



Behavioural Biases In Life Insurance Purchase: An Analysis Across Demographic Profile

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ABSTRACT

In this study, the association demographic variables and the behavioural biases of individual investors is analyzed. Some behavioural biases such as the heuristic bias, overconfidence bias, herding bias, confirmation bias and framing bias are important factors affecting investment decision making. The study will explore if there is a statistically significant relationship between these behavioural biases and demographic factors (occupation, annual income). A quantitative research design was used and a structured questionnaire on a five-point Likert scale was used to draw primary data from 402 respondents. The collected data were analyzed with the use of Statistical Package for the Social Sciences (SPSS) and One-Way Analysis of Variance (ANOVA) was used for testing the association between the demographic variables and behavioural biases. Results of the study indicate that Occupation and annual income have different degrees of relationships with the different behavioural biases. There was significant effect among income groups in the cases of heuristic bias, overconfidence bias, and herding bias, and Occupation was significantly related to heuristic bias, overconfidence bias, herding bias, confirmation bias and framing bias. The findings reveal that investors' psychological tendencies and decision-making processes are greatly influenced by their demographic characteristics. The study adds to the behavioural finance literature by offering empirical evidence of the impact of socio-economic factors on behavioural biases.

Keywords: Heuristic bias, Overconfidence bias, Herding bias, Confirmation bias, Framing bias, Behavioural bias, Annual income, Occupation

Introduction

Traditional financial theories like Efficient Market Hypotheses or Expected Utility Theory are based on rational decision-making. But this assumption doesn't stand in real life, as people are always driven by more psychological and emotional stuff that override the rationality. Behavioural finance has emerged to rebut these assumptions, showing evidence of how cognitive biases and heuristics play an influential role in making financial decisions. Behavioral biases are systematically influenced by mental shortcuts and emotions. Tversky and Kahneman (1974) indicate that human beings use heuristics in order to simplify the complex decision-making scenarios; nevertheless, these heuristics mostly lead to systematic mistakes or biases. Moreover, prospect theory has it that people would value results differently depending on the perceived gains and losses, hence affecting the behavioural bias with regard to insurance purchase decisions (Kahneman & Tversky, 1979). Although there is a lot of research on investment decisions, little has been done on the role of behavioural biases in the decision-making process for insurance purchases. Insurance decisions are highly susceptible to behavioural biases due to perceptions of risk, uncertainty and the long-term commitment of funds. The biases that may influence individuals' perceptions and purchase decisions regarding insurance products include overconfidence, heuristics, framing effects, confirmation bias and herding. Regarding insurance, people can either overestimate risks due to overconfidence or fail to buy insurance due to regret aversion and the framing effect. Thus, it is necessary to examine the effects of behavioural biases on insurance purchase decisions, as these observations can support policymakers, insurers, and financial advisors in developing more effective measures to improve insurance penetration and financial protection. Demographic factors significantly impact these behavioural biases. Thus, this paper was designed to identify the relationship between demographic factors and behavioural biases.

Review of Literature

The behavioural finance literature provides supporting evidence that investors are influenced by various cognitive and emotional biases when making financial decisions. Tversky and Kahneman (1974) coined the concept of heuristics and biases, emphasizing that simplifying decision-making under conditions of uncertainty leads to systematic errors in individuals' decisions. Subsequently, prospect theory clarified that people's preferences are affected by their perception of choices towards the returns (Kahneman & Tversky, 1979). One of the most common research biases is overconfidence, in which people overestimate their knowledge and skills. Research has shown that overconfident people do not properly assess risks and make poor financial choices (Shefrin, 2007). Within the insurance industry, such people might fail to recognize the importance of risk coverage, leading to underinsurance.

Confirmation bias is the tendency for people to find, process, and retain information that supports their prior assumptions and to dismiss conflicting information. Nickerson (1998) emphasized that confirmation bias prevails in all decision-making situations and strongly influences the accuracy of judgment. In financial markets, such a bias causes investor to overprice supportive information, which causes them to make sub-optimal investment choices (Kahneman, 2011). Accordingly, Shefrin (2000) also found that confirmation bias contributes to overconfidence and poor portfolio returns.

Herding bias occurs when people follow the behavior of a larger group, often neglecting their own information or analysis. Banerjee (1992) has described herding as a consequence of information cascades in which individuals conform to others' beliefs, believing they have better knowledge. Herding is empirically supported as a cause of market inefficiencies and asset bubbles (Bikhchandani et al., 1992). Shiller (2000) asserts that herding behavior exacerbates speculative bubbles because it is socially influenced and irrational.

According to recent research, the two biases are connected: investors with the confirmation bias are more likely to herd when the group's opinions conform to their beliefs (Wojcik, 2020). These biases in behaviour are considered negative influences on rational decision-making and emphasize the significance of psychological factors in financial markets.

