majority of the respondent (52%) hold postgraduate level of qualification degree, 28.0% attend college education and 2.0% hold equal or below secondary education certificate, whereas 14.0% represents others. In terms of the professional background, 62% were employees in public sectors, 28.0% were Academicians, 6.0% were Entrepreneurs and farmers, 2.0% were pensioners and 2.0% represents others. As far as age, the results revealed that majority of the respondent (36%) were in the group age of 31-40 years, followed by the group age of 41-50 years, constituting about (30.0%), then the age group of 51-60 years, (28%) and lastly the age groups of 20-30 years, with 6.0% of the total survey of the investors. For the case of marital status, the largest percent of 74.0% were married, 14.0% were single, widowed constituted 8.0% and the smallest percentages were observed from divorced and separated, 2.0% each. Additionally, 42.0% were found to be in the income group of more than 12000000, followed by the income group of 1000000 to 4000000 and to 8000001 to 12000000, each with 20.0%, and lastly the income group of 4000001 to 8000000, with 16.0% of the total respondent.

4.3 Assessments of Respondents' Investment Knowledge and Participation on Stock Market

Self assessment of stock market investment knowledge has indicated that 42.0% of total respondents are moderately knowledgeable, followed by 40.0% fairly knowledgeable, 12.0% very knowledgeable and lastly 6.0% not very knowledgeable. Assessment regarding the main function of stock market has shown that, 76.0% have pointed that stock market brings people who want to buy stocks together with those who want to sell stocks, stock market helps to predict earnings (20.0%) and 4.0% have justified that stock market results in an increase in prices of stocks. If somebody buys stock of firm B, 96.0% suggested that he owns a part of firm B and 4.0% did not know.

Additionally, 62.0% said that they bought stocks for the first time five years ago, 20.0% bought stocks between 3 to 5 years ago, 12.0% between 1 to 3 years and 6.0% less than one year. Assessment regarding whether individual investors have ever sold shares, indicated that 78.0% responded “NO” while 22.0% responded “YES”. Additionally 40.0% of investors have ever bought shares from when they purchased first shares and 60.0% have not ever bought other shares from when they bought first shares. Considering trading frequency, 62.0% have never traded 18.0% trade less than once a year, respondents who trade at least once a year, but not more than once a quarter constitute 10.0% of total respondents and respondent who trade at least once a month, but not more than once a week occupies 2.0% of total respondents.

The facts about stock returns is as follows, 70.0% of respondents have experienced an increase in stock returns, in which 26.0% of them have experienced an increase of 21-40%, 16.0% of them have experienced an increase of 11-20%, 14% have experienced an increase of 0-10%. 24.0% do not know, while 4.0% have experienced a decrease in stock returns, in which 4.0% of them have experienced a decrease of 0-10% and 94.0% represents not applicable.

4.4 Trading Behavior and Selection of the Intermediary

Assessment of when an investor is more likely to buy stocks, has revealed that 66.0% of the respondents are inclined to buy in the bull market, while 34.0% are inclined to buy in the bear market. On average 6.0% earn 0-10% when they sell stocks, 11-20% represent the earning range of 14.0% of respondents, 21-40% is the earning range explained by 8.0% of the respondents, 4.0% of the respondents earn more than 51.0% and 68.0% represents investors who do not sell stocks. Moreover, 12.0% of investors lose 0-10% when sell stocks, 4.0% lose 11-20% and 21-40% each, 41-50% represents lose made by 2.0% of the respondents. Assessment of type of intermediary used by respondents has shown that majority of respondent (38.0%) use banks, followed by 36.0% of respondents who use brokers and 26.0% represents respondents who use both banks and brokers.

In connection to that 18.0% of respondent base on size and financial soundness when selecting the intermediary, 12.0% base on convenience and flexibility as well as on fees and charges. Respondents who base on recommendations of friends and relatives constitute 20.0% and 38.0% perceived quality services. In relation to above, 14.0% of the respondents consider the comments of prominent analyst when make most of their stock investments although majority (36.0%) make decisions based on their own analyses who are relatively many compared to 26.0% of them who take the advices.

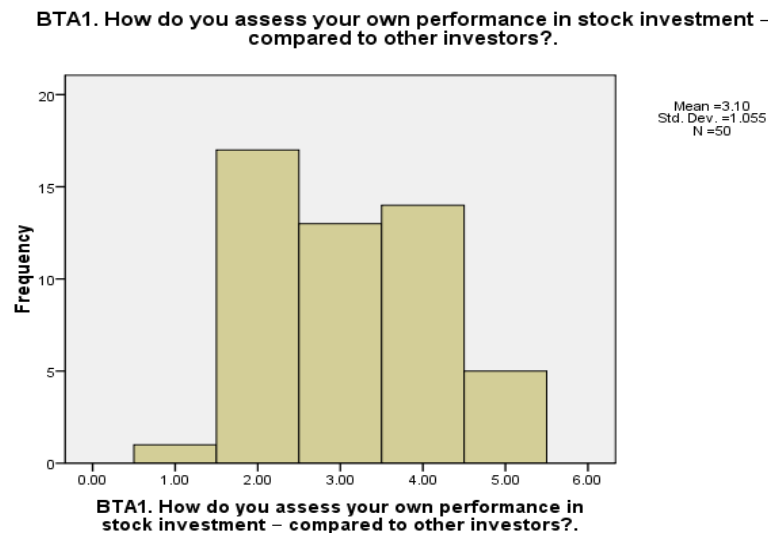
4.5 Assessment of manifestation of overconfidence

The key manifestations of overconfidence are; better than average effect, illusion of control and miscalibration. The researcher has included assessment of two manifestation of overconfidence namely; better than average effect and the illusion of control. For each figure presenting the results in histogram, the following definitions have been used: 1.00= “Strongly disagree”, 2.00= “Disagree”, 3.00= “Neutral”, 4.00= “Agree” and 5.00= “Strongly agree”.

