An Analysis on Risk Propensity and Investment Pattern of Male and Female Investors in Financial Investment

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Abstract
On the time scale now and then numerous gender differences have existed across countries and cultures. Many researches have cited a huge difference in males and females in almost every endeavor of human civilization. Several studies have examined the liaison between gender and behavioural finance biases.This study is an attempt to compare how male and female investors' risk propensity varies in financial investment? Are there any differences between investing pattern of both the categories of investors? The purpose of the research paper is to study gender differences effects on risk propensity in investment decision making. A sample of 124 respondents were randomly selected. Respondents filled behavioral finance questionnaire comprising 16 closed ended questions based on demography and risk propensity. Chi-square test has been used as a statistical tool for data analysis.
Key words: Risk Propensity, Financial Investment, Gender, Income

Introduction

People categories their assets into three categories- current income, current assets and future income. Investors spend more from current income and treat future income conservatively.Number of financial studies concluded that men & women show different patterns of spending from current income and give different values to the future income. The behavior also varies in male and female investors. As observed in many studies, female being more risk averse are less interested in trading in comparison to men. On this basis women are prone to be more pessimistic, realistic and low risk tolerant as compared to male investors. They prefer the sure things, even though it has a lower expected value. Optimism and risk likeliness of male investors take them towards unrealistic high-risk investments, thereby increasing excessive trading on many occasions they tend to decrease the expected utility of portfolio by trading on the basis of unrealistic beliefs. On the other hand, risk aversion behavior of female investors makes them ignorant towards new financial information that can become the base of rational financial investment. Risk likeliness and aversion can be summed up in the definition of risk propensity. Risk propensity is the risk-taking Behaviour of individual. It is the extent to which a person is willing to take a chance with respect to possible lossesGender differences have major impact on not only financial trading but also risk propensity. A clear gap between male and female investment capabilities, attitude and behaviour is present. Research on analyzing differences in risk propensity of male and female investors says that females may not be able to behave in the same manner as males in risk taking. Male and female have difference in their outlooks and orientations. The current research concentrates on analyzing risk propensity of male and female investors in financial investment. It will open new horizons in financial investments, trading and risk analysis.

Literature review

Several financial studies concluded that men & women show different patterns of spending from current income and give different values to the future income. The Behaviour also varies in male and female investors. As observed in many studies' females being more risk-averse are less interested in trading in comparison to men. The study of risk-taking capacity or risk attitudes of individuals has always attracted both economists and psychologists. Accordingly, several studies have been conducted to identify, measure and predict the risk behaviour of individuals in various contexts and conditions. An interesting study was done by Hoffman Arvid O. I., Shefrin Hersh, Pennings Joost M E (1997). A combination of transaction and survey data involving a large sample of online brokerage clients was used for the study. The paper finds that investors driven by speculation objectives have higher aspirations and turnover, take more risk, judge themselves to be more advanced and underperform as compared to long-term investors. An interesting study by Anderson Lisa R. and Mellor Jennifer M. (2008) examines the stability of risk preference within subjects by comparing risk measures obtained from an economics experiment consisting of real monetary rewards and a survey with hypothetical questions. The results indicate that risk preferences are mostly stable across these two elicitation methods. An interesting finding was that the survey responses vary with context. The subjects are more careful about career choices and more risk tolerance is exhibited for inheritance or windfall gain questions. Winden Frans V, Krawczyk Michael and Hopfensitz Astrid (2009) conducted experimental research that studies the impact of risk resolution timing on investment behaviour. The study finds that investors anticipate their feelings during the time interval that elapses between the investment decision and the resolution of the risk. It is found that dependent on the probability of a successful investment, delaying the resolution of risk makes different kinds of these anticipatory emotions more prominent. Dohmen Thomas, Falk Armin, Huffman David, Sunde Uwe, Schupp Jurgen and Wagner Gert G (2009) wrote a comprehensive paper that discusses several open questions regarding the measurement and nature of individual risk attitudes. Using a simple survey measure that asked people to give a global assessment of their willingness to take risks in general, researchers found that gender, age, height and parental background showed an economically significant impact. Nosie Alen and Weber Martin (2010) analysed the determinants of investors' risk-taking behaviour. The results indicate that investors' risk-taking behaviour is affected by their subjective risk attitudes and by the risk and return of the investment alternative. Another study by Lonnqvist Jan-Erik, Verkasalo Markku, Walkowitz Gari and Wichardt Philipp (2011) discusses and compares two prominent empirical measures of individual risk attitude measurement the lottery choice task and the multi-item questionnaire, including their construct validity, ie. correlation with an external prediction of risk-taking behaviour personality and their test-retest stability over time, ie., one year. Also, the ability of the two measures to predict actual behaviour is tested through a standard