Framing effect bias describes the fact that the manner in which the information is presented affects decision-making. People respond differently to the same information when it is presented as a gain or as a loss (Kahneman & Tversky, 1979). Framing premiums as small investments that guarantee big protection, as in insurance marketing, can be a major factor in purchase behaviour.

The role of demographics in behavioural bias has also been investigated using empirical studies. Estes and Hosseini (1988) observed that women investors are less confident than their male counterparts. Barber and Odean (2001) concluded that men tend to be more overconfident when making their financial decisions. Nonetheless, there have been mixed results throughout studies concerning the impact of gender on biased behaviour. Despite ample research on behavioural biases in investment decisions, a gap exists in applying these concepts to insurance-buying decisions. Insurance choices reflect perceptions of risk, uncertainty, and planning for the future; therefore, this is an excellent field to study from behavioural perspective. Thus, the current study will help to fill this gap, as it is going to investigate the relation between demographic factors and behavioural biases in life insurance purchase decision-making.

Research Methodology

This research paper is an empirical investigate relationship between demographic variables (occupation and annual income) and behavioural biases. The research is based on the primary data gathered using a structured questionnaire aimed at capturing the behavioural tendencies of the respondents and their insurance purchasing behaviour.

Research Design: The research design applies both a descriptive and an analytical approach. It dwells upon diagnosing the main behavioural biases, including overconfidence bias, heuristic bias, framing bias, confirmation bias and herding bias.

Data Collection: The structured questionnaire was used to collect primary data by sending it to the respondents. The questionnaire has two parts: one records demographic factors, and the other measures behavioural biases and insurance purchase choices using a Likert scale.

Sampling Design This research employs convenience sampling method to select the respondents. The analysis has been conducted on a sample of 402 respondents. The target population included individuals who were either policyholders or those who intended to purchase insurance products.

Data analysis

The present study uses ANOVA to the examine the data collected. The main objective is to determine the variation across the demographic variables regarding the various behavioural biases in life insurance policy decisions. It includes application of ANOVA for the analysis.

Table 1- Demographic factor

Demographic Variable	Category	Response percentage
Annual Income	Less than 2,00,000	26.6%
	2,00,001 to 5,00,000	47.8%
	5,00,001 to 10,00,000	18.2%
	10,00,001 to 20,00,000	7%
	Above 20,00,000	0.5%
Occupation	Self employed	35.6%
	Government Sector Employee	27.6%
	Private Sector employee	21.6%
	Retired	2%
	Unemployed	9.7%
	Other	3.5%

Source: Researcher's own compilation

Table 1 shows the demographic profile of the respondents. This table shows the two main demographic factors i.e. annual income and Occupation because these are the only two main factors that affect the behaviour biases significantly.

Comparative Analysis of Herding Bias Across Occupations

The table gives the relationship between Occupation and heuristic bias using one way ANOVA test.

Table 2.1-Relationship between Occupation and Heuristic bias: ANOVA results

ANOVA					
HB mean					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.303	5	1.861	3.238	.007
Within Groups	227.590	396	.575		
Total	236.894	401			

Source- SPSS Output

Based on the orthodox criterion of the ANOVA test, a significant value lower than the level of threshold i.e. 0.05 means the existence of a relationship between variables. (Field, 2018; Knapp, 2017; Pallant, 2020). In this instance, the significance value that has been attained is 0.007 which is less than 0.05. Results from the analysis showed a statistically significant difference between respondents belonging to herding bias across occupations.

Comparative Analysis of overconfidence bias across occupation

The table 2.2 gives the relationship between overconfidence bias and Occupation using one way ANOVA test in SPSS software.

Table 2.2: Relationship between Occupation and overconfidence bias: ANOVA results

ANOVA					
OBmean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.762	5	1.552	3.037	.011
Within Groups	202.416	396	.511		
Total	210.178	401			

Source- SPSS Output

Based on the conventional criterion of the ANOVA, a significant value lower than the level of threshold means the existence of a relationship between variables. In this instance, the significance value that has been attained is 0.011 which is below the 0.05. The results show that overconfidence bias varies greatly between respondents belonging to different occupational groups. This indicates that occupation is strongly related to overconfidence bias.

Comparative Analysis of Occupation and herding bias

The table 2.3 provide the result to examine whether significant difference exist in herding bias and across occupational categories using one way ANOVA test.

Table 2.3 Relationship between Occupation and herding bias: ANOVA results

ANOVA					
HDBAverage					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.447	5	2.889	4.821	.000
Within Groups	237.352	396	.599		
Total	251.799	401			

Source- SPSS Output

The findings revealed that the significance value that has been attained is 0.000 which is below 0.05 value. This indicates that the herding bias differs significantly across the different categories of occupation. This suggest the occupation is significantly associated with herding bias.

