Effect of Financial Literacy on Teacher Investment Decision in Vihiga sub-county, Kenya

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Abstract: *This study investigated the effect of cognitive biases on teacher investment decision to ascertain whether the variables of financial literacy, cognitive dissonance and herd instinct play a role in influencing the decision to invest. Stratified Random sampling was used to select the appropriate sample size of 102 teachers and primary data collected through structured questionnaire. It was found that there exists positive correlation p=.208 at 0.01 significance level between financial literacy and investmet decision. Further regression analysis revealed a positive effect of Financial literacy on investment decision (β =.304;p=.000) therefore concluding that financial literacy is crucial in influencing investment decision. . It recommended that the stock market players including the Capital Markets Authority enhance their sensitisation mechanism to disseminate more information about stock market investment to potential local investors, especially teachers and ensure equal availability of financial information in both urban and rural areas in the country.*
Keywords: *Capital Markets Authority (CMA), Nairobi Stock Exchange, Stock Market, Teachers Service Commission*

I.   Introduction

Investment decision is concerned with choices about purchases and sale of small amounts of market products by an individual or institution on his or her own account for future benefits. Riley and Brown (2006) define investment as a commitment of funds for a period of time in order to derive a rate of return that will compensate the investor for the time which the funds are invested, for the expected rate of inflation during the investment horizon and for uncertainty involved. Investment decision and participation in stock markets among teachers is critical to this point. It can be examined through two frontiers; choice of investment and depth of investment. With respect to choice of investment, standard economic theory argues that investors decide whether to invest in the stock market based on market returns, relative to returns on the risk-free assets, stock-market volatility and individual risk aversion, (Li, 2009). Teachers as part of moderate income earners with disposable income have the option of investing their surplus income either in the stock market or in other investment opportunities at their disposal.

The decision to invest in stock market is generally propagated through purchase of securities offered by and at the Nairobi Securities Exchange. Schleifer (1990) alludes that stock markets have a close interdependent and perpetual relationship with the economy and they play a significant role in economic development particularly in; enabling companies to raise equity capital to fund growth requirements, existing projects and acquisition opportunities and/or reduce current gearing levels in the company; providing governments with a platform to raise debt funding for developmental projects through the issue of bonds; providing companies with a currency, in the form of listed shares, that they can utilize to make acquisitions; facilitating investment by the public into fast growing and high yielding economic sectors while enabling small investors to participate in the growth and future wealth of profitable companies. The positive correlation between stock market and economy implies that the positive performance of stock market will positively affect the development of the economy and vice versa and the aggregation of individual investment decision can be quantified and measured to generate investment participation which at high levels signifies better performance of the stock market in any given economy (Matthew 2017).

Lack of awareness is a determining factor in financial literacy (Mehmet 2015). If financial literacy is achieved in the mindset of an investor, the decision to invest will be made on a more informed basis, meaning that they will have greater potential make decisions based on informed analysis of financial statements, dividend policies and other related information, (Johnson 2002). According to Aroni (2014), using both descriptive and explanatory designs to analyse primary data on a sample size of 364 respondents, concluded that in making decisions to invest individuals behaviors will be driven by personal frames, including availability of financial information to guide their selection decision. Aroni's conclusions are justifiable because it is indeed practical

that there is a certain difficulty to perceiving financial accounting information by individual investors. However, contextualizing the general investors into a particular group, there is the possibility that teachers in this case, may find financial reporting difficult not only to access but also excessively lengthy and cumbersome to read, understand and perceive which represents an impediment to investment decision. Ndiege (2012) in an effort to determine factors influencing investment decision among teachers in Kisumu municipality, using descriptive survey design on primary data, analysed through factor analysis established that teachers in Kisumu Municipality have low financial literacy. Although many of them rated equity stocks as an investment just like others, a majority of them would prefer investments in other asset classes such as real estate. Only a small percentage (28%) of the target population had invested in the stock market.

Whereas existing literature concurs on the fact that financial literacy possesses significant influence on investment decision of individual investors, it is variant on the relationship between literacy and investment decision and on whether this influence is statistically measurable which would further explain how financial literacy influences investment decision. This research therefore intended to assess the effect of financial literacy on investment decision among Vihiga Sub-county teachers.

