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Framing Effect and Financial Wellbeing: Role of Investment Behaviors as Mediator

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ABSTRACT

Based on the premise that human beings are not rational agents and are frame dependent while making investment decisions, this study has found a significant impact of framing effect on investment behaviors and financial wellbeing. Structural Equation Modelling is employed in Stata, on the data collected from 344 respondents from Pakistan (299 salaried persons and 45 businessmen), having more than three years' experience. We supported the view of behavioral finance that framing effect could influence the financial wellbeing negatively. We extended the analysis further by validating the mediating role of investment behaviors between framing effect and financial wellbeing, which is a contribution to the body of knowledge in the field of behavioral finance.

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1. Introduction

Behavioral finance studies found that human beings could always not be rational while making financial decisions (Otuteye & Siddiquee, 2014; Howard, 2012; Slovic, 2001) and financial behaviors could be determined by the behavioral biases (OECD, 2013; Baker & Ricciardi, 2014). With specific reference to framing effect, it has been evident that decisions made by human beings tend to be frame dependent (Kahneman & Tversky, 1984), i.e. framing same information in different ways can influence the decision. This phenomenon is against the rational choice mechanism - the basis of utility maximization theory of Neumann & Morgenstern (1944).

Considering another perspective, literature on financial wellbeing shows that researchers have been striving hard to explore the determinants of financial wellbeing (Xu, Beller, Roberts, & Brown, 2015). Assuming that positive financial behaviors lead to better financial wellbeing, sometimes financial wellbeing is referred to as positive financial behaviors, however longitudinal studies differentiated financial wellbeing from positive financial behaviors (CPFB-USA, 2015). Financial wellbeing could be affected from various aspects of individual financial decision making, such as retirement planning (Lusardi & Mitchell, 2006), how the finances are managed (Lusardi & Mitchell, 2007; Vlaev & Elliott, 2014), financial behaviors (Gutter & Copur, 2011), capability of dealing with loans (Tsai, Dwyer, & Tsay, 2016) and how financial satisfied individuals are (Ali, Rahman, & Bakar, 2015). More specifically, financial wellbeing could be explained by individua l characteristics, financial stressors and financial behaviors (Kim, Garman, & Sorhaindo, 2003).

Apropos the above, a gap is felt in the existing literature concerning interrelationships of framing effect, investment behaviors and financial wellbeing of the individuals. Although, studies by Kahneman & Tversky (1984), Shefrin & Thaler (1988), Thaler (1990), Barber & Odean (2000), Barber & Odean (2001), Stango & Zinman (2009), Antonides, Groot, & Raaij (2011) and Barber & Odean (2013) are found on the relationships between behavioral biases and the outcomes of financial decision making, however a direct link of behavioral biases with financial wellbeing is not found in the existing literature. These studies concluded that biased behaviors could affect the outcomes negatively. With regards to the relationships among behavioral biases, financial decision making and financial behaviors, studies are conducted by Tversky & Kahneman (1974), Kahneman & Tversky (1979), Slovic (2001), Campbell (2006), Thaler & Sunstein (2008), Stango & Zinman (2009), Howard (2012), Otuteye & Siddiquee (2014), Baker & Ricciardi (2014), Allgood & Walstad (2016), Groot & Raaij (2016) and Frydman & Camerer (2016). Furthermore, financial behaviors, specifically investment behaviors are linked with financial wellbeing by Gutter & Copur (2011), Stango & Zinman (2009), Gutter & Copur (2011) and Allgood & Walstad (2016).

With this background, we found that not a single study is conducted to research specific interrelationships of framing effect with investment behaviors and financial wellbeing, which, if investigated; could provide valuable theoretical and policy insights, for better understanding the financial decision making phenomenon, when it is already evident that human beings have limited capacity to understand the complex situations i.e. bounded rationality (Simon, 1957; Simon, 1999; Simon, 2000). Bounded rationality shed light on deviations from purely rational behavior, due to limited processing capacity of the decision-making units.

Therefore, the current study; while extending the existing body of knowledge aimed to find out the links between framing effect, investment decisions and financial wellbeing. The basic assumption of the study is that the financial wellbeing of the individuals depends upon how rationally they behave. Excessive information or the level of information availability affect the decision required to be made on the basis of that information and individuals could find least ability to process that information (Malhotra, Jain, & Lagakos, 1982; Rubinstein, 1998; Fasolo, McClelland, & Todd, 2007). In scenarios, where information is available excessively or presented in a complicated way, human beings tend to find "shortcuts". (Simon, 1957). Such shortcuts, if in some case are advantageous, could also lead to systematic mental errors and resultantly could make the consequences unfavorable. These shortcuts are referred to as heuristics and behavioral biases by Tversky & Kahneman (1974) and Kahneman & Tversky (1984). Framing the same information in different ways could lead to different outcomes (Kahneman & Tversky, 1984), therefore we argued that framing could affect the financial wellbeing of the individuals, as individual human beings have restricted ability to process the available information in a complex situation while also having time constraints. It is also argued that framing can also affect the way individuals behave towards their investments, where investment behaviors can also affect the finance wellbeing.