Comparative analysis of occupation and confirmation bias

One way ANOVA was conducted to study and examine whether significant difference exists in herding bias across different occupation. The table 2.4 presents the results of ANOVA.

Table 2.4 Relationship between Occupation and confirmation bias: ANOVA results

ANOVA					
CBmean					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10.748	5	2.150	4.609	.000
Within Groups	184.707	396	.466		
Total	195.455	401			

Source- SPSS Output

Tables 2.4 shows that significance value that has been attained is 0.000 which is below the value of 0.05. Thus, it may be concluded that the confirmation bias differs significantly across different occupational groups. These findings suggest that occupation is significantly associated with herding bias.

Comparative Analysis of Framing bias and Occupation

Table 2.5 Relationship between Occupation and Framing bias

ANOVA					
FBmean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.086	5	1.417	2.762	.018
Within Groups	203.151	396	.513		
Total	210.237	401			

Source- SPSS Output

The table 2.5 presents the results of examining relationship between occupation and framing bias using one way ANOVA. The findings shows that the significance value that has been attained is 0.018 which is below 0.05. Thus, it may be concluded that significant difference exists between framing bias and different categories of occupation of the respondents. This means that the level of framing bias amongst individuals is related to Occupation.

Comparative Analysis of Heuristic bias and Annual Income

Annual Income is classified into five groups i.e. below 2lakh, 2lakhs-5lakhs, 5lakhs-10lakhs, 10lakhs-20lakhs and above 20lakhs.

Relationship between Annual Income and Heuristic bias: ANOVA results

The table 2.6 displays the results obtained from one way ANOVA test done using SPSS software.

Table 2.6 Relationship between Annual Income and Heuristic bias

ANOVA					
HBAverage					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.086	4	2.271	3.958	.004
Within Groups	227.808	397	.574		
Total	236.894	401			

Source- SPSS Output

The findings based on this study showed that significance value is 0.004 which is below the value of 0.05. Thus, it may be concluded that significant difference exists between heuristic bias and annual income of the respondents.

Comparative Analysis of Overconfidence Bias and Annual Income

Table 2.7 Relationship between Annual Income and overconfidence bias

OBmean					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.893	4	1.473	2.863	.023
Within Groups	204.285	397	.515		
Total	210.178	401			

Source- SPSS Output

The table 2.7 displays the correlation between the annual income and overconfidence bias based on one way ANOVA test done using SPSS software. The significance value in this case is 0.023 that is less than 0.05. It can therefore be concluded that there exists statistically significant difference between overconfidence bias and annual income of the respondents.

Comparative Analysis of Herding bias and Annual Income

The table 2.8 displays the results obtained from one way ANOVA test done using SPSS software.

Table 2.8 Relationship between Annual Income and Herding bias

ANOVA					
HDBmean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.880	4	2.220	3.628	.006
Within Groups	242.919	397	.612		
Total	251.799	401			

Source- SPSS Output

The significance value in this case is 0.006 which is less than p value of 0.05. It can therefore be concluded that there is a significant difference in herding bias across the different categories of annual income of the respondents.

Comparative Analysis of Confirmation bias and Annual Income

Table 2.9 Relationship between Annual Income and Confirmation bias: ANOVA results

ANOVA					
CBmean					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.680	4	.920	1.904	.109
Within Groups	191.775	397	.483		
Total	195.455	401			

Source- SPSS Output

The table 2.8 displays the results obtained from one way ANOVA test done using SPSS software. The significance value in this case is 0.109 that is less than p value of 0.05. It can therefore be concluded that there is no significant difference in confirmation bias across different categories of annual income of the respondents.

Comparative Analysis of Framing bias and Annual Income

The table 2.9 displays ANOVA results to examine whether significant difference exists between framing bias and annual income of the respondents.

Table 2.9 Relationship between Annual Income and Framing bias: ANOVA results

ANOVA					
FBmean					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.720	4	.930	1.788	.130
Within Groups	206.517	397	.520		
Total	210.237	401			

Source- SPSS Output

The significance value in this case is 0.130 that is way less than the limit. It can therefore be concluded that there is no significant difference in framing bias across different categories of respondents' income.