4.5.1 Assessment of Better than Average Effect

Analysis of whether individual investors assess their own performance in stock investment to be better than others has indicated that the majority (34.0%) disagreed, whereas 24.0% agreed, which is higher compared to those who were neutral (28.0%). Very few disagreed (2.0%).

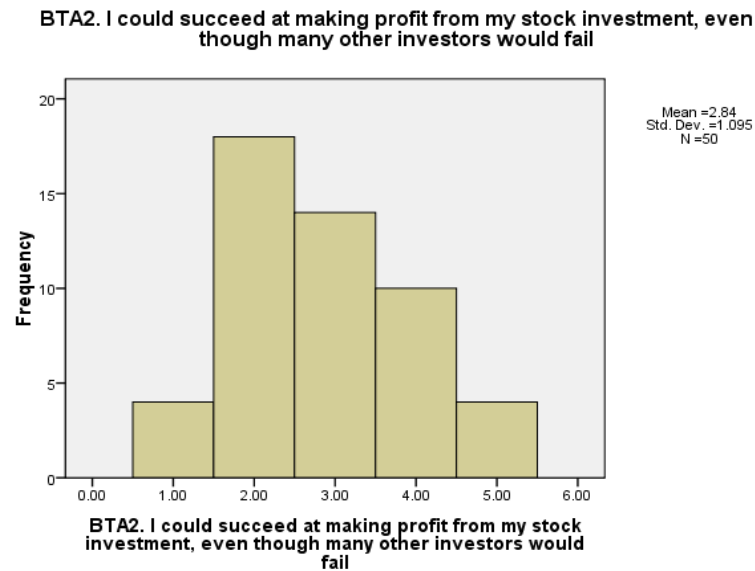
Figure 4.1 how do you assess your own performance in stock investment compared to other investors?



Source: SPSS data analysis package

A considerable proportion of the investors (36.0%) disagreed with the statement that they could succeed at making profit from their stock investment even though many other investors would fail. Besides 28.0% and 20.0% represent respondents who were neutral and those who agreed to the statement respectively.

Figure 4.2 I could succeed at making profit from my stock investment, even though many other investors would fail.



Source: SPSS data analysis package

A belief that investors will be able to achieve most of their goals that they have set for themselves, is supported by 36.0% of total respondents, followed by those who were neutral (34.0%). Nonetheless 26.0% of respondents disagreed to the statement and only 4.0% of respondents strongly agreed.

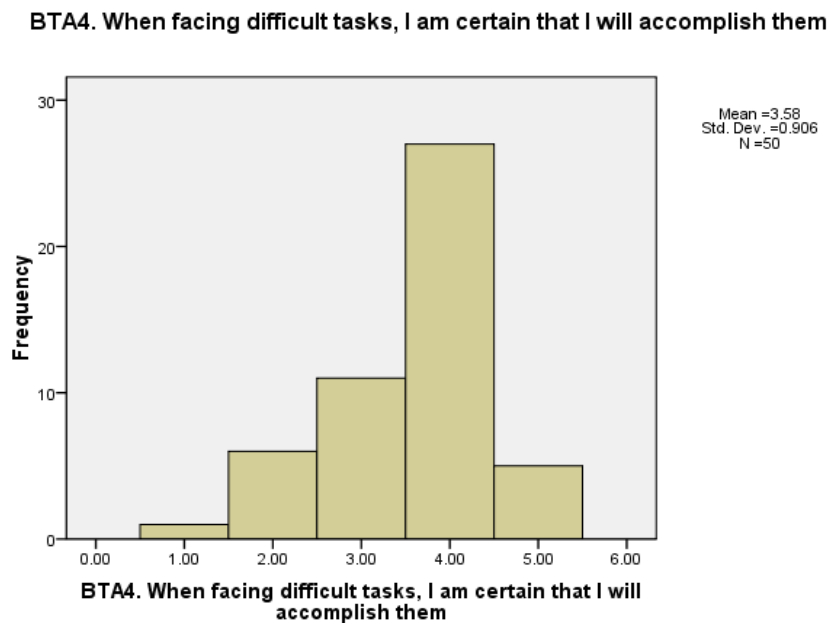
Figure 4.3 I will be able to achieve most of the goals that I have set for myself



Source: SPSS data analysis package

When facing difficult tasks, they are certain that they will accomplish them, 54.0% of the investors agreed so. This is far away compared to 22.0%, 12.0% and 10.0% who were neutral, disagreed and strongly agreed respectively.

