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The Influence of Temporal Focus and Authority Bias on Investment Decisions: An Empirical Analysis

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Abstract

Purpose: This paper considers two of such factors which are temporal focus and authority bias in relation to the way people make investment decisions in relation to the area of Behavioral biases in finance.

Methodology: An exploratory quantitative approach was adopted by administering a cross-sectional survey comprising of one hundred and ninety-seven individual investors. Concerning the temporal orientation, the Zimbardo Time Perspective Inventory (ZTPI) was used while the authority bias was measured by a revised scale. Data were analyzed through mean and standard deviation, correlation coefficient, and regression equation.

Findings: The results provided positive correlations between future oriented temporal focus and calculated risk taking, $r = 0.45$, $p < 0.01$ and between authority bias and reliance on expert opinion, $r = 0.50$, $p < 0.01$. Micro PML model: Temporal focus also showed significant coefficient value of 0. 35 and authority bias of 0. 40 therefore the two variables accounted for 30% of the total variance of investment decisions.

Practical Implications: Such biases should be highlighted in order to enhance the decision making process among the investors. It is, however, the financial advisors and policy makers' responsibility to counter the detrimental impacts of biases.

Research Limitations: Due to the cross-sectional analysis, one can examine only short-term changes; therefore, it is necessary to conduct longitudinal research.

Originality: This work combines temporal focus and authority bias to demonstrate how both of these factors influence investment decisions.

Keywords-Behavioral Biases, Temporal Focus, Authority Bias, Investment Decisions, Empirical Analysis

1. Introduction

Background

Embedded in psychological theories, behavioral finance has received much interest in the last one and a half decades (Barberis&Thaler, 2003). The classical models used for the explanation of finan-cial phenomena presuppose that individuals are fully orientated and that the processes that take place in markets are utterly rational. Yet, many research articles have revealed that adherence to psychological biases results to more number of irrational behaviours and markets being inefficient (Tversky&Kahneman, 1974; Shefrin 2000). I find that temporal focus and authority bias exert substantial influence over the investment decisions that are made.

Temporal orientation, in other words temporal orientation means how much an individual is preoccupied with past, present or the future. Prior research has demonstrated that temporal orientation may have a tremendous impact on the decisions made such as risk taking propensity is found to be significantly influenced by temporal focus; future oriented individuals are likely to take higher order risks (Zimbardo & Boyd, 1999). It is bias in decision making where by due to an influence of an authority its believed that the accuracy level is high thus makes a bigger influence. In investment situations, the effects

of authority bias compel the investors to rely on financial gurus' opinions without conducting adequate critical analysis (Bikhchandani et al., 1992).

Modern researches still persist in the significance of behavioral effects in the investment process. As for example, Liu, Wang & Zhao (2020) have suggested that a temporal focus on the future is conducive since investors with such a focus are inclined towards long-term investments, which are generally financially rewarding. Likewise, there is still authority bias in the financial markets where investors heavily depend on the professionals' opinion regardless of independent cognitive effort invested in search for this information (Gennaioli, Shleifer, &Vishny, 2015).

Moreover, the latest studies on behavioral finance argue that those biases are dynamic in nature. Baker et al, (2017) have opined that temporal focus and authority bias, as with any other personality characteristics, are malleable and can change with factors such as market conditions, policies and social factors. Amid this changing knowledge about behavioural biases, it will remain imperative to conduct research on how fully to contain the undesirable impact on investment decisions.

Objective

In this study, the first question is: How does temporal focus and authority bias influence investment decisions? Therefore, by analysing these biases within a modern perspective, the given study intends to reveal recommendations that investors and financial managers can use for the improvement of decision-making.

Significance

It is important that these relationships are known to investors, financial advisors and anyone planning to invest or advise on investments so as to minimise the impact that biases have on investment decisions. Various psychological behaviors can make investment decisions worse that include; herding behavior that makes individuals act on impulse and not critically analyze market performance (Kahneman&Riepe, 1998). Financial Advisors need to realise and redress these biases in order to allow its client base to make more impartial and hence more financially rewarding investments.