Section 2 of the study comprised of review of related literature and hypothesis development. Section 3 explained the variables and the methodology adopted. In Section 4 findings of the study and critical discussion with reference to specific literature is carried out. The last section concluded the study, highlighted the limitations and future research directions.

2. Hypothesis Development based on Prior Research

In this section, we have reviewed the existing literature on framing effect, investment behaviors and financial wellbeing and based on that, we have developed certain hypothesis for subsequent testing.

2.1 Framing Effect and Financial Wellbeing

From the evaluation of existing literature, a negative association of framing with financial wellbeing is evident. It is also evident that framing could influence the financial decision making, in contradiction to rational choice theory (Kahneman & Tversky, 1984), which could have serious consequences towards financial wellbeing of the individuals. Based on these literary findings, it is argued that due to the existence of framing effect, individuals could exhibit least competence in making rational decisions and this could have negative consequence on the overall financial wellbeing of the individuals. Therefore, following hypothesis is developed:

H1: Existence of Framing effect affect the financial wellbeing of the individuals negatively

2.2 Farming Effect and Investment Behaviors

Human beings exhibit various financial behaviors some could be negative, and some could be positive (Allgood & Walstad, 2016). For instance, sometime their investment behaviors could be illogical and beyond rationale due to their emotions, personality traits and also due to the mental mistakes occur unconsciously (Baker & Ricciardi, 2014). The mental mistakes occur during the decision making process are called as heuristics, a simplified mechanism of choice (Tversky & Kahneman, 1974; Kahneman & Tversky, 1979; Thaler & Sunstein, 2008). While making choices, human beings could be biased, they could rely on heuristics and they could be frame dependent. Such phenomenon could lead to the occurrence of anomalies at individual as well as market level (Slovic, 2001; Howard, 2012; Otuteye & Siddiquee, 2014). Investors use mental shortcuts while making investment decisions and could show behavioral biases (Jain, Jain, & Jain, 2015). Moreover, Frydman & Camerer (2016) also claimed that frame dependency could affect the financial behaviors of the individuals. Based on above, it is argued that human beings suffered by framing could exhibit negative investment behaviors, therefore it is hypothesized that:

H2: Existence of Framing effect affect the financial behavior of the individuals negatively.

2.3 Investment Behaviors and Financial Wellbeing

Financial behaviors significantly affect the financial wellbeing, for instance it matters how individuals plan their family budget, how much they save for the future and how much they spend by using risky credit cards (Gutter & Copur, 2011). With specific reference to investments, the way individuals manage their investments, could affect their financial wellbeing. For instance, behaviors such as investing in financial securities and EOBI etc., rebalancing the investments once every year and investing more than 50% of retirement portfolio could be healthy for the overall financial wellbeing (Allgood & Walstad, 2016). Reverse causality between investment behaviors and financial wellbeing could also exist, however literature is silent in this regard. Mostly, financial wellbeing is determined as an outcome of how the individuals behave i.e. how they planned their retirement (Lusardi & Mitchell, 2006), how they managed their finances (Lusardi & Mitchell, 2007; Vlaev & Elliott, 2014), how they behaved towards their finances (Gutter & Copur, 2011) and how they coped with their debts (Tsai, Dwyer, & Tsay, 2016). With this premise, it is claimed that positive investment behaviors could lead to better financial wellbeing and negative investment behaviors could weak the financial wellbeing of the individuals, therefore it is hypothesized that:

H3: Negative financial behaviors affect the financial well-being of the households negatively.