trust/investment game. The results of the experiments show that the two measures of the risk attitude themselves are uncorrelated. The existence of gender differences in willingness to undertake risks has been documented in a large number of the questionnaire and experimental studies. One of the most cited is an analysis by Byrnes, Miller, and Schafer (1999), which reviewed over 150 papers on gender differences in risk perception. They concluded that the literature "clearly" indicated that "male participants are more likely to take risks than female participants". Fehr-Duda and de Gennaro (2006) used for analysis abstract and contextual environment. They stated that gender differences in risk-taking may be due. Women tend to be less sensitive to probability changes and also tend to underestimate large probabilities of gains to a higher degree than do men, i.e. women are more pessimistic in the gain domain. Several studies have been conducted to understand the gender differences in financial investments. Bruce, Alistair C., and Johnnie E. Johnson's research on the topic, "Male and Female Betting Behavior: New Perspectives," Journal of Gambling Studies, 183–198 in 1994 highlights gender differences in the level of performances, propensity for risk-taking and levels of confidence in betting decisions were considered. The result provided some evidence for greater risk propensity among male bettors, lower levels of bettor confidence in their choices and some degree of performance advantage for women bettors. In the year 1996 a study by Bajtelsmit, Vickie L., and Alexandra Bernasek on, "Why Do Women Invest Differently than Men?" In the year 1999 Finucane, Melissa, and Paul Slovic study on, "Risk and the White Male: A Perspective on Perspectives,". In the year 2001 Barber Brad M., Terrance Odean, in their research "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment," The Quarterly Journal Of Economics established that men are more prone to overconfidence than women, particularly so in male-dominated realms such as finance. In the year 2004 Bengtsson Claes, Persson Mats and Willenhag Peter in their paper "Gender and Overconfidence," Economic Letters, 199-203 says that there are clear gender differences in the Behaviour of different genders i.e., women and men. An economist would attribute this difference in Behaviour to constraints, preferences, and/or technology. Later in 2010 Jonas Berggren Romualdo Gonzalez, in their research "Gender difference in financial decision making - A quantitative study of risk aversion and overconfidence between the genders," Umea University study highlights that gender affects financial decisions. Women approach financial decisions more conservatively compared to males. It was also concluded that males invest more frequently in the financial market than women, and men display a tendency to completely disregard the opportunity of a risk-free investment In 2010 Sharma Monica, Vasakarla Vani, in their research on "An empirical study of gender differences in risk aversion andOverconfidence in investment Decision making," International Journal of Application or Innovation in Engineering & Management, study possible gender effects on risk aversion and overconfidence in investment decision making. It was found that females are

more conservative than their male counterparts in terms of risk aversion. Later in 2014 Francis Bill, Hasan Iftekar, Park Jong Chool, Wu Qiang in their study "gender differences in financial reporting Decision Making: Evidence from Accounting Conservatism" compares the firms' degree of accounting conservatism between pre-and post-transition periods. It was found that female CFOs are more conservative in their financial reporting. Overall, this study provides strong support for the notion that female CFOs are more risk-averse than male CFOs, which leads female CFOs to adopt more conservative financial reporting

Research Methodology

The methodology adopted for the study is detailed under the following major sub-sections:

Study variables

This study attempts to analyze risk propensity of male and female investor in financial investment. The study will use two set of variables dependent and independent variables. These are detailed as under:

Independent Variables: Gender (male and female)

Dependent Variable: Risk Propensity, Investment pattern

Risk Propensity:

It is the risk-taking Behaviour of individual. It is the extent to which a person is willing to take a chance with respect to possible losses. On this basis Investors are classified into:

High Risk Averse/Moderate Risk Averse/Risk Neutral/Moderate Risk Taker/High Risk Taker

Construct to measure this extent is:

- Choice of investment
- Tenure of investment
- Attitude towards risk

For measuring risk propensity 9 questions are framed and respondents will be asked to enter their choices accordingly.

Investment Pattern:

Investment pattern is the pattern in which an investor invests in financial investments. It reflects the volume frequency and experience of the investor's financial investment. Construct to measure this extent is:

- Financial Investing Frequency
- Volume of financial investment
- Experience of financial investment

For identifyinginvestment pattern3 questions are framed and respondents will be asked to enter their choices accordingly.

Research objectives

i. To identify the gap in financial investing pattern of female and male investors.

ii. To identify the extent of difference in risk propensity of male and female investors

Data collection

A questionnaire is designed to obtain primary data for the research purpose. A sample of 124 respondents is randomly selected from major cities in Uttar Pradesh. All responses were anonymous however a small demographic profile asking Gender, Employment Status and monthly income is also designed in questionnaire. Statistics of Gender is as follows:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	70	56.5	56.5	56.5
	Female	54	43.5	43.5	100.0
	Total	124	100.0	100.0	

Data Analysis

SPSS is used to analyze primary data gathered for the research. The purpose and hypothesis of the study can be justified by analyzing data through Chi-square test. For the chi-square test a 95% confidence interval has been used

Analysis and Interpretation

As per the objectives analysis of research is divided into following parts

i. Financial investing frequency of female and male investors
ii. Financial investing volume of female and male investors
iii. Financial investing experience of female and male investors
iv. Risk propensity of male and female investors

i. Financial trading frequency of female and male investors

To understand the trading frequency of investors four investing durations namely intraday, 3-12 months, 12-36 months and more than 36 months were taken. Out of 124 respondents 8 respondents 3 males and 5 females have done intraday investments. Maximum inclination was towards holding investment for 12-36 months. Following table represents the exact count of the investors in mentioned head. To understand the effect of Gender on investment Chi square test displayed the following results.

