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IMPACT OF BEHAVIORAL BIASES ON INDIVIDUAL'S RETIREMENT PLANNING IN PAKISTAN

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ABSTRACT

This study examines the effect of affective, cognitive and conative biases on the individual's retirement planning. The data was collected from fifty eight private sector universities of major cities of Pakistan with the help of adapted questionnaire. The sampling used here is stratified random sampling because the data was collected from five major cities of Pakistan considering each city as strata. The findings of this study support the social cognitive theory and show highly significant and positive effect of behavioral biases on the individuals planning for their old age.

Keywords: Behavioral Finance, Cognitive bias, Affective Biases, Conative Biases, Pension, Retirement Planning.

INTRODUCTION

Background of the study

One of the emerging issues faced by the worldwide economies nowadays is of population ageing which comprehends that fertility ratio having been declined. Hence, resulting in fewer work forces currently engaged in employment as compared to the pensioners. The pension they get comes from the contribution of the employees currently in employment. Therefore, the pension schemes have grabbed the attention worldwide due to population ageing issue specifically (Holzmann, 2013). The pension schemes generally are of three types; State Pension, Occupational Pension, and Private Pension schemes. The Occupational pension schemes also called defined benefit schemes are the accumulated fund paid to the employees of the organization working for them at the time of retirement. These funds are deducted from the employees throughout their work life as well as contributions from the employers. Private pension schemes also called defined contribution schemes are purely voluntarily contributions of funds by people having intention of some savings for their retirement age (Holzmann & and Dorfman, 2008).

Individuals can opt for savings for their future post employed stage by contributing some part of their present consumption for future savings. This contribution of individuals is basically their investment for future. Individuals make decisions for their old age investments in pension schemes which are affected by some psychological and behavioural factors. Individuals who lack proper knowledge of financial instruments are less likely to either invest or if they invest then they are affected by some mental and emotional biases also called heuristics (Quang, et al., 2023).

Mitchell and Lusardi (2021), states that behavior of individual also effects his decision regarding investment in private pension scheme. Behavioral factors and knowledge should be further explored to have more in-depth insight into the various types of behavior towards the retirement planning and savings (Rameli and Marimuthu, 2018). Therefore, this study provided a framework incorporating the impact of the behavioral factors on the individual's retirement planning. The research objective of this study is to analyze the impact of behavioral biases on the individual's retirement planning in Pakistan.

Literature Review

Behavioral Biases

According to the social cognitive theory, individuals decisions are affected by their different mind sets. Individuals usually use shortcuts in making their decisions for investments called heuristics. These heuristics lead to behavioral biases in decision making. According to Bhandari and Hassnein (2012), these behavioral biases can be categorized into cognitive, affective and conative biases on the basis of past literature review. Wright (1980) explains the cognitive bias where individual is unable to interpret wisely the information regarding investment decision. Ajzen and Fishbein (2000) in addition explains the affective biases as the emotional bias where individuals fear for losses, happy / greed for gains and so on. Furthermore, Massa and Simonov (2005) elaborates the conative bias as the bias which is embedded in human nature. In contrast to cognitive bias (bias which is present only when there is some new information), conative bias is always present irrespective of availability of any information. Individuals avoid investments when economy is in recession while prefer to invest more when economy is in boom (Walden, 2012). These biases lead to wrong decisions where the loss may be incurred more than the return (Benartzi and Thaler, 2001).

Behavioral Biases and Individual's retirement planning

Pensions are basically "the plan for setting aside money to be spent after retirement. It is a long term contract which helps workers in securing their old age. Retirement plan and pension plan are interchangeably used" (Zhang, Shand, & Howell, 2014). In an another study pensions are further explained as "the term pension corresponds to a benefit paid to an employee who retires from work after reaching a prescribed age.

Behavioral factors are the driving forces behind the planning and saving pattern of the individuals. Saving pattern is mostly adopted by individuals for future use of funds. Individuals might tend to save or choose not to save for future, depending on whether they are future oriented or they like to consume all their earnings in present rather than saving them for future use (Rameli, and Marimuthu, 2018). Retirement planning is also for having smooth earnings even after retirement from job. Thus, the perception of individuals shapes the behavior of individuals towards retirement planning.

H1: Behavioral biases affect significantly individual's retirement planning.

Affective bias which includes the house money and disposition effects positively the individuals retirement planning. This means that individuals usually prefer to invest in such schemes from where they have already gained in past. They are reluctant to invest in any new scheme as they are scared of expected losses. Moreover in disposition effect individuals usually show hastiness in their decisions to sell or hold their investment securities. So they might invest in either low risk scheme or sell their investment scheme for old age before the maturity. The reason once again is fear of potential losses. The reason behind the improper decisions in cognitive biases can be due to lack of financial knowledge and income.