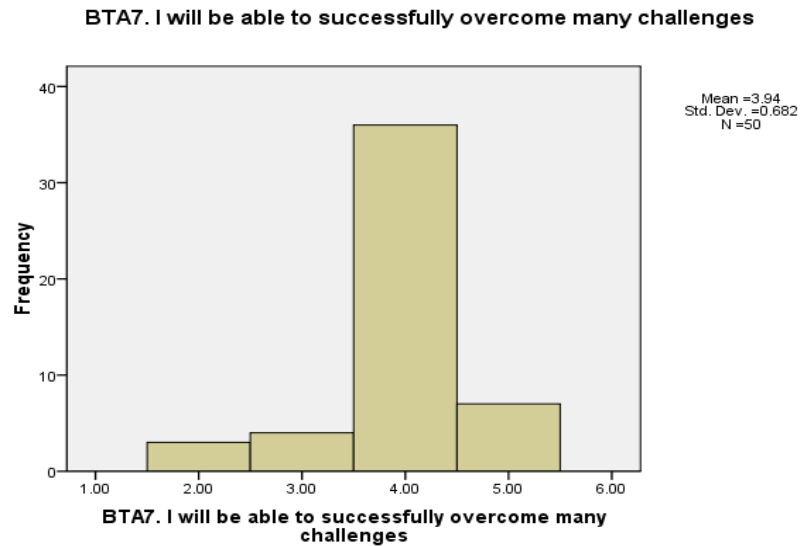
Figure 4.4 when facing difficult tasks, I am certain to make them



Source: SPSS data analysis package

In general 68.0% of respondents think that they can obtain outcomes that are important to them. 14.0% of respondents strongly think that they can obtain outcomes that are important to them, although 10.0% do not agree. Most of them (72.0%) agreed that will be able to successfully overcome many challenges. As matter of fact 28.0% represents those who were neutral, strongly agreed and disagreed.

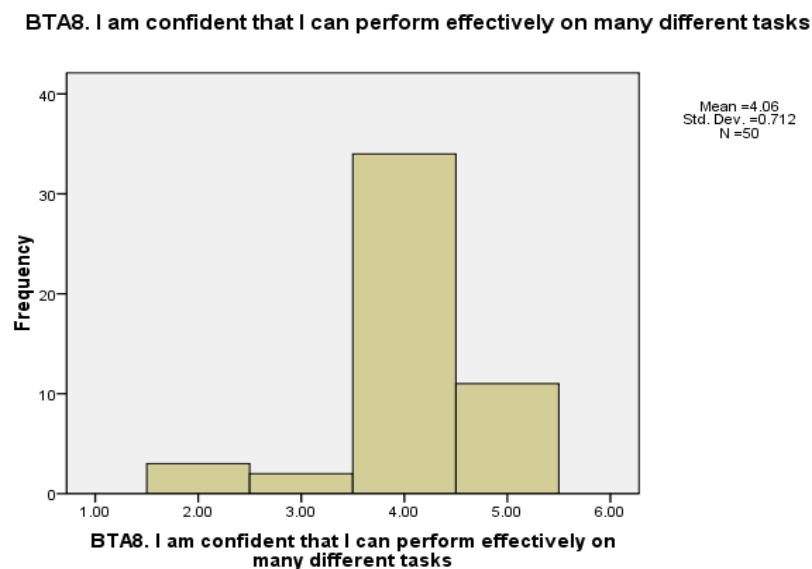
Figure 4.5 I will be able to successfully overcome many challenges



Source: SPSS data analysis package

“I am confident that I can perform effectively on many different tasks”, agreed 34.0% of the respondents, 22.0% of respondents strongly agreed to the statement and 10.0% represents those who agreed and who were neutral.

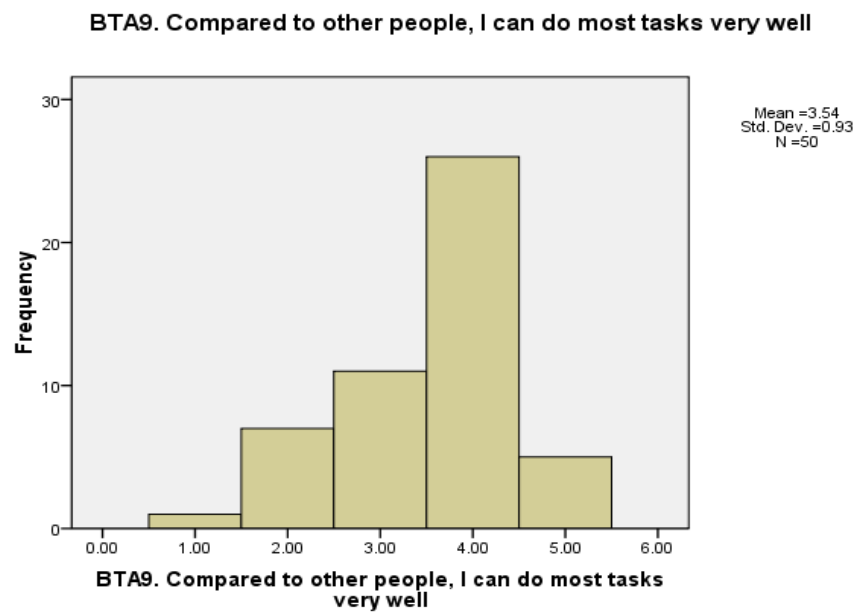
Figure 4.6 I am confident that I can perform effectively on many tasks



Source: SPSS data analysis package

Compared to other people, 52.0% of respondents agreed that they can do most tasks very well. 22.0% were neutral, 14.0% disagreed and 2.0% strongly disagreed.

