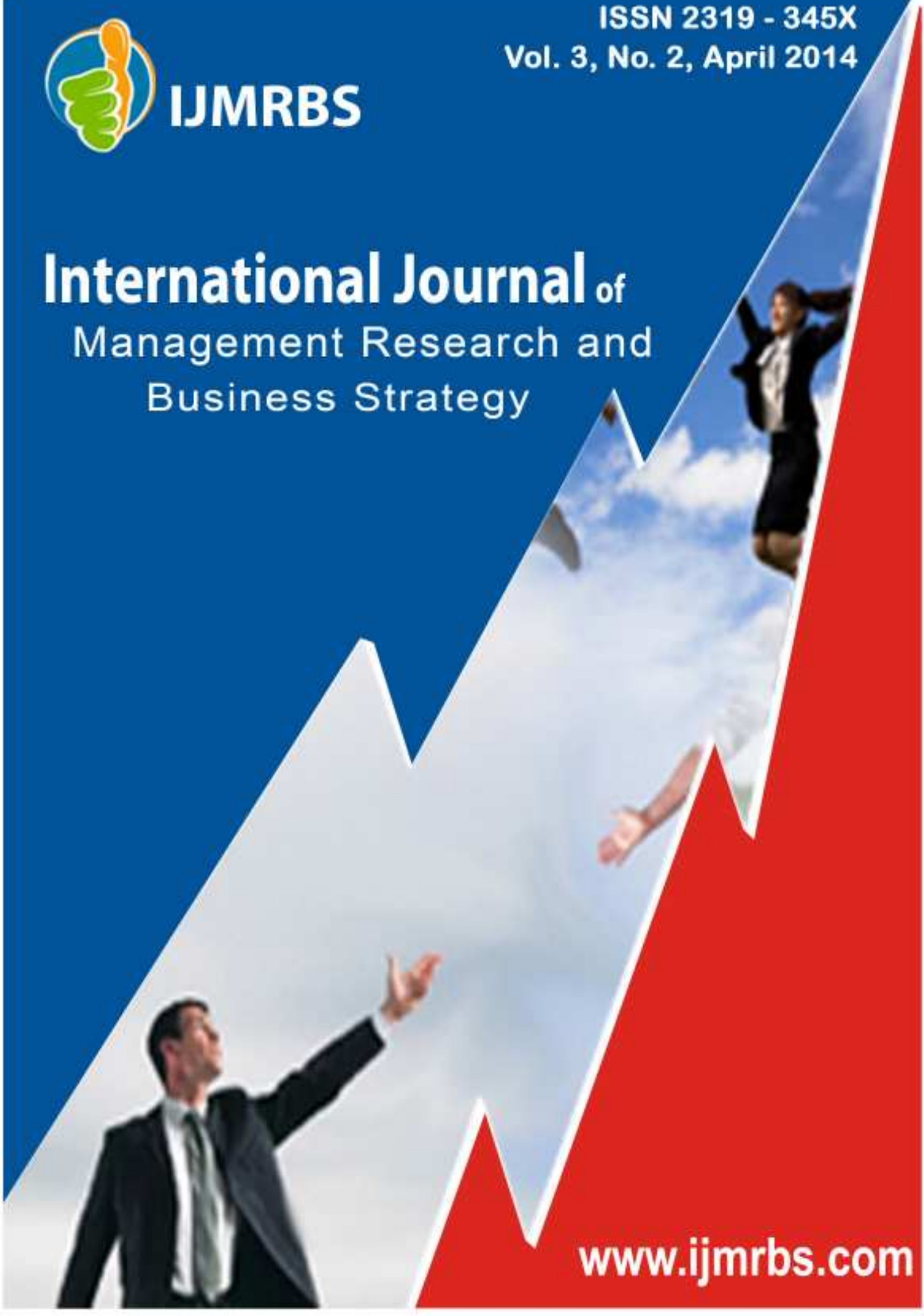
ISSN 2319 - 345X
Vol. 3, No. 2, April 2014

IJMRBS

International Journal of Management Research and Business Strategy



www.ijmrbs.com

International Journal of Management Research and Business Strategy

ISSN 2319-345X www.ijmrbs.com
Vol. 3, No. 2, April 2014

INDIVIDUAL INVESTMENT BEHAVIOR WITH RESPECT TO FINANCIAL KNOWLEDGE AND INVESTMENT RISK PREFERENCE: A STUDY

Smita Mazumdar[1]*

*Corresponding Author: ***Smita Mazumdar*** ✉ *smita.mazumdar@nmims.edu*

Traditional investment theory suggests that individuals invest rationally with the intention of maximizing their utility for a given level of risk. If this were to hold true, all investment decisions would be taken rationally. But it is observed that this maxim may not be adhered to because of many other factors influencing individual investment decision making. This study attempts to understand the relationship between the level of knowledge and investment behavior. It examines, if individuals with high financial knowledge tend to invest more in any particular investment avenue like equity, fixed deposits, gold or real estate. No significant relationship was found between financial knowledge and investment behavior. The study also tries to understand if an individual's financial risk preference affects investment behavior. It examines if risk averse investors, moderate risk takers and aggressive investors differ with respect to their investment behavior. No significant relationship was found. It also gauges the association of financial knowledge and investment risk preference. We find that investors with high financial knowledge tend to invest more in risky avenues. This finding supports result from previous research studies.

Keywords: Investment behavior, Financial knowledge, Risk preference, Individual behavior

INTRODUCTION

Traditional investment theory suggests that individuals invest rationally with the intention of maximizing their utility for a given level of risk. If this were to hold true, all investment decisions would be taken rationally. In practice, this may not be adhered to because of many other factors influencing individual investment decision making. This study attempts to understand the relationship of Knowledge and Financial Risk Tolerance with Individual Investment behavior. We intend to examine the relationship of Individual Investment Behavior with financial knowledge and Investment Risk Preference in this paper.

Individual investment behavior is an individual's decisions of choosing between alternate

[1] School of Business Management, NMIMS, Mumbai.

investment avenues to deploy their income savings. It has been operationalized by measuring: (1) individual savings with respect to their income; and (2) investments of savings in different avenues like Equity / Equity Mutual Funds/ ULIPs, Fixed Income instruments (e.g., Fixed Deposits/ Debentures/ Post office Savings/ Endowment Life Insurance/ Money back Life Insurance, Real estate (including EMIs of Home loans), Gold / Precious metal, Cash / Bank and any other asset with respect to savings. A product of monthly savings as a percentage of income and investments in the aforesaid avenues as a percentage of savings was an indicator of Individual investment behavior in each of the avenues of investment.

Financial knowledge indicates, how well an individual can understand and use personal finance-related information. It has been measured on the dimensions of financial basics, Investment knowledge and borrowing knowledge.

Investment risk preference refers to individual's attitude towards risk taking with respect to investments. It has been operationalized by measuring it in the context of the following content areas as measured in the Grable and Lyton Risk Tolerance scale (G/L scale): Risk as experience and comfort, Speculative Risk, Investment Risk.

LITERATURE REVIEW

Individual Investment Behavior

The economic utility theory as propounded by Neumann and Morgenstern (1947) argues that investors are (1) completely rational; (2) able to deal with complex choices; (3) risk averse; and (4) wealth maximizing. This theory postulates that individuals maximize their expected utility as measured by anticipated returns for given level of risk measured by variance. Markowitz (1959) explained the role of utility theory in portfolio formation—how risk reward characteristics are maximized for a portfolio.

More recently, Clark-Murphy *et