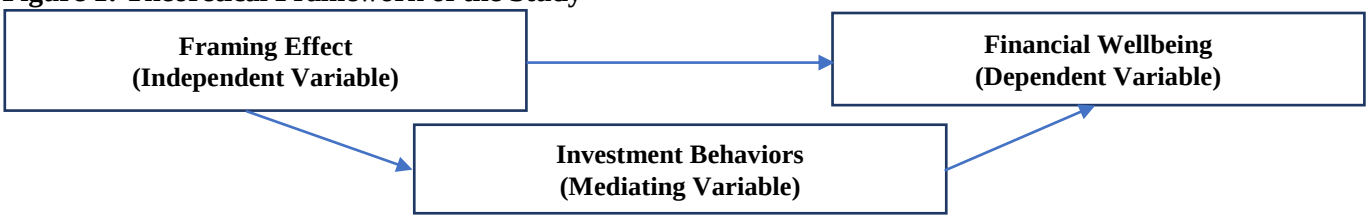
2.4 Mediating Role of Investment Behaviors between Framing Effect and Financial Wellbeing

If hypothesis 1 is accepted that framing could affect the financial wellbeing negatively, hypothesis 2 is accepted that framing can affect the investment behaviors negatively and hypothesis 3 is accepted that negative investment behaviors could affect the financial wellbeing negatively, a mediating role of investment behaviors will be evident. Therefore, following preposition is developed:

P1: Existence of framing effect affect the investment behavior of the households negatively, which in turn affect the financial well-being of the households negatively.

Therefore, following theocratical framework is proposed on the basis of review of related literature.

Figure 1: Theoretical Framework of the Study



3. Methodology

This section presented the methodology employed for conduction of the research. It involves defining techniques for sample and data collection. Considering explanatory nature of the study, positivism research philosophy is adopted. Quantitative research methods are used to quantify framing effect, investment behaviors and financial

wellbeing. An online questionnaire1 is developed to target only the salaried persons and businessmen having minimum three years job or business experience, assuming that these individuals are mainly involved in financial decision making. A sample must be representative of the population for which it is intended for, however representativeness cannot be fully achieved, because the similarities between sample and the population are not possible to determine (Pedhazur & Schmelkin, 1991). For the sample in this study, inclusion criteria were salaried persons and businessmen having minimum three years job or business experience. It can be claimed that such a broader inclusion criterion would eliminate any part of the population appropriate for inclusion in the sample. Moreover, the collected data is not meant for use in norm referencing procedures and also not required to be representative of any other variable of interest. For such cases, homogenous sample is considered as a pre-requisite (Rust & Golombok, 2009). Based on this premise, heterogenous sample is considered advantageous as it benefits correlational studies (Pedhazur & Schmelkin, 1991). Therefore, convenient sampling is considered appropriate for this study. A sample size ranging from 200 to 400 is considered appropriate for social sciences research (Hair, Sarstedt, Ringle, & Mena, 2012), therefore in the current study sample size of 344 is finalized.

Table 1: Summary Statistics

Variable	Description	Percentage / mean (SD)2
Profession (Occup)	Job	86.92%
	Business	13.08%
Experience (YoE)	3-5 years	30.52%
	5-10 years	31.10%
	Above 10 years	38.37%
Gender (Gen)	Male	84.01%
	Female	15.99%
Age Group (AG)	18-24	8.72%
	25-34	52.03%
	35-44	23.55%
	45-54	11.05%
	55-64	4.65%
Education (E)	Primary Education	0.29%
	Middle level	0.58%
	Matriculation	0.87%
	Intermediate	3.78%
	Graduation	27.33%
	Masters	36.34%
	MS / M.Phil.	28.78%
	PhD	2.03%
Field of Study (Edu_FoS)	Business Management	43.31%
	Computer Sciences	12.50%
	Engineering	9.88%
	Physical Sciences	12.21%
	Social Sciences	22.09%
Monthly Income (MI)	PKR 25,000	11.34%
	PKR 37,500	31.98%
	PKR 75,000	35.17%
	PKR 100,000	21.51%
Marital Status (MS)	Divorced/Separated	0.87%
	Married	69.48%
	Single	29.65%
Framing Effect (FE)3	No	59.30%
	Yes	40.70%
Financial Wellbeing Score (FWB)		20.95 (5.02)
Investment Score (Inv)		3.42 (1.06)

1 The questionnaire devised is available at https://goo.gl/forms/Dv8yVJa5OzUWhalJ3.

2 For continuous variables, mean and standard deviation are reported in parenthesis.

3 Framing effect is treated as a dichotomous variable. Four questions were asked to check framing effect. Framing is identified as per following criteria: For instance in first question, Program A reflects risk aversion and Program B reflects risk seeking. In second question, Program C reflects risk aversion and Program D reflects risk seeking. If selected program in questions 1 and 2 are: A&C - No Framing Effect, A&D - Framing Effect, B&C - Framing Effect, B&D - No Framing Effect. If Framing Effect = No = 0, if Yes = 1.