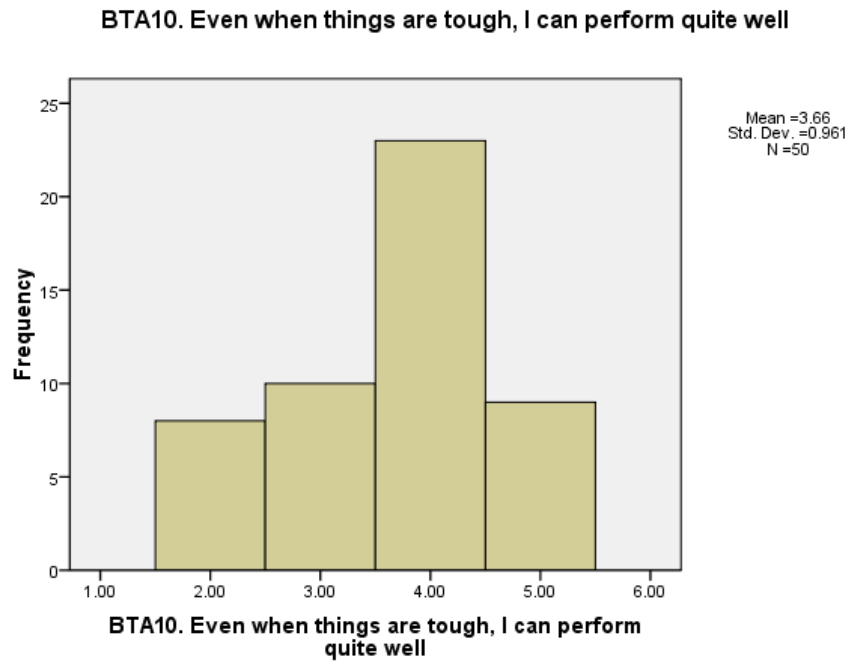
Figure 4.7 compared to others, I can do most tasks very well



Source: SPSS data analysis package

Moreover, even when things are tough, 46.0% of the respondents agreed that they can perform quite well, this is more than twice of those who were neutral, disagreed and strongly agreed.

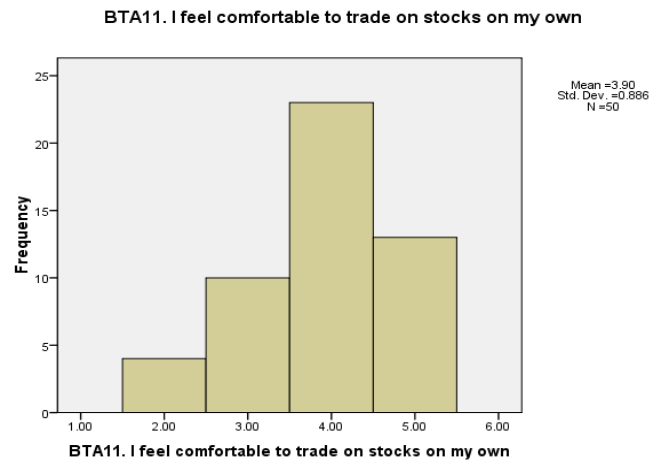
Figure 4.8 even when things are tough, I can perform quite well



Source: SPSS data analysis package

“I feel comfortable to trade on stocks on my own”, responded with agreements 46.0% of respondents. However, 26.0%, 20.0% and 8.0% represents agreed, neutral and disagreed respondents respectively.

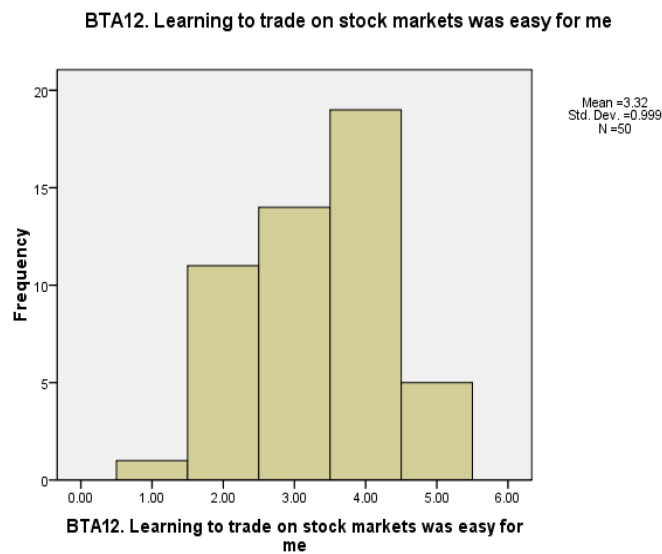
Figure 4.9 I feel comfortable to trade on stocks on my own



Source: SPSS data analysis package

Learning to trade on stocks markets was easy for 8.0% of the respondents. Notwithstanding that, 10.0% of them learnt more easily on how to trade on stock markets. This was not so easy for 22.0% of the respondents, although 28.0% were neutral.

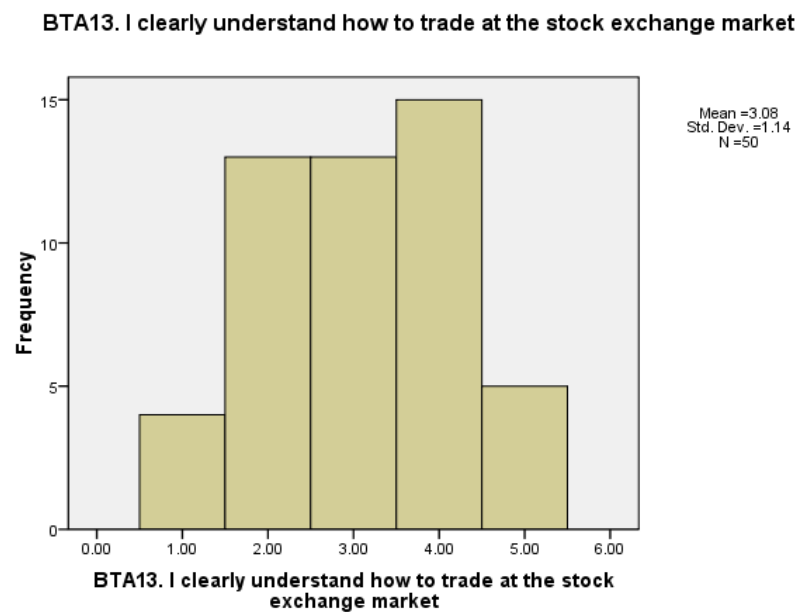
Figure 4.10 learning to trade on stock market was easy for me