Structure

The paper is structured as follows: the literature review section gives writer an opportunity to discuss different theories and prior findings; the methodology section stated the research approach; the result section identifies the findings; the discussion analyses the results; and the conclusion part gives writer the result of the study and the places where they recommend subsequent research.

2. Literature Review

Behavioral Finance

Thus, behavioral finance investigates non-rational factors that affect investors' behavior in the financial market. As Barberis and Thaler (2003) pointed out, behavioural finance is a product of spin off from psychology in order to account for all those instances where investors do not behave in a rational manner as envisaged by the standard finance theories. Subsequent literature too reinforces the relevance of behavioral finance to rationalize the market oddities and investors' attitude. For example, Baker and Ricciardi (2014) have postulated that factors including over-confidence, loss aversion, and anchoring substantially affect investment choices and cause systematic irrationalities.

Moreover, new researches have been conducted to prove the impact of emotions on the financial behavior. As indicated by Loewenstein, Rick, and Cohen (2008), brand emotional experiences cause people to make wrong decisions in the processing of financial events, mainly resulting to panic selling especially during a particular market trend. Introduction of emotions and cognitive biases into the behavioral finance models makes them even more effective in framing and explaining the investors' behavior and the markets'.

Temporal Focus

Temporal orientation is therefore the relative emphasis that is placed on past, present and or future events. Temporal focus was introduced by Zimbardo and Boyd in 1999 and it has been identified to have a greater influence on number of activities performed by human beings including the financial decision making. It therefore can be deduced that future oriented people will be involved in more deliberate risky behavior based on the view that risks are relevant in the long term only. Some researchers have more recently build on these findings to elaborate on the impact of temporal focus on investment behaviour. For instance, Stojanovic et al. (2018) established that investors with a long-time horizon would take to spread their risks and invest for the long-term and get improved returns on investment.

Also, Kooij et al. (2018) also discussed the importance of temporal focus in designing retirement planning. From their experience, they have found out that people with a high future tempo are more likely to make provisions for retirement, and advance financial planning, thus improving their financial position in post-retirement. This gave practical aspects of temporal focus in the aspect of encouraging responsible behavior in financial aspect.

Authority Bias

In authority bias, people go with the view of a certain authority and are more likely to be swayed than normally would be expected. This bias is especially important when taking investment decisions as the investors mostly depend on the cue from the financial gurus. Bikhchandani, Hirshleifer and Welch (1992) pointed out how, in a model of informational cascades, people imitate others owing to the presence of an authority bias. Further studies have also been conducted to investigate the validity of the authority bias on patterns in investments. For instance, Huber, Palan, and Zeisberger (2020) confirmed that the reliance on perceived experts leads to worse investment choices especially where the experts' advice is actually biased or forged.

Furthermore, the different studies have demonstrated the high rates of authority bias especially in the financial advisory environments, which raises important implications for investors' protection. Based on the findings of Huber and Fesenmaier (2018), it is recommended that the legislations that govern financial advisors should be enhanced, such that the advisors give post accurate and unbiased information to counter the effects of authority bias to investors.

Investment Decisions

Investment decisions are generally made based on different behavioral biases that are irrational resulting in inefficiencies. Knowledge of how these temporal foci and authority bias influence these decisions can enhance understanding of the problems with improving the investments. Another study has tried to establish the fact that investors who have knowledge of their biases will be able to avoid them and make right investment decisions that will period better returns (Shefrin, 2000). More recent research has built on this knowledge and has underlined the necessity for delivering investor education and investor awareness campaigns. For instance, Glaser & Weber, (2015) in their literature, they argue on Know-Why of FI as playing a crucial role in enhancing the capability of investors to correct behavioral biases influencing their decisions.

Further, new researches in behavioral finance suggest that the extension of new knowledge acquired from behavioral finance, within a framework of creation of decision support tools that utilized these principles to make better decisions for investors (Hoffmann & Post, 2016). Most of these tools may be useful in offering suggestions and possible responses to the biases hence improving returns on investments.