Nine questions are asked about demographics. Questions concerning framing effect (04), investment behaviors (04) and financial wellbeing (10) are adopted from the studies of Kahneman & Tversky (1984), Allgood & Walstad (2016) and CPFB-USA (2017), respectively. Scores are calculated for investment behaviors and financial wellbeing. Investment behaviors are coded to reflect the negative investment behaviors. In total 1,061 individuals were approached, out of those 611 responded. Considering salaried persons and business holders with job or business experience more than three years, the sample finalized consisted of 344 respondents. From the response rate, it is evident that the sample is representative. The possibility of significant response bias could be minimized by attaining high response. To make the analysis adequate, 50% response rate could be considered as sufficient (Rubin & Babbie, 2010). Response rate to the survey questionnaire is recorded as 56.30%, which is enough to carry out the analysis. Table 1 presents summary statistics.

To address the validity and reliability issues, the guidelines of Collingridge (2014) are followed. The questionnaire items adopted from the studies of Kahneman & Tversky (1984), Allgood & Walstad (2016) and CPFB-USA (2017) were further discussed with experts from the field to ensure face validity. Accordingly, questions were rephrased / amended keeping in view the local settings. Some of the questions were phrased negatively to avoid reckless responses. Afterwards, a pilot testing was carried out on a sample size of 80. The data collected in pilot study was analyzed and internal consistency was checked through Cronbach Alpha. Questionnaire items pertaining to investment behaviors, having low Cronbach Alpha value; were further rephrased to make them simpler and easy to understand.

For the construct validity of the proposed hypothesis, Confirmatory Factor Analysis is carried out, as suggested by Atkinson, et al. (2011). Results of Confirmatory Factor Analysis are presented in Table 2. Based on hypothetical framework of the study, four models were developed to test the best fit. RMSEA value of all the models is less than 0.08, therefore considered as good. CFI values of all the models are above 0.90 except Model 4, having value of 0.382. Model 1, 2 and 3 are considered as statistically superior then Model 4 in terms of RMSEA and CFI and X2. Based on the confirmatory factor analysis, the validity of Model 4 is found lower.

Table 2: Fit Indices for Confirmatory Factor Models in Overall Sample

	RMSEA	90% CI	CFI	df	X2	X2/df	P
Model 14	0.000	0.000, 0.000	1.000	35.788	0.000		
Model 25	0.000	0.000, 0.000	1.000	23.869	0.000	0.000	P<0.05
Model 36	0.000	0.000, 0.000	1.000	33.149	0.000	0.000	P<0.05
Model 47	0.058	0.031, 0.085	0.382	62.828	34.429	34.429	P<0.05

For the final dataset, Cronbach Alpha statistics are reported in Table 3, showing overall reliability of the questionnaire as 0.74. Thus, data collection instruments are found reliable to test the hypothesis.

Table 3: Reliability Statistics

Variable	Construct	Items in the scale	Reliability coefficient of scale
All	All	18	0.74
Independent variable	Framing effect	04	0.62
Dependent variable	Financial wellbeing	10	0.69
Mediating variable	Investment behaviors	04	0.77

4. Findings and Critical Discussion

This section is about findings of the study and their critical review with reference to the studies already conducted. To test the hypothesis, Structural Equation Modelling (SEM) is employed in Stata.

4.1 Hypothesis 1

Hypothesis 1 is tested with 50 bootstrap replications and its results are presented in Table 4. The model is found fit for estimation as shown by overall goodness of fit statistics i.e. P>Chi2 equals to 0.003. From the results, it is evident that FE negatively affect FWB at a significant level. Probability of significance is 0.041. Two control

4 Model 1 comprise of framing effect and financial wellbeing.
5 Model 2 comprise of framing effect and investment behaviors.
6 Model 3 comprise of investment behaviors and financial wellbeing.
7 Model 4 comprise of framing effect, financial wellbeing and investment behaviors.

variables i.e. MI and number of children have also shown a significant effect on FWB at a p-value of 0.000 and 0.006 respectively. However, MI has shown a positive impact, whereas number of children has shown a negative impact. From this analysis, we found that framing effect decreases the FWB. Moreover, higher the monthly income resulted in higher FWB, however, if number of children is higher, it will lower the FWB. These results support the findings of (Kahneman & Tversky, 1984), and are in line with the behavioral finance approach, which claims that human beings are frame dependent.