H1 A: Affective biases affect significantly the individual retirement planning

Cognitive bias includes the representative bias and ambiguity aversion bias. Representative bias is that individuals perceive that all the investment schemes of a particular company will result in gains if any one of its scheme has resulted in gain and vice versa. Thus without proper investigating the investment scheme for old, investors might invest irrationally for their old age. Ambiguity aversion bias is where individuals prefer to choose such investments for their old age which are known to them so they feel more comfortable to invest in such schemes for their old age.

H1 B: Cognitive biases affect significantly the individual retirement planning

Furthermore, Conative bias includes the overconfidence bias and status quo bias. Overconfidence bias is where the investor is too much confident over a particular investment option and status quo bias is where individuals feel more comfortable in investing in familiar investment options. So if they are not familiar with the investment planning schemes for pensions then they will avoid investing for their old age. These biases lead to wrong decisions where the loss may be incurred more than the return (Benartzi and Thaler, 2001).

H1 C: Conative biases affect significantly the individual retirement planning

Research Framework

Albert Bandura in the early 1960's transitioned the traditional learning theory to social learning theory. The main focus of this theory was on the imitation and modeling of individuals. Social Learning theory states that individuals learn from the society including peer, family, friends, etc. (Bandura and Walters, 1977). This theory was revised by Albert Bandura in 1980's as the cognitive aspect was also included in it and it was renamed as Social cognitive theory. This theory is used by several studies to study financial behavior of individuals as well (Martin and Bush, 2000).

The dependent variable in this study is the individual retirement planning and independent variables are affective biases (house money effect and disposition effect), cognitive biases (including representativeness and ambiguity aversion biases)and conative biases (including overconfidence and status quo biases).

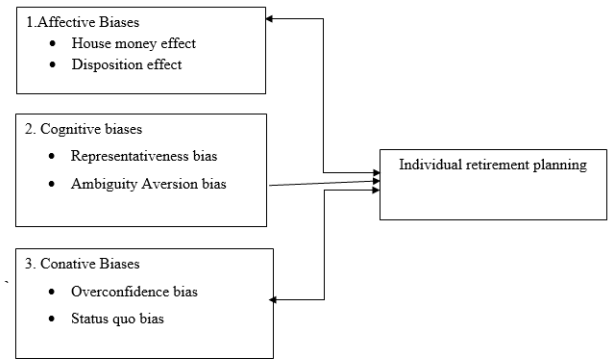

Figure 1 Conceptual Framework

Implication of the study

The practical implication of this study is that it will help the private sector employees to plan savings and investments for their future retirement time. So, it will help them in smooth consumption of their earnings in their employment time span as well as their old age. The chance of poverty and scarce resources for retired people will be reduced.

Methodology

The primary data is used in this study and the data is cross – sectional data. This research study is quantitative in nature. The nature of the study is explanatory. The data was collected from 58 out of total 67 HEC recognized private sector universities of major cities of Pakistan including Karachi, Lahore, Peshawar, Islamabad and Quetta with the help of adapted questionnaire. The psychological factors for one of the affective bias, house money effect were measured by nominal scale used in the questionnaire by Peng (Peng, Miao, Xiao, 2013). While the other one disposition effect was measured by interval scale through six point Likert scale used by Goo (Goo, Chen, Chang, Yeh, 2010). The cognitive biases including representatives and ambiguity and conative biases including overconfidence and status quo bias were measured by the interval scale through five point likert scale used by Ritika (Ritika and Kishor, 2020).The sampling used here is stratified random sampling because each major city of Pakistan was categorized as a strata where each strata provided its own results. Warppls is used for data analysis in the study.

Results and Discussion

The descriptive details about age of the respondents are statistically explained in the following table.

Table 1 ***Age***

	Frequency	Percent	Valid Percent	Cumulative Percent
(20-35) years	79	81.4	81.4	81.4
(35-50) years	18	18.6	18.6	100.0
Total	97	100.0	100.0	

This table shows that the majority of the responses were gathered by those with the age group of (25-35) years as the percentage figure is 81.4% and the frequency is 79. However the respondents with the age group of (35-50) years have shown fewer responses with a percentage of 18.6% and frequency of 18. Although, there were age groups category of (50 – 65) years and over 65 years but mostly those individuals were reluctant towards responding questionnaires.

Table 2 ***Composite reliability coefficients***

HME	DE	Rep	Ambg	OCF	SQ	IRP
0.814	0.934	0.814	0.899	0.839	0.868	0.841

The normalized factor loading is conducted in this study. The value of composite reliability coefficients should be greater than 0.7 for acceptance. Therefore, the following variables are accepted as they all shows the reliability values of factor loadings in a satisfactory mode.

Table 3 ***Cronbach Alpha***

HME	DE	Rep	Ambg	OCF	SQ	IRP
0.725	0.922	0.850	0.830	0.742	0.771	0.722

The value of cronbach alpha is greater than 0.7 as desired for acceptance for all the variables as shown in the above table.