Source: SPSS data analysis package

30.0% of the respondents clearly understand how to trade at the stock exchange market. This is not so far from 26.0% of respondents who disagreed and were neutral, each of the group. 8.0% strongly disagreed to the statement.

Figure 4.11 I clearly understand how to trade at the stock exchange market

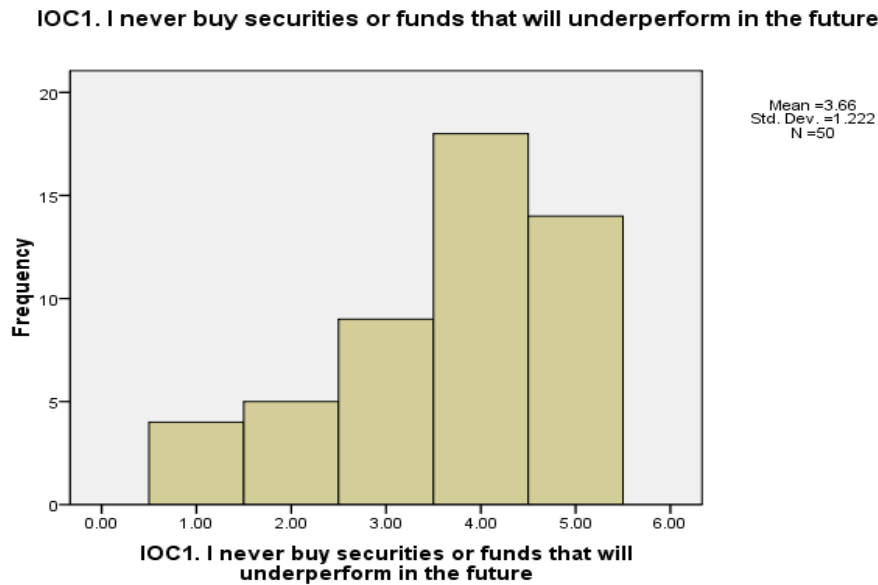


Source: SPSS data analysis package

4.5.2 Assessment of Illusion of Control from Respondents

Respondents who agreed that can never buy securities or funds that will underperform in the future constituted 36.0% of total respondents. 28.0% of them strongly disagreed on the statement, 18.0% were neutral, whereas disagreed and strongly disagreed respondents totaled 18.0%.

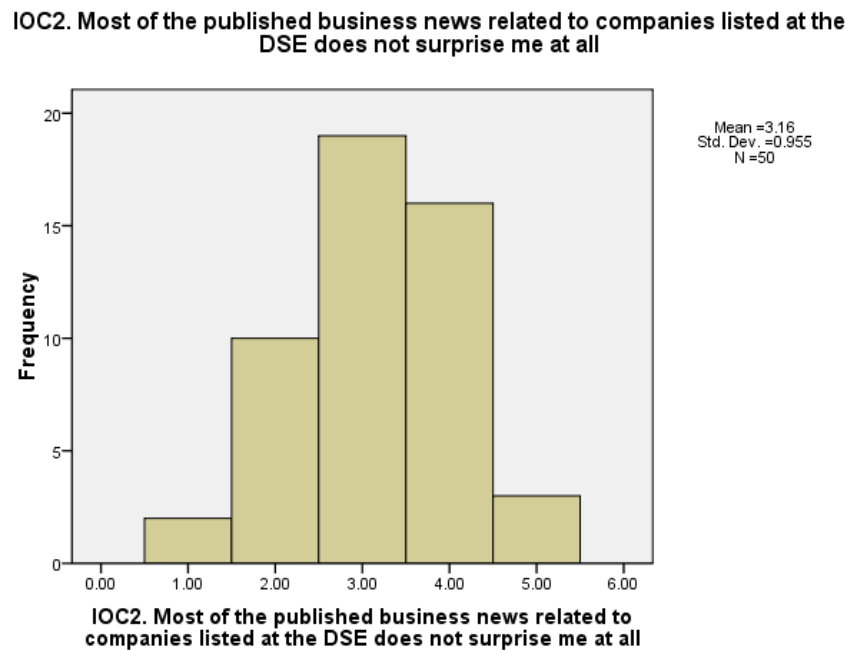
Figure 4.12 I never buy securities or funds that will underperform in the future



Source: SPSS data analysis package

Indeed, most of the published business news related to companies listed at the DSE does not surprise 32.0% of the respondents. But business related news does surprise 6.0% of the respondents. 38.0% of respondents were neutral, 20.0% disagreed and 4.0% strongly disagreed on the statement.