Table 4: Results for Hypothesis 1

Standardized	Observed Coef.	Bootstrap Std. Err.	z	P>|z|	Normal-based [95% Conf. Interval]	
Structural						
FWB <-						
FE	-0.085	0.042	-2.040	0.041	-0.167	-0.003
Occup	0.111	0.868	0.130	0.898	-1.590	1.813
YoE	-0.042	0.159	-0.270	0.791	-0.353	0.269
Gen	1.276	0.802	1.590	0.112	-0.296	2.847
AG	0.004	0.034	0.120	0.906	-0.063	0.071
E	-0.072	0.131	-0.550	0.584	-0.327	0.184
FOS-BM	-0.398	0.809	-0.490	0.622	-1.984	1.188
FOS-CS	-0.222	0.832	-0.270	0.790	-1.852	1.408
FOS-Eng	-0.491	1.155	-0.430	0.671	-2.754	1.772
FOD-PS	-0.292	0.968	-0.300	0.763	-2.189	1.605
MI	0.000	0.000	4.570	0.000	0.000	0.000
MS	0.118	0.744	0.160	0.874	-1.340	1.576
Child	-0.655	0.237	-2.760	0.006	-1.120	-0.190
_cons	19.764	1.975	10.010	0.000	15.893	23.634
Var (e. FWB)	0.901	0.034			0.837	0.970

The results of model executed with respect to profession suggested that FWB of salaried persons is significantly and negatively influenced by FE, at a p-value of 0.053, whereas FWB of businessmen is not influenced by FE. No statistically significant difference is found in case of Gender, Age_G, Edu and other demographic variables.

4.2 Hypothesis 2

Hypothesis 2 is estimated to ascertain the impact of FE on investment behaviors. Structural Equation Modelling is executed with 50 bootstrap replications and its results are presented in Table 5. It is found that FE affect the negative investment behaviors in a positive way at a significance p-value of 0.032, which means that framing effect escalate the negative investment behaviors. Two control variables i.e. Profession and Education have also shown significant impact on negative investment behavior. It shows that those who do business are less likely to exercise negative investment behaviors than those who do job. Moreover, those who have higher level of education are less likely to exercise negative investment behaviors. Overall, these findings suggest that framing escalate negative investment behaviors.

Table 5: Results for Hypothesis 2

Standardized	Observed Coef.	Bootstrap Std. Err.	z	P>z	Normal-based [95% Conf. Interval]	
Structural						
Inv <-						
FE	0.088	0.045	2.180	0.032	0.011	0.157
Occup	0.359	0.181	1.980	0.048	0.004	0.715
YoE	0.016	0.034	0.470	0.638	-0.051	0.082
Gen	0.091	0.149	0.610	0.543	-0.202	0.384
AG	-0.005	0.009	-0.530	0.593	-0.022	0.013
E	-0.060	0.029	-2.040	0.041	-0.117	-0.002
FOS-BM	-0.046	0.141	-0.320	0.747	-0.322	0.231
FOS-CS	-0.109	0.202	-0.540	0.590	-0.504	0.287

FOS-Eng	-0.040	0.206	-0.190	0.846	-0.445	0.364
FOD-PS	0.025	0.187	0.130	0.894	-0.341	0.391
MI	0.000	0.000	-0.740	0.461	0.000	0.000
MS	0.030	0.174	0.170	0.863	-0.311	0.372
Child	0.020	0.054	0.380	0.707	-0.086	0.126
_cons	4.155	0.479	8.680	0.000	3.217	5.093
var(e.Inv)	1.078	0.125			0.858	1.354

These results support the viewpoint of Allgood & Walstad (2016), Baker & Ricciardi (2014), Tversky & Kahneman (1974), Kahneman & Tversky (1979), Slovic (2001), Thaler & Sunstein (2008), Howard (2012), Otuteye & Siddiquee (2014) and Jain et al. (2015), who found the individuals involved in such behaviors which are beyond logic and reasoning. No statistically significant difference is found in subgroups based on demographic variables.

4.3 Hypothesis 3

Hypothesis 3 is estimated to check the association between negative investment behaviors and FWB. Structural Equation Modelling results are shown in Table 6, from where it is found that investment behaviors affect FWB at a significance p-value of 0.037. beta value is recorded as -0.112 that means the impact is in negative direction. Therefore, it can be argued that exercising negative investment behaviors by the individuals could result in lesser financial wellbeing. Furthermore, a subgroup analysis found that FWB of males is adversely affected due to their negative investment behaviors, comparing to females. MI (a control variable) has shown a positive impact on FWB at a significant p-value of 0.000. This shows that having higher income could result in higher level of financial wellbeing. Whereas, having higher number of children could result in lesser financial wellbeing. The results of this model show that if individuals will exercise negative investment behaviors more then they will enjoy financial wellbeing less.