Ho: There is no association betweengender and investing frequency.
H1: There exists an association between gender and investing frequency

Gender *Investing Frequency

		Investing Frequency				Total
		Intraday	3-12 months	12-36 months	36 months or more	
Gender	Male	3	22	29	16	70
	Female	5	8	23	18	54
Total		8	30	52	34	124

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.877[a]	3	.118
Likelihood Ratio	6.041	3	.110
Linear-by-Linear Association	.418	1	.518
N of Valid Cases	124		

As the Pearson Chi-square value is 0.118 which is greater than 0.05(significance level 95%) Null hypothesis is rejected. This shows that trading frequency of male and female investors varies.

ii. Financial trading volume of female and male investors

Trading volume is studied as the amount of percentage of investors annual income being invested. In the study it is classifies into three namely less than 10%, 11-25% and more than 25%. The final count is displayed in the table. To understand effect of gender on investment volume following hypothesis were made:

Ho: There is no association between gender and investment volume.
H1: There exists an association between gender and investment volume.

Gender * Investment Volume

Count

		Investment Volume			Total
		Less than 10%	Between 11-25%	More than 25%	
Gender	Male	29	19	22	70
	Female	40	11	3	54
Total		69	30	25	124

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.538[a]	2	.0003
Likelihood Ratio	18.161	2	.0001
Linear-by-Linear Association	16.380	1	.0001
N of Valid Cases	124		

The result of chi square displayed Pearson Chi square is less than 0.05 (significance level 95%). Therefore, H0 is accepted. Gender is not associated with the volume of investment.

iii.

iv. Financial investing experience of female and male investors

In the study Financial Investing Experience is divided into scale of five points namely No experience at all, Some experience but less than 3 years, 3 years or more but less than 6 years, 6 to 10 years, over 10 years. To understand association between gender and investing experience chi square test is used which showed following results;

Ho: There is no association between gender and investing experience.
H1: There exists anassociation between gender and investing experience.

Gender * Investing Experience

Count

		Investing Experience					Total
		No experience at all	Some experience but less than 3 years	3 years or more but less than 6 years	6 to 10 years	Over 10 years	
Gender	Male	8	15	19	18	10	70
	Female	5	12	15	16	6	54
Total		13	27	34	34	16	124

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.559[a]	4	.968
Likelihood Ratio	.562	4	.967
Linear-by-Linear Association	.003	1	.959
N of Valid Cases	124		

As the Pearson Chi-square value is 0.968 which is greater than 0.05(significance level 95%) Null hypothesis is rejected. This shows that investing experience of male and female investors varies.

v. Risk propensity of male and female investors

Risk propensity is calculated by sum total of nine questions and investors are classified into a five-point scale from high risk averse to high-risk taker namely High Risk Averse/Moderate Risk Averse/Risk Neutral/Moderate Risk Taker/High Risk Taker. Chi square is as follows:

Ho: There is no association between gender and risk propensity.
H1: There exists an association between gender and risk propensity of male and female investors.

Gender * Risk Propensity

Count

		Risk Propensity					Total
		High Risk Averse	Moderate Risk Averse	Risk Neutral	Moderate Risk Taker	High Risk Taker	
Gender	Male	6	15	18	19	12	70
	Female	11	15	13	10	5	54
Total		17	30	31	29	17	124

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.988[a]	4	.200
Likelihood Ratio	6.042	4	.196
Linear-by-Linear Association	5.678	1	.017
N of Valid Cases	124		

As the Pearson Chi-square value is 0.200 which is greater than 0.05(significance level 95%) Null hypothesis is rejected. This shows that their exists an association between gender and Risk propensity. Thus, male and female investors' Risk Propensity varies.

Conclusion

The findings of the study contributed to the field of behavioural finance and gender differences. In the present study it has been concluded that both investment pattern and risk propensity are affected by gender of the individual investor. Female investors are less frequent and have lesser experience in financial investing than male investors. In terms of investment volume,

the research showed that it is not affected by gender of the investor. Regarding Risk Propensity, it has been observed that both male and female investors have difference when it comes to take risk. The conclusion can be made that female investors are less likely to take risk as compared to male investors. They prefer to invest in risk free and less risky financial investments.

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