Figure 4.13 most of the published business news related to companies listed at the DSE does not surprise me at all



Source: SPSS data analysis package

24.0% of respondents do consider themselves to have great skills and ability to cope with and predict future events, this percentage is equal to respondents who disagreed, although 6.0% of the respondents strongly consider themselves to have great skills and ability to cope with and predict future events. But most of them (38.0%) were neutral.

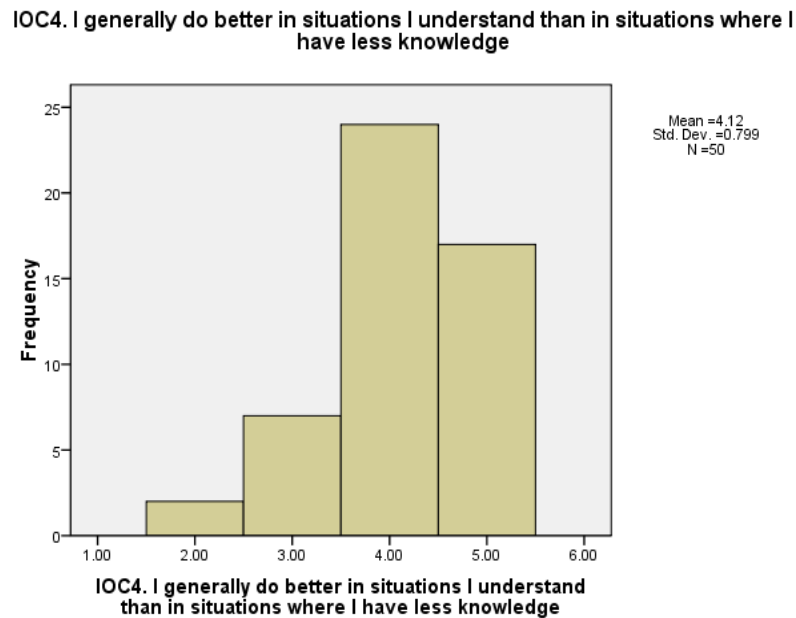
Figure 4.14 I consider yours great skills and abilities to cope with and predict future events



Source: SPSS data analysis package

Respondents who generally do better in situations they understand than in situation where they have less knowledge constituted 48.0% of the total respondents. 34.0% of the respondents disagreed to the statement, 14.0% of the respondents were neutral and only 4.0% disagreed.

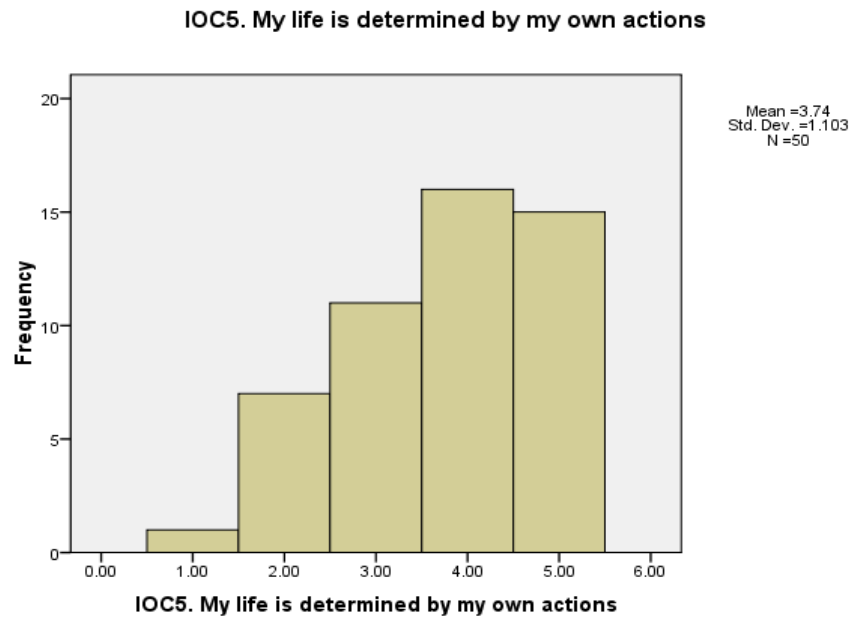
Figure 4.15 I generally do better in situations that I understand than in situations where I have less knowledge



Source: SPSS data analysis package

Assessment of statement “my life is determined by my own actions” revealed that 32.0% of respondents agreed to the statement, despite of the fact that the same percent of respondents were neutral, followed by 30.0% of the respondents who strongly agreed, 14.0% disagreed and 2.0% strongly disagreed.

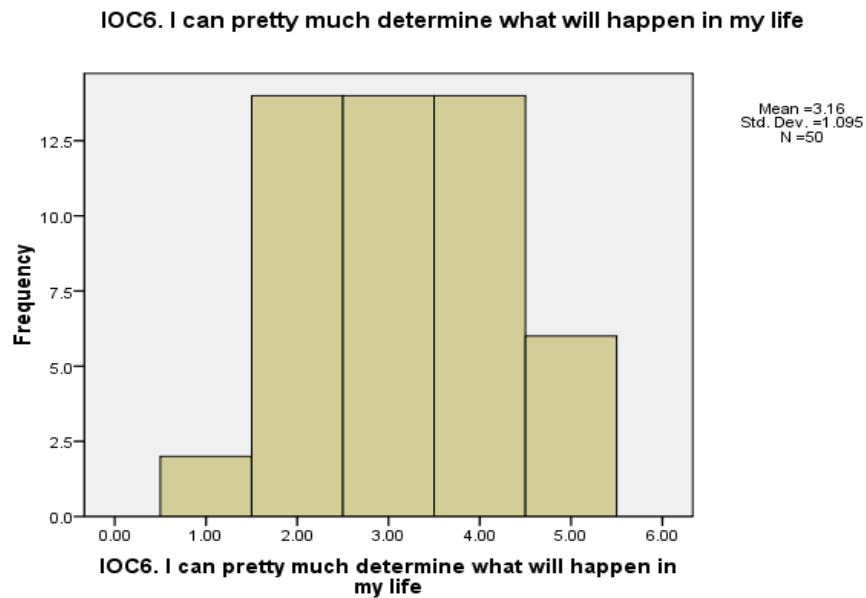
Figure 4.16 my life is determined by my own actions