Table 6: Results for Hypothesis 3

Standardized	Coef.	OIM Std. Err.	z	P>z	[95% Conf.	Interval]
Structural						
FWB <-						
Inv	-0.112	0.054	-2.090	0.037	-0.217	-0.007
Occup	0.237	0.842	0.280	0.778	-1.413	1.888
YoE	-0.045	0.142	-0.320	0.751	-0.323	0.233
Gen	1.115	0.695	1.600	0.109	-0.247	2.478
AG	0.002	0.039	0.040	0.965	-0.074	0.078
E	-0.084	0.121	-0.700	0.485	-0.321	0.152
FOS-BM	-0.314	0.683	-0.460	0.645	-1.652	1.024
FOS-CS	-0.233	0.817	-0.290	0.775	-1.835	1.368
FOS-Eng	-0.415	1.034	-0.400	0.688	-2.442	1.611
FOD-PS	-0.274	0.871	-0.310	0.753	-1.981	1.433
MI	0.000	0.000	4.360	0.000	0.000	0.000
MS	0.069	0.680	0.100	0.919	-1.263	1.401
Child	-0.634	0.294	-2.160	0.031	-1.210	-0.058
_cons	21.366	2.292	9.320	0.000	16.874	25.858
Var (e.FWB)	22.817	1.882			19.409	26.822
LR test of model vs. saturated: chi2(0) = 0.00, Prob > chi2 = .						

The relationship between negative investment behaviors and financial wellbeing as found in this model is in line with the empirical findings of Lusardi & Mitchell (2006), Lusardi & Mitchell (2007), Gutter & Copur (2011), Vlaev & Elliott (2014), Ali, Rahman, & Bakar (2015), Tsai, Dwyer, & Tsay (2016) and Allgood & Walstad (2016).

4.4 Proposition 1

This preposition is estimated to find out mediation role of negative investment behaviors between FE and FWB. Results with 50 bootstrap replications estimated through Structural Equation Modelling in Stata are shown in Table 7. Mediating role of investment behaviors (p-value = 0.022) is found in case of FE and FWB (0.045). From these results, it is evident that framing have a significant positive impact on negative investment behaviors and negative

investment behaviors have significantly affected financial wellbeing of the individuals in a negative way. Therefore, it can be argued that framing effect escalates negative investment behaviors and resultantly it posed a negative impact on the financial wellbeing of the individuals.

Table 7: Results for Proposition 1

Standardized	Observed Coef.	Bootstrap Std. Err.	z	P>z	Normal-based [95% Conf. Interval]	
Structural						
Inv <-						
FE	0.087	0.049	2.010	0.045	0.002	0.195
Occup	0.359	0.216	1.660	0.097	-0.065	0.783
YoE	0.016	0.031	0.520	0.606	-0.045	0.077
Gen	0.091	0.144	0.630	0.529	-0.192	0.374
AG	-0.005	0.008	-0.590	0.553	-0.020	0.011
E	-0.060	0.026	-2.250	0.025	-0.111	-0.008
FOS-BM	-0.046	0.156	-0.290	0.770	-0.351	0.260
FOS-CS	-0.109	0.219	-0.500	0.619	-0.537	0.320
FOS-Eng	-0.040	0.183	-0.220	0.826	-0.398	0.318
FOD-PS	0.025	0.181	0.140	0.890	-0.329	0.379
MI	0.000	0.000	-0.780	0.435	0.000	0.000
MS	0.030	0.193	0.160	0.876	-0.348	0.408
Child	0.020	0.040	0.510	0.611	-0.058	0.099
cons	4.155	0.559	7.430	0.000	3.059	5.251
FWB <-						
Inv	-0.540	0.235	-2.290	0.022	-1.001	-0.079
_cons	22.795	0.793	28.760	0.000	21.242	24.348
var(e.Inv)	1.078	0.095			0.905	1.283
var(e.FWB)	24.796	1.806			21.497	28.601

To the best of the knowledge of the authors, the mediating role of investment behaviors in the relationship of framing effect and financial wellbeing is the area which remained unexplored. This could be considered as an addition in the field of behavioral finance. It can be inferred from the validation of this proposition that by not indulging in framing effect, investors could have positive investment behaviors, which can put a positive impact on their financial wellbeing.