Gap in Literature

Although, there has been substantial work done on the biases outlined above, this present study seeks to fill a knowledge gap where little is known about the interaction of the temporal focus and the authority bias on investment decisions. However, there is virtually no literature available that investigates one basic question: How these biases interrelate and affect the investment behaviours. As such, by combining these two dimensions of the examined psychological factors, this research aims to shed more light on factors influencing stock investment decision and also proffer a way forward on how those adverse effects could be managed.

3. Research Methodology

Research Design

Literature on temporal focus argues that the differences in temporal focus can help predict or determine the differences in investment decisions, but previous studies did not measure authority bias which is known to influence temporal focus. It is chosen to conduct quantitative research because this is the kind of research that involves the use of numbers as a way of arriving at an understanding of the relations between the variables (Creswell & Creswell, 2017). A survey research technique of cross-sectional type is used for the data collection from the clients are individual investors. One of the strengths of cross-sectional studies is that it focuses on static point of data collection thus it is effective in making patterns and correlation analysis between most of the variables as at the time of data collection.

The information about temporal focus, authority bias and investment decisions is collected with the help of a structured questionnaire. The questionnaire is based on the existing validated scales from the previous research in order to maintain the credibility of the questionnaire. In turn, the survey method makes it possible to receive data from rather many number of cases; thus, the tendencies revealed will be more generalizable (Saunders, Lewis, & Thornhill, 2019). Another advantage of the survey approach is it is also convenient for data collection and statistical analysis with the aim of testing the research hypotheses.

Sample Selection

The sample includes 200 individual investors of any age, gender and area of residence; The data was collected by means of the stratified sampling method. Probability sampling where the population is divided into sub-groups by certain attributes after which sample is drawn from each of the sub-groups in equal proportion (Saxton&Becausey, 2008). This improves the generalisability of the sample and makes it easier to capture aspects of the population that may be relevant including demographics.

In this study, the selection is made by considering the demographic variables which include age, gender, education level and income. These factors are selected because it is expected that they have an impact on investments, thus, could shed light on the effect of temporal focus and authority bias on people of different demographic profiles. For instance, investors of different ages may perceive time differently, such that older ones target the future less than younger ones do, and different income classes may require the help of a financial advisor in different degrees.

The last is random sampling within each stratum, whereby all people within the stratum are stand a fair chance of being involved in the study. This approach reduces the chances of geographical, temporal and population sample bias thus enhance the validity of the outcomes (Fowler, 2013).

Data Collection

The information is obtained by use of a structured questionnaire with parts on temporal focus, evidence of authority bias, and investment decisions. A web based questionnaire is used for data collection with the aim of getting a large number of respondents and within the shortest time possible. Some benefits of online surveys are; Their ease in implementation that is they can reach many people within the shortest time and are cheap, Their flexibility that is the respondents are able to complete the surveys at their own convenient time and hence better response (Wright, 2005).

The questionnaire is divided into four main sections:The questionnaire is divided into four main sections:

1. Demographic Information: This section aims at gathering information regarding the age, gender, education level, income among the respondents and other attributes. These results are then utilised to determine the impact of demographic variables on the inter dependencies of the variables.

2. Temporal Focus: This section applies the Zimbardo Time Perspective Inventory (ZTPI) as a tool of assessing the temporal orientation of the respondents with reference to Zimbardo & Boyd (1999). The ZTPI assesses five dimensions of time perspective: There are five temporal orientations namely the past-negative, past-positive, present hedonistic, present fatalistic, and future. All items have been scored on a 1-5 Likert scale with higher scores reflective of stronger orientation towards the theorized time perspective.

3. Authority Bias: The scale used in this section is adopted from other papers which tries to capture the extent to which the respondents are likely to follow the advice of experts in their investment decisions (Bikhchandani et al., 1992). Items include a seven-point Likert scale responses to belief statements made about trust in financial experts as well as the impact of the authority in the stock market investment decisions.