II. Literature Review

2.1 Prospect Theory

According to behavioural finance, investors do not always behave rationally. By using cognitive shortcuts determined by themselves, they act under the influence of various psychological factors (Sommer, 2011). Recent literature has emphasized on social factors in general and behavioural factors, psychological biases and personality traits, in particular that affect investors' decisions. According to Ritter (2003), behavioral finance is based on psychology which suggests that human decision processes are subject to several cognitive illusions. Ideally this means that since time and cognitive resources are limited, humans cannot analyze the data the environment provides us with optimally. Instead, natural selection has designed minds that implement rules-of-thumb in the form of algorithms, heuristics or mental modules selectively to a subset of cues. Ritter (2003) defines heuristics as rules of thumb which make decision making easier, especially in complex and uncertain environments, by reducing the complexity of assessing probabilities and predicting values to simpler judgment. Prospect theory was therefore birthed by Kahneman, and Tversky in 1979 as a psychologically realistic theory.

2.2 Prospect theory of Mental Accounting.

Prospect theory is considered an approach to decision-making since it focuses on subjective decision-making influenced by the investors' value system. People tend to under-weigh probable outcomes compared with certain ones and people response differently to the similar situations depending on the context of losses or gains in which they are presented (Kahneman & Tversky, 1979). Prospect theory describes some states of mind affecting an individual's decision-making processes including regret aversion, loss aversion and mental accounting (Waweru et al., 2003). It states that humans have a tendency to place particular events into mental compartments, and the difference between these compartments sometimes impacts our behavior more than the events themselves for example the hesitation to sell an investment that once had monstrous gains even though it now realizes modest gain such that during an economic boom, people get accustomed to healthy gains and money-making schemes such as gambling. When the market opens up to a new investment opportunity, they're more hesitant to dispose even at the smaller profit margin. They create mental compartments for the gains they once had, causing them to wait for the return of that gainful period.

2.3 Financial Literacy and Investment decision.

Classical economic and financial theories often assume the rationality of all investors in the stock market by presuming perfect knowledge about trading and investment decision making is exhibited by them and therefore, by assuming rationality, postulating the concept of efficient markets where all investors are fully informed and acquainted with investment opportunities (Loomes,1982). However, post-classical economics disagree with this premise specifically because it fails to address the developing shortcomings witnessed in the markets (Thaler, 2005). Thaler (2005) in his paper, Mental Accounting and Consumer Choices, defines a rational investor as a one that always updates his beliefs in a timely and appropriate manner on receiving new information and makes choices that are normatively acceptable. Investors may be inclined toward various types of behavioural biases, which lead them to make cognitive errors (Matthew, 2017). One major challenge witnessed in the mordern-day markets is the diminishing liquidity levels occasioned by minimal investor participation according to the World Economic Forum report on Stock market activity published in 2017. The economic model fails to explain why large proportions of the population on average choose not to participate or invest in the stock market. In Kenya, individual investment market share has declined to a near bottom 5.5%, over the last four years, from a gross average of 18% in 2007 despite there being a considerable number of

potential investors with substantial amounts of disposable income (CMA Rating, 2017). A majority of the investors in this regard are institutional foreign investors who exhibit this behaviour on election year cycles.

Globally, research by the Organisation for Economic Cooperation and Development (OECD) indicates that an average of 72% of teachers have no clue about investing in equity securities. According to its report in 2005, teachers will not be able to choose to invest or make the right investment choice for themselves, and may be at risk of fraud, if they are not financially literate. However, in trying to counter this trend, a research conducted by UW-Madison's shows that more than 70 percent of grade 12 teachers in America indicated they were willing to participate in formal financial education training. Areas for which teachers felt least prepared were risk management and insurance, saving and investment, financial responsibility and decision making, and credit and debt. For emerging economies, financially literate individuals can help ensure that the financial sector makes an effective contribution to real economic growth and poverty reduction (Gay, 1987). Teachers as part of the working and moderate income earning community in Kenya could be susceptible to financial literacy deficiency.