Source: SPSS data analysis package

28.0% of respondents were neutral pertaining to the fact that they can pretty much determine what will happen to their life. The same percentage disagreed to the statement. 12.0% strongly agreed to the fact and 4.0% strongly disagreed

Figure 4.17 I can pretty much determine what will happen in my life



Source: SPSS data analysis package

58.0% of respondents agreed to the statement that, “when I make plans, I am almost certain to make them work”. Additionally 14.0% strongly agreed, 8.0% disagreed and 6.0% strongly disagreed.

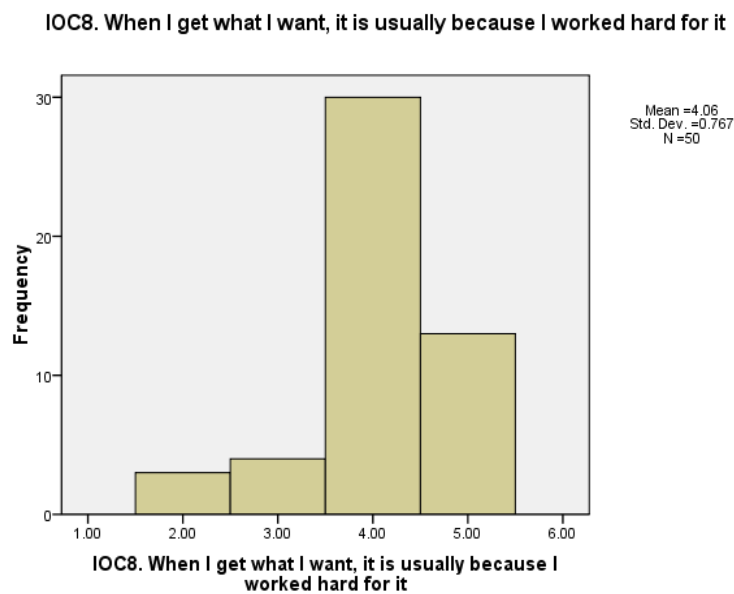
Figure 4.18 when I make plans, I am almost certain to make them work



Source: SPSS data analysis package

60.0% of the respondents agreed that when they get what they want, it is usually because they worked hard for it and 26.0% strongly agreed, but only 6.0% disagreed to the statement.

Figure 4.19 when I get what I want, it is usually because I worked hard for it



Source: SPSS data analysis package

4.6 Regression Analysis

Regression analysis: examining the relationship between better than average effect, illusion of control and trading frequency.

A regression analysis was performed with trading frequency as the dependent variable and better than average effect and the illusion of control as the predictor variables. A total of 50 cases were analysed. From the analysis, insignificant model emerged ($F(2, 50) = 0.522$, $p = 0.593$ (Table 4) with the adjusted R square being -0.020 (Table 3). Better than average effect ($B = .159$, $p = .36$) and illusion of control ($B = -.101$, $p = 0.467$) were not considered to be significant predictors of this model.

The measure R square, usually written as R^2 is the square of R, representing the proportion of variation in the response variable, explained by the regression model, and consists of a value between (0) and (1). A high R^2 value may be seen as evidence of a good fit of the model tested. In this test, the R^2 explains (2.2%) of the changes in the trading frequency. Other unidentified factors account for remaining (97.8%).

Table 4.3: regression analysis: summary model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.065 ^a	.004	-.016	.99141

a. Predictors: (Constant), IOC6. I can pretty much determine what will happen in my life

b. Dependent Variable: In general, how often do you trade

Table 4.4 : regression analysis: ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.202	1	.202	.205	.653 ^a
	Residual	47.178	48	.983		
	Total	47.380	49			

a. Predictors: (Constant), IOC6. I can pretty much determine what will happen in my life

b. Dependent Variable: In general, how often do you trade

Table 4.5: regression analysis: coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.365	.432		7.786	.000
	IOC6. I can pretty much determine what will happen in my life	-.059	.129	-.065	-.453	.653

a. Dependent Variable: In general, how often do you trade

CHAPTER FIVE

DISCUSSIONS OF THE FINDINGS

Interpretation of the better than average effect, illusion of control and achievement of the objectives

5.1. Introduction

This chapter includes the discussions on assessment of the better than average effect, illusion of control and achievement of the objectives. Moreover, the researcher has incorporated the results for the test of the hypotheses.

5.2 Interpretation of better than average on overconfidence

A belief that most of investors will be able to achieve goals that they have set by themselves is an indication that most of the respondents are overconfident. This is supported by 52.0% of respondent who agreed that they can do most tasks very well, they tend to be overconfident. Moreover, 46.0% of respondents who feel comfortable to trade on stock on their own and belief that investors will be able to achieve most of their goals that they have set for themselves which is supported by 36.0% of total respondents, both provides more evidence that individual investors are overconfident. Additionally, When facing difficult tasks, they are certain that they will accomplish them, 54.0% of the investors agreed so, together with most of them (72.0%) agreed that will be able to successfully overcome many challenges, collectively add more evidence that individual investors are overconfident.