4. Investment Decisions: In this part, the specific section evaluates respondents' recent investment decisions, and employable tactics and results. Some examples are; questions concerning the kind of investments that are traded and the turnover frequency, factors that influence the investment decisions. This section should provide insight on how temporal focus and authority bias do impact on the actual investment behaviour.

Measurement Instruments

• Temporal Focus: Assessed by a scale that was developed and proved by Zimbardo and Boyd (1999) by an aim to measure the past, present, and future balanced orientations.

• Authority Bias: Employing a measure that assess the role that authorities play in decision making processes (Bikhchandani et al., 1992).

• Investment Decisions: Evaluated through questions that have to do with the most recent investment decisions and plans.

Data Analysis

Descriptive analysis is a very important stage for determining the effects of temporal focus, authority bias on investment decisions. Thus, in the framework of this work, diverse methods of statistical analysis of the collected information are used. The analysis is conducted with the help of SPSS software, which has been proved to be suitable for calculating highly reliable statistics and is characterized by an interface that is easy to comprehend even for beginners (Pallant, 2020).

Reliability and Validity Tests

For the purpose of establishing the reliability and validity of the measurement instruments, the Cronbach's alpha coefficient for all the scales contained in the questionnaire are presented in Table 1. these values are higher than 0 for most of the common methods and in particular Cronbach's alpha values, which should be > 0. 7 are regarded as desirable meaning that the components in each of the scale are accurately measuring what the scale is intended to measure (Nunnally and Bernstein, 1994). In table 1: It is also important to note that factor analysis is used in order to test the construct validity of the scales to guarantee that the items are grouped appropriately on their respective factors.

Table 1: Reliability and Validity Tests

Measurement Instrument	Cronbach's Alpha	Factor Analysis (Loadings)
Temporal Focus	0.82	All items > 0.70
Authority Bias	0.85	All items > 0.70
Investment Decisions	0.78	All items > 0.70

4. Results

Descriptive Statistics

A total of 60 percent of the participants are male and the remaining 40 percent are female and the team has an average age of about 35 years. Many of them are college educated and earn on average a little over fifty thousand US dollars per annum. The socio-demographic details of the sample have been provided in Table 2 in terms of gender, age, education and income levels.

Table 2: Demographic Characteristics of the Sample

Demographic Variable	Category	Percentage (%)
Gender	Male	60
	Female	40
Age	18-25	20
	26-35	40
	36-45	25
	46-55	10
	56 and above	5
Education Level	High School	10
	College Degree	70
	Postgraduate Degree	20
Income	Less than $30,000	15
	$30,000 - $50,000	45
	$50,000 - $70,000	25
	Above $70,000	15

Correlation Analysis

Table 3 also presents a correlation matrix that was done to check the relationship between the variables in the present study. In order to establish the strength and direction of these relationships the Pearson correlation coefficient is computed.

Evaluating the results one can state that there is a strong, positive and significant link between future-orientated temporal focus and risk taking towards investments proven by the Pearson correlation coefficient at r = 0. This was obtained with a total sample size of 45 and a p-value which was below 0. 01(p<0. 01). This further suggests that people with future orientation attitude are more likely to take risk bearing or risk taking decisions in investment with careful planning.

Likewise, authority bias was found to be positively related with the use of expert advice in the case of investment decisions with a correlation coefficient value of 0.2842 * pearsons. 50 and p< 0. F (2, 57) = 01 (p < 0. 01). This implies that authority bias will make these persons rely more on the advice that these financial experts give on their investment decisions.

Table 3: Correlation Analysis

Variables	Pearson Correlation Coefficient (r)	p-value
Future-Oriented Temporal Focus and Risk- Taking	0.45	<0.01
Authority Bias and Reliance on Expert Advice	0.50	<0.01

Regression Analysis

The regression analysis which was performed to compare the influence of temporal focus and the authority bias on investment decisions with a focus on other factors is illustrated in table 4 below. The use of multiple regression analysis enables analysis of the net impact of these predictors on investment behaviour.