Table 4-Summary of Result based on ANOVA

Biases→ Socio factors↓	Heuristic bias	Overconfidence bias	Herding bias	Confirmation bias	Framing bias
Occupation	Significant	Significant	Significant	Significant	Significant
Annual Income	Significant	Significant	Significant	Not-significant	Not- Significant

Source: Based researchers' own compilation

Discussion

The study aimed to identify the whether there is any significant difference between the chosen socio-economic variables and behavioural biases, in the context of insurance purchase behaviour. The findings suggest that there is significant difference in heuristic bias, overconfidence bias, herding bias, confirmation bias and framing bias across the occupational category of the respondents. Making judgments based on the different levels of experience, inference, and heuristic bias across occupational groups. Occupational exposure and experience might influence the way respondents react to complex situations while making decisions. Difference in overconfidence bias demonstrates that respondents of other occupational categories may be more confident than others in their abilities and decision-making skills. The results also indicate that herding bias varies greatly across occupations. This means that the inclination to follow what others do varies depending on respondents associated with their professional background. This is a different way of saying that because some individuals are unsure about their decisions, they may rely more on collective behaviour and external views for the making decisions. Difference in confirmation bias suggests that people are influenced by their occupational when understanding and accepting information. People belonging to different groups are inclined to choose information aligning with established beliefs, experiences, which is attributed to differing levels of knowledge, awareness and professional experience.

The results also suggest there is significant difference in heuristic bias, overconfidence bias and herding bias across the different categories of annual income. This means that people with different incomes have different financial knowledge, confidence, likelihood to confirm to others and reaction to information framing. Difference in heuristic bias indicates that different income groups depend on their experience and mental shortcuts differently when making decisions. The difference in overconfidence bias suggests higher income earners may have more opinion in their financial decisions from their better financial exposure and resources. At the same time, herding behaviour is found to vary among different income groups where some respondents are likely to herd based on the views and actions of others in their decision.

Also, no significant difference was found in confirmation bias and framing bias across the income category. as to indicate that the tendency towards accepting information that confirms previous beliefs is pretty stable regardless of the income level and framing an information not affect persons with different income.

In general, the discussion indicates that the socio-economic factors, especially the Occupation and the annual income are critical in the determination of behavioural biases. Though these factors affect majority forms of biases, others can vary considerably meaning that the demographic factors should be taken into account when examining financial decision-making behavior.

Conclusion

The interaction between various socio-economic variables and the behavioural biases has been analyzed to realize how demographic variables affect the decision-making behaviour of individuals in financial situations, especially in the decisions to buy insurance.

The determination of social-economic factors and behavioural bias relationship offers significant information on financial decision-making behaviour of people. Findings also suggest that not all demographic factors affect behavioural biases; on the contrary, the bias affects different socio-economic factors differently.

The findings underscore the fact that Occupation plays a big role in biases like heuristic bias, overconfidence, herding, confirmation and framing bias implying that individual life situation and responsibilities could influence individuals' confidence levels, social influence and information processing behaviour.

Alternatively, annual income comes out as a more decisive factor since it reveals strong relations with the majority of behavioural biases such as heuristic, overconfidence, herding, and framing biases. This shows that the economic status and financial ability of individuals are very critical in determining the choice patterns of individuals. Nevertheless, the fact that no significant correlation was found with the confirmation bias can be interpreted as an indication that the tendencies of belief reinforcement are quite similar between income groups.

All in all, the paper concludes that the socio-economic aspect plays a partial role in shaping behavioural biases, where the influence of occupation is wider than that of income. The findings are especially useful in regard to insurance purchase decision making, whereby awareness of the behavior of various groups could be used to enable insurers and policy makers to create much more specific and efficient strategies. It further points out the need to include behavioural elements in financial decision-making models in order to reflect real-life behaviour.

References

1. Banerjee, A. V. (1992). A simple model of herd behavior. *The Quarterly Journal of Economics*, 107(3), 797–817.
2. Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1), 261–292.
3. Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. *Journal of Political Economy*, 100(5), 992–1026.
4. Estes, R. W., & Hosseini, H. (1988). The gender gap on Wall Street: An empirical analysis of confidence in investment decision making. *The Journal of Psychology*, 122(6), 577–590.
5. Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.
6. Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
7. Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291.
8. Knapp, H. (2017). *Intermediate Statistics Using SPSS*. SAGE Publications.
9. Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175–220.
10. Pallant, J. (2020). *SPSS Survival Manual*. Routledge.
11. Shefrin, H. (2000). *Beyond greed and fear: Understanding behavioral finance and the psychology of investing*. Harvard Business School Press.

12. Shefrin, H. (2007). *Behavioral corporate finance: Decisions that create value*. McGraw-Hill/Irwin.
13. Shiller, R. J. (2000). *Irrational exuberance*. Princeton University Press.
14. Singh, H. P., Goyal, N., & Kumar, S. (2016). *Behavioural biases in investment decisions: An exploration of the role of gender*. *Indian Journal of Finance*, 10(6), 51–62.
<https://doi.org/10.17010/ijf/2016/v10i6/94879>
15. Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124–1131.
16. Wójcik, D. (2020). Investor behavior and market anomalies: A behavioral finance perspective. *Journal of Behavioral Finance*, 21(4), 345–358.