Merikas et al (2003) conducted a survey of the factors influencing informed individual investor behaviour in the Greece stock exchange and the variables rated as most important are classic wealth maximization criteria such as expected corporate earnings, condition of the financial statement or firm status in industry. Speculative factors such as get rich quick schemes, recent price movement in the firm stock and affordable price significantly influence investors' decisions (Merikas et al, 2003 and AlTamimi, 2004). Agreeing with the above documentations, Chong and Lai (2011) explain that in making an investment decision, rational individuals are likely to seek information on performance as well as the behaviour of other investors. Bennet et al. (2011) sought to identify various factors that influence retail investors' attitude towards investing in equity stock markets. They applied a structured questionnaire to retail investors in Tamil Nadu, India. Collected data were analyzed through descriptive statistics according to the test results, out of the total 26 variables, it was found out that five factors; investors' tolerance for risk, strength of the Indian economy, media focus on the stock market, political stability and government policy towards business had a very high influence over retail investors' attitude towards investing in equity stocks.

Geetha and Vimala (2014) investigated the effect of demographic variables on the investment decisions by performing a sample survey method in Chennai, India. The analysis results showed, from the investors' point of view, changes in demographic factors such as age, income, education, and occupation had an influence in the investment avenue preference. Deducting from this, it is imperative that education is a paramount picture bringing into focus the important aspect of literacy. In Kenya, previous work by Waweru, (1998), Wera, (2006), Mbaluka, (2008) and Nyaribo,(2010) enumerate behavioural factors such as herd behavior, regret aversion over confidence, mental disregard of fundamental estimates accounting information, representativeness and anchoring as having to account for investors decision making. From this research we get that accounting information, which is a part of financial literacy is deficient. These researches however present a more general view to individual retail investors. Teachers are however considered the custodians of literacy in mordern day society.

III. Methodology

A correlational design was used to investigate the research hypothesis. Correlational designs are used when researchers are interested in establishing relationships between two or more variables. Mugenda and Mugenda (1999) indicated that correlational designs involve discovering both the direction and degree of the associations among variables without manipulating the variables. The target population consisted of all trained teaching workforce serving in the 28 secondary institutions according to the Director of Education (DEO) Vihiga (2017). Stratified sampling was used to identify the proportionate size of each cadre of respondents in the target schools. Oso and Onen (2009) define stratified sampling as a sampling technique that identifies the strata in the main population and then selects from each stratum at random to form the sample. The reliability was measured so as to find out the degree to which the measuring items would give similar results over a number of repeated trials. A test-retest method was used to estimate the degree to which the same results could be obtained with a repeated measure of accuracy of the same concept. A Cronbach's Alpha of 0.7 was obtained.

3.1 Results
3.1.1 Respondents' Demographic

A sample of 102 teachers was targeted and the same number of questionnaires was issued to teachers in their schools. 96 questionnaires were received back of which 3 were invalid because more than 50% of the questions were unanswered. This reduced the number of valid questionnaires to 93 representing 91% response rate.

Variable	Frequency	Percent
Age		
Below 40yrs	69	74.2
40-50yrs	19	20.4
Above 50yrs	5	5.4

Average Income Level		100
Below Sh.30,000	58	62.4
30,000 - 50,000	24	25.8
50,000 – 60,000	7	7.5
Above sh.60,000	4	4.3
Preferred income to invest		100
0 – 10%	37	39.8
11 – 20%	29	31.2
21 – 30%	7	7.5
Over 30%	20	21.5
		100

Source: Research Data, 2018.

Table above illustrates that majority (74.2%) of the respondents were of the age category of below 40yrs of age, while 20.4% were within the age bracket of 40-50 years old. The rest (5.4%) fell within the age bracket of above 50yrs of age. This finding illustrates that a majority of the teaching workforce were yet to attain the age of 40. 62.4% of the respondents were earning below sh.30,000 , 25.8% were earning between sh.30,000 to sh.50,000, 7.5% between sh.50,000 and sh. 60,000 and 4.3% earning above sh.60,000. 39.8% of the respondents prefer to invest 0-10% of the income, 31.2% prefer to invest 11-20%, and 7.5% prefer to invest 21-30% while 21.5% of the respondents prefer to invest over 30% of their income. These results indicate total normalcy and rationality in teachers' investment expectations. They indicate that teachers are aware of how returns on investment on the stock market would come about and the duration they would expect to last. Generating such returns as anticipated by teachers is totally possible and especially with the expected time period.