The analysis further shows that temporal focus and authority bias are statistically significant predictors of investment decisions. Hypothesis two postulates that temporal focus has a regression coefficient of $\beta = 0.35$ with p value of less than 0. 01; $p < 0.01$), and the regression coefficient for authority bias is $\beta = 0.40$ with the p-value less than 0. 01(p<0. 01). It is thus possible to conclude that these two variables have high significance in determination of the investment behaviour.

Temporal focus and authority bias collectively were found to significantly predict investment behavior with the overall model predicting 30% of the variance in the dependent variable ($R^2 = 0.30$).

Table 4: Regression Analysis

Predictor Variable	Regression Coefficient (β)	p-value
Temporal Focus	0.35	<0.01
Authority Bias	0.40	<0.01

Hypothesis Testing

Table 5 displays the results of the Hypothesis testing done on the outcome of correlation and Regression analysis. Hypothesis testing as the name suggests involves a comparison of data set of results sampled with the null hypothesis setting to define whether or not the hypothesis can be rejected or not. The hypotheses for this study are as follows: The hypotheses for this study are as follows:

• **H1**: Future oriented temporal focus is positively associated with the investment decisions.

• **H2**; There is a positive significant correlation between authority bias and investment decision.

The outcomes of the hypothesis tests are discussed in order to determine the meaning of the results for theory and practice enhancement.

Table 5: Hypothesis Testing Summary

Hypothesis	Result
H1: Significant positive relationship between future-oriented temporal focus and investment decisions.	Supported ($p < 0.01$)
H2: Significant positive relationship between authority bias and investment decisions.	Supported ($p < 0.01$)

5. Discussion

Key Findings

• It has revealed that temporal orientation has an impact on investment risk taking and specifically future-oriented subjects' risk taking is likely to be more driven by calculation.

• They indicate that authority bias influences the investment decisions and results in a reliance of expert opinion.

Comparison with Previous Studies

The findings are thus in line with earlier studies regarding the moderating influence of temporal focus and authority bias on investment behaviour (Shefrin, 2000; Tversky & Kahneman, 1974).

Implications

Consequently, the findings of the study are informative not only to researchers but also users such as investors and their financial advisors. This paper illustrates that approaches to manage the impact of such biases can help improve investment results. For example, financial advisors will assist investors to realize that they have temporal myopia and they possess an authority bias to ensure they make better decisions.

Limitations

Some of the methods used are based on self- reporting and may thus entail response bias. Further studies can eliminate the above limitations by incorporating more precise accurate and long-term if possible measures.

Future Research

It will be beneficial for future studies to investigate the relationship between more than one bias and its influence on investment actions. Further, research investigations could also explore ways of minimizing the effect of the various mentioned biases.

6. Conclusion

This paper analyses the effect of temporal focus and authority bias on investments with a focus on the importance of these biases on investments. People with a focus on the future are likely to engage in risk taking activity that can help them achieve better investment returns as postulated by Zimbardo & Boyd (1999) on temporal consideration theory. Likewise, people who show authority bias generate much of their recommendations from financial gurus, which has a strong impact in their choice on investment, as investigated by Bikhchandani, Hirshleifer and Welch stating informational cascades. Thus, these results suggest that investors should remain cognizant of their behavioral biases. The following biases should be significant to financial advisors ad policymakers to aim to address how they can help investor become rational for the task of critically evaluating investment decisions and decisions that can help the reach their financial goals in the long run. Further studies should research on the relationships between two or more behavioural biases and their effects on investment decisions, conduct cross sectional and longitudinal research on the ways and manner in which behavioural biases change with time, compare the effects of behavioural biases across cultures and other socio-economic attributes and come up with ways and manners in which investors can minimize these behavioural biases in investment decisions. Therefore, behavioral biases in investment decision-making should be detected and managed to develop effective strategies that improve the efficiency of investments for increasing the financial welfare.

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