Table 4 ***Path Coefficients***

	HME	DE	REP	AMBQ	OCF	SQ
IRP	0.067	- 0.186	0.149	0.056	0.095	0.192

The path coefficients are basically the absolute value which shows direction of the relationship. It varies in between + 1 and – 1. The values lying towards + 1 shows positive relation and the values lying towards – 1 shows negative relationship. The value of path co efficient for House money effect is (0.067) which shows its positive relation with the retirement planning. It confirms the result from the past study that individual gets more upset on losses they have incurred previously. They feel more mourned when they loss their earned income and investment gains as compared to the loss of income earned in gambling (Peng, Miao, Xiao, 2013). When the value of investments starts increasing, individuals respond rapidly in selling such securities rather than waiting for the peak in price. In contrast when the worth of securities starts decreasing then they hold them for too long rather than selling it on proper time to avoid losses which finally results in the disposition effect. So in this paper, this disposition effect (0.186) also shows negative relation with the retirement planning which means that the individuals show similar behavior for retirement planning (Goo, Chen, Chang, Yeh, 2010). The overconfidence bias (0.095) also have a positive relation with the retirement planning which means that the more they are confident on their perceptions and level of knowledge, the less they will give importance to the technical investigation of investment choices of retirement planning. The status quo bias also shows positive relationship (0.192) where individuals are reluctant to change their opinion regarding planning and investments for retirement planning. Representativeness (0.149) is also positively related to the retirement planning. It can be stated that individuals have already perceived different investment choices on the basis of their observations and experiences. So they remain stick to their own perceptions while taking decision regarding planning in investment opportunities for retirement planning. Ambiguity aversion has a positive relation with the retirement planning (0.056) as individuals prefer investments in secure places rather than risky ones (Ritika and Kishor, 2020).

Table 5 ***P values***

	HME	DE	REP	AMBQ	OCF	SQ
IRP	0.001	<0.001	0.004	0.003	0.045	<0.001

The p values should be less than 0.05 for showing statistical significance. Hence, the p value shows significant positive results for all the variables mentioned in this study including the affective biases (House money effect and disposition effect), cognitive biases (Representativeness and Ambiguity aversion) and Conative biases (Overconfidence and status quo). In case of affective biases, individuals might not invest for their old age due to fear of losses and decrease in present consumption.

Table 6 Model fit and Quality Indices

Average path coefficient (APC)=0.133	P=0.004		
Average R-squared (ARS)=0.805	P<0.001		
Average adjusted R-squared (AARS)=0.761	P<0.001		
Average block VIF (AVIF)=1.158	acceptable if <= 5	ideally <= 3.3	
Average full collinearity VIF (AFVIF)=2.949	acceptable if <= 5	ideally <= 3.3	
Tenenhaus GoF (GoF)=0.428	small >= 0.1	medium >= 0.25	large >= 0.36
Simpson's paradox ratio (SPR)=0.842	acceptable if >= 0.7	ideally = 1	

R-squared contribution ratio (RSCR)=0.994	acceptable if >= 0.9	ideally = 1
Statistical suppression ratio (SSR)=1.000	acceptable if >= 0.7	
Nonlinear bivariate causality direction ratio (NLBCDR)=0.879	acceptable if >= 0.7	

The values for Average path coefficients is 0.133 and its p value is also less than 0.05 which shows significance , average R square value of the model is 0.805 and its p value is less than 0.001, the average adjusted R square value is 0.761 and its p value is less than 0.001. if the average block VIF is less than or equal to 5 then its acceptable so in this study it is 1.158. The average full collinearity VIF is 2.949 which is again in the acceptance zone. The tenenhaus GoF is 0.428. The Simpson's paradox ratio is 0.842, R square contribution ratio for the model is 0.994, statistical suppression is 1.00 and non linear bi variate causality direction ratio is 0.879. thus, all these values comprehend towards that the model is statistically overall significant.

Conclusions

Therefore, it can be concluded from the results of this study that individuals are not rational while making their decision for old age. Moreover, it means that the decisions of individuals regarding their investment for old age, that is, retirement planning do vary because of these biases. Individuals fail to plan accurately and rationally because of these mental heuristics alter their decisions. Ritika (2020) also confirmed that emotions have greater influence and they overcome the individual's mental skills which distracts them and creates irrationality in their decisions. Moreover, the results of this study are also in accordance with the Social cognitive theory where it confirms that individuals observe the behavior, decisions and the outcome of their own past experiences as well as those of their family and peers; and then in the light of that they make decisions.

Future Recommendation

The future recommendation for this study can be that usually Individuals avoid investments when economy is in recession while prefer to invest more when economy is in boom (Walden, 2012). The current economic instability of Pakistan can also be a reason for the lack of interest of individuals towards retirement planning.

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