5.3 Interpretation of Effect of Illusion of Control on Overconfidence

Assessments observed above have shown that, 36.0% of respondent agreed to the statement “I never buy securities or funds that will underperform in the future”, besides 48.0% of respondents replied that they generally do better in situations they understand than in situations where they have less knowledge. Both statements provide evidence that individual investors are likely to be overconfident.

Nonetheless 58.0% of respondents agreed to the statement that, “when I make plans, I am almost certain to make them work” and “my life is determined by my own actions” revealed that 32.0% of respondents agreed to the statement, which implies that most of respondent are overconfident.

5.4 Assessment of achievement of objectives of the study

The main objective of study is to explore factors that explain overconfidence bias of individual investors within Tanzanian context. Two factors explain overconfidence bias of individual investors within Tanzanian context, better than average effect and illusion of control.

Individual investors are suffering from better than average effect because they believe that they have abilities above the average person. Individual investors who are suffering from better than average effect, believe that they can achieve goals that they have set for themselves. Nevertheless, they believe that they can perform most of the task very well. Moreover, they feel more comfortable to trade on stocks on their own.

Individual investors are also suffering from illusion of control because they believe that they can pretty much determine what will happen to their lives. Besides, they belief that, they never buy securities that will underperform in the future. Additionally, they believe that, they do better in situations they understand, than in situations that they have less knowledge.

CHAPTER SIX

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

6.1. Introduction

Chapter six presents summary of the findings discussed above and provides the conclusion and policy implications. The researcher has provided the summary of demographic difference, assessment of the respondents' investment knowledge and participation in stock market, trading behavior and selection of the intermediary, the effect of better than average effect on overconfidence and the effect of illusion of control on overconfidence.

6.2. Summary

Of these 50 usable respondents, the demographic background is as follows: 40.0% were females while 60% were males. In terms of education, the majority of the respondent (52%) hold postgraduate level of qualification degree, 28.0% attend college education and 2.0% hold equal or below secondary education certificate, whereas 14.0% represents others. In terms of the professional background, 62% were employees in public sectors, 28.0% were Academicians, 6.0% were Entrepreneurs and farmers, 2.0% were pensioners and 2.0% represents others.

As far as age, the results revealed that majority of the respondent (36%) were in the group age of 31-40 years, followed by the group age of 41-50 years, constituting about (30.0%), then the age group of 51-60 years, (28%) and lastly the age groups of 20-30 years, with 6.0% of the total survey of the investors. For the case of marital status, the largest percent of 74.0% were married, 14.0% were single, widowed constituted 8.0% and the smallest percentages were observed from divorced and separated, 2.0% each.

Additionally, 42.0% were found to be in the income group of more than 12000000, followed by the income group of 1000000 to 4000000 and to 8000001 to 12000000, each with 20.0%, and lastly the income group of 4000001 to 8000000, with 16.0% of the total respondent.

Self assessment of stock market investment knowledge has indicated that 42.0% of total respondents are moderately knowledgeable, followed by 40.0% fairly knowledgeable, 12.0% very knowledgeable and lastly 6.0% not very knowledgeable. Assessment regarding the main function of stock market has shown that, 76.0% have pointed that, stock market brings people who want to buy stocks together with those who want to sell stocks, stock market helps to predict earnings (20.0%) and 4.0% have justified that stock market results in an increase in prices of stocks. Assessment of when an investor is more likely to buy stocks, has revealed that 66.0% of the respondents are inclined to buy in the bull market, while 34.0% are inclined to buy in the bear market.

6.3 Conclusions

Generally individual investors in Tanzania are suffering from better than average effect because, they perceive themselves as having abilities above the average person. They believe that they will be able to achieve most of their goals that they have set for themselves. Besides, they agreed that, when facing difficult task, they are certain that they will accomplish them. Additionally, most of them agreed that they will be able to successfully overcome many challenges.

Moreover, individual investors in Tanzania are also suffering from illusion of control because, they believe that they can influence outcome of decisions. Most of the respondents consider themselves to have great skills and ability to cope with and predict future events. They believe that they can generally do better in situations they understand than in situations where they have less knowledge. Nevertheless, they believe that they can pretty much determine what will happen to their life. When they make plans, they are almost certain to make them work.

6.4 Policy Implication

Individual investors should be educated on how to trade on the stock market without exercising better than average effect. The perception of the individual investors to believe that they have abilities above their peers, can lead the investors to hesitate

seeking advice from professionals. As a result, they end up using their wrong perception and ultimately making losses.

Novelty, individual investors should also be educated on how to trade on stock market without the illusion of control. Individual investors, who possess illusion of control, believe that they can influence outcomes of decisions. If investors continue with such belief, they are reducing their chance of earning income.

Education should be provided the citizens, about the importance of investment. Instead of saving money at the bank where monthly charges exceed the interest received, individuals should be educated to invest in shares. Implementation of this action can lead to increase on the availability of the capital to the listed companies.

Novelty, increase in individual investors at the stock market, will enable the researchers to obtain large quantity of data for research purpose in the future. As a result, more researchers will be motivated to conduct research. Researchers will provide more education to the investors, on how to trade at the stock market. Improvement in research, will provide more education to investors, ultimately stock market will keep on growing.

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