5. Conclusion

The premise of this study was that human being do not act rationally. They tend to be involved in decisions which are based on heuristics and mental shortcuts. They could be frame dependent due to their restricted ability to absorb the excess information in complex learning environments. Irrational approach of the individuals could lead them to exercise negative investment behaviors. It was also learnt that negative investment behaviors by the individuals could influence their financial wellbeing negatively. Considering these factors, the role of framing effect is investigated in defining the investment behaviors and its further impact on financial wellbeing of the individuals. By employing SEM on the sample data collected from 344 respondents, we have found a significant impact of framing effect on investment behaviors and financial wellbeing, which is in line with the contemporary research in the field of behavioral finance. We also supported the view of behavioral finance researchers that the negative investment behaviors could influence the financial wellbeing negatively. Based on validations of these hypothesis, we further found a mediating role of investment behaviors on the relationship of framing effect and financial wellbeing, which is an addition to the body of knowledge in the field of behavioral finance.

For the investors and regulators in Pakistan, this study provides valuable insights. Investors are recommended to analyze critically the investment options they could have. Before, making any investment decision, they need to first understand the information associated with each investment opportunity. They have to scrutinize the detailed terms and conditions of the investment opportunity to make an optimal investment decision. On the other side, regulators are required to devise the investor awareness programs to enhance the learning level of investors with regards to investment information. Such regulations are required to be introduced which could bound the investment houses to lay down the information associated with an investment in a simple and easy to understand

way. They need to make bound to highlight the negative as well as positive aspects of the investment opportunity they offer. As far as future research directions are concerned, this research is conducted by considering framing effect as a behavioral bias. Analysis can be extended by considering more behavioral biases. Moreover, it can also be seen that how the increased learning levels of numeracy and financial knowledge can affect the relationships established in this research.

References

Ali, A., Rahman, M. S., & Bakar, A. (2015). Financial Satisfaction and the Influence of Financial. Social Indicators Research, 137-156.

Allgood, S., & Walstad, W. B. (2016). The Effects of Perceived and Actual Financial Literacy on Financial Behaviors. Economoic Inquiry, 54(01), 675-697.

Antonides, G., Groot, I. M., & Raaij, W. F. (2011). Mental Budgeting and the Management of Household Finance. Journal of Economic Psychology, 31, 546-555.

Atkinson, T. M., Rosenfeld, B. D., Sit, L., Mendoza, T. R., Fruscione, M., Lavene, D., . . . Basch, E. (2011). Using Confirmatory Factor Analysis to Evaluate Construct Validity of the Brief Pain Inventory (BPI). Journal of Pain and Symptom Management, 558-565.

Baker, H., & Ricciardi, V. (2014). How biases affect investor behavior. The European Financial Review .

Barber, B. M., & Odean, T. (2001). Boys will be Boys: Gender, Overconfidence, and Common Stock Investment. Quarterly Journal of Economics, 116(1), 261-292.

Barber, B. M., & Odean, T. (2013). The Behavior of Individual Investors. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), Handbook of the Economics and Finance (pp. 1533-1570). Elsevier B.V.

Barber, B., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. The journal of Finance, 55(2), 773-806.

Campbell, J. (2006). Household Finance. The Journal of Finance, LXI(4), 1553-1604.

Collingridge, D. (2014, 09 22). Validating a Questionnaire. Retrieved from https://www.methodspace.com: https://www.methodspace.com/validating-a-questionnaire/

Consumer Financial Protection Bureau. (2017, 05). CFPB Financial Well-Being Scale. Retrieved from https://s3.amazonaws.com: https://s3.amazonaws.com/files.consumerfinance.gov/f/documents/201705_cfpb_financial-well-being-scale-technical-report.pdf

CPFB-USA. (2015, 01). Financial Wellbeing: The Goal of Financial Education. Retrieved from www.consumerfinance.gov: http://files.consumerfinance.gov/f/201501_cfpb_report_financial-well-being.pdf

Fasolo, B., McClelland, G. H., & Todd, P. M. (2007). Escaping the Tyranny of Choice: When Fewer Attributes make Choice Easier. Marketing Theory, 13-26.

Frydman, C., & Camerer, C. F. (2016). The Psychology and Neuroscience of Financial Decision Making. Trends in Cognitive Sciences, 20(9), 661-675.

Groot, I. M., & Raaij, W. F. (2016). The Role of Mental Budgeting in Healthy Financial Behavior: A Survey Among Self-Employed Entrepreneurs. Applied Studies in Agribusiness and Commerce, 10(2-3), 15-26.

Gutter, M., & Copur, Z. (2011). Financial Behaviors and Financial Well-Being of College Students: Evidence from a National Survey. Journal of Family and Economic Issues, 32(4), 699-714.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research. Journal of the Academy of Marketing Science, 414-433.