3.2 Correlations between coefficients of Independent variables and Investment Decision.

		Financial Literacy	Investment Decision
Financial Literacy	Pearson Correlation	1	
	Sig. (2-tailed)		
Investment Decision	Pearson Correlation	.208[**]	
	Sig. (2-tailed)	.000	1

Note: **. Correlation is significant at the 0.01 level (1-tailed).
Source: Research Data, 2018.

It was observed that there exists a positive relationship of 0.208 between financial literacy of teachers and investment decision. This table also noted that this relationship was statistically significant since $p < 0.01$ (p = 0.000). This leads to the assessment that that financial literacy, though not strongly, positively influences investment decision among teachers in Vihiga sub-county. So much such that the more financially literate teachers are the more they are better placed to make informed investment decisions. Sawatzki (2017) noted that teacher financial literacy was a significant influence on personal investment decision. He observed a quantum percentage (75%) of teachers in Australia would be willing to make their own personal decision as regards to investment into the stock market. This led to his conclusion that the more financially literate teachers are the more likely to participate in investment into the stock market and by extension be able to teach financial management skills to their students as pertaining to his research topic.

In Toor (2014) research, 75% of the respondents that were financially literate believed that there was not sufficient investor education therefore hampering financial literacy and by extension investment decision. Therefore this result is not much different from the previous studies. The researcher therefore rejects the null hypothesis that stated there is no significant effect of financial literacy on investment decision among teachers in Vihiga Sub- County. The result indicates that there is indeed significant relationship.

3.3 Regression Analysis between Coefficients of Independent variable and the Dependent variable.
Financial Literacy and Investment decision are investigated in this research. Regression analysis was used so as to compute the relative contribution of financial literacy to investment decision.

TABLE: Results of Regression for the Relative Contribution of Financial Literacy

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.477	.395		6.278	.000
Financial Literacy	.382	.075	.304	5.116	.000

Source: Research Data Analysis, 2018

According to the regression model established, taking financial literacy constant at zero, the financial performance as a result of this will be 2.477. This therefore implies that financial literacy has a positive relationship to investment decision where a unit increase in investment decision will yield a 0.382 increase in financial literacy while contributing to 30.4% contribution to investment decision.

IV.   Discussion

The case for teachers, as per the study findings, shows a significant influence by financial information while making decisions to invest in shares. Notably, Vihiga Sub-county teachers, in dealing with the stock market place high premium on financial information. Despite the experience of low financial literacy levels in the Kenyan capital market, teachers still appreciate the significance of the financial reports. Kiplangatet al., (2010) proposes that investors are guided by the available information to make a decision to invest in shares, and the current finding supports the proposition. These results conform to Aroni (2012) who established a positive correlation coefficient showing financial information relationship to individuals decision to invest in shares of firms listed in NSE. Sawatzki (2017) noted that teacher financial literacy was a significant influence on personal investment decision. He observed a quantum percentage (75%) of teachers in Australia would be willing to make their own personal decision as regards to investment into the stock market. This led to his conclusion that the more financially literate teachers are the more likely to participate in investment into the stock market and by extension be able to teach financial management skills to their students as pertaining to his research topic.

V.   Conclusions and Recommendations.

Teachers in Vihiga Sub-county do not have sufficient information as regards to investment which could influence their propensity to invest. It was found that though financial literacy effects decision to invest, the percentage levels of financially literate teachers were low.

The researcher makes the following recommendations for improvement and further research that should be done to improve teacher capability to make investment decisions. For improvement on the availability of financial information, the Capital Markets Authority should strengthen their sensitization mechanism to ensure that the labour force, for example the teachers in this case, in the suburban and rural counties of this country has access to sufficient financial information and better understanding of Stock Market investing. Teachers possess various loopholes for information dissemination. More workshops and seminars can be organized in a quest to lure the teachers to invest in the stock market specifically targeting the younger crop of teachers who are new in the workforce. Finally, financial literacy skills need to be embedded in teacher training to help them manage their personal finances better.

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