Howard, J. A. (2012). Behavioral Finance: Contributions of Cognitive Psychology and Neuroscience to Decision Making. Journal of Organizational Psychology, 12(3), 52-70.

Jain, R., Jain, P., & Jain, C. (2015). Behavioral Biases in the Decision Making of Individual Investors. IUP Journal of Management Research, 7-27.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica: Journal of the econometric society, , 47(2), 263-291.

Kahneman, D., & Tversky, A. (1984). Choices, Values and Frames. American Psychologist, 39(4), 341-350.

Kim, J., Garman, E. T., & Sorhaindo, B. (2003). Relationships among Credit Counseling Clients' Financial Well-Being, Financial Behaviors, Financial Stressor Events, and Health. Financial Counseling, 75-87.

Lusardi, A., & Mitchell, O. S. (2006). Financial Literacy and Planning: Implications for Retirement Wellbeing. Retrieved 09 14, 2016, from http://www.dartmouth.edu/~alusardi/Papers/FinancialLiteracy.pdf

Lusardi, A., & Mitchell, O. S. (2007). Baby Boomer Retirement Security: The Roles of Planning, Financial Literacy, and Housing Wealth. Journal of Monetary Economics, 54, 205-224.

Malhotra, N. K., Jain, A. K., & Lagakos, S. W. (1982). The Information Overload Controversy: An Alternative Viewpoint. Journal of Marketing, 27-37.

Neumann, V. J., & Morgenstern, O. (1944). Theory of Games and Economic Behavior. Princeton: Princeton University Press.

OECD. (2013, 06). Improving Financial Education Effectiveness through Behavioral Economics. Retrieved from https://www.oecd.org: https://www.oecd.org/daf/fin/financial-education/TrustFund2013_OECDImproving_Fin_Ed_effectiveness_through_Behavioural_Economics.pdf

Otuteye, E., & Siddiquee, M. (2014). Overcoming Cognitive Biases: A Heuristic for Making Value Investing Decisions. The Journal of Behavioral Finance, 16(2), 140-149.

Pedhazur, E. J., & Schmelkin, L. P. (1991). Measurement, Design, and Analysis: An Integrated Approach. New York: Psychology Press.

Rubin, A., & Babbie, E. R. (2010). Essential Research Methods for Social Work. Belmont: Cengage Learning.

Rubinstein, A. (1998). Modeling Bounded Rationality. London: The MIT Press.

Rust, J., & Golombok, S. (2009). Modern Psychometrics: The Science of Psychological Assessment. London: Routledge.

Shefrin, H. M., & Thaler, R. H. (1988). The Behavioral Life-Cycle Hypothesis. Economic Inquiry, 26(4), 609-643.

Simon, H. A. (1957). A Behavioral Model of Rational Choice. In H. A. Simon (Ed.), Models of Man, Social and Rational: Mathematical Essays on Rational Human Behavior in a Social Setting (pp. 79-87). New York: Wiley.

Simon, H. A. (1999). Bounded Rationality and Organizational Learning. Organization Science, 2(1), 17-27.

Simon, H. A. (2000). Bounded Rationality in Social Science: Today and Tomorrow. Mind & Society, 1(1), 25-39.

Slovic, P. (2001). Psychological Study of Human Judgment: Implications for Investment Decision Making. Journal of Psychology and Financial Markets, 2(3), 160-172.

Stango, V., & Zinman, J. (2009). Exponential Growth Bias and Household Finance. The Journal of Finance, LXIV(06), 2807-2849.

Thaler, R. H. (1990). Saving, Fungibility, and Mental Accounts. The Journal of Economic Perspectives, 4(1), 193-205.

Thaler, R. H., & Sunstein, C. R. (2008). Nudge: Improving Decisions About Health, Wealth, and Happiness. New Haven and London: Yale University Press.

Tsai, M.-C., Dwyer, R. E., & Tsay, R.-M. (2016). Does Financial Assistance Really Assist? The Impact of Debt on Wellbeing, Health Behavior and Self-Concept in Taiwan. Social Indicators Research, 127-147.

Tversky, A., & Kahneman, D. (1974). Judgement under Uncertainty: Heuristics and Biases. Science, 185(4157), 1124-1131.

Vlaev, I., & Elliott, A. (2014). Financial Well-Being Components. Social Indicators Research, 118(3), 1103-1123.

Xu, Y., Beller, A. H., Roberts, B. W., & Brown, J. R. (2015). Personality and Young Adult Financial Distress. Journal of Economic Psychology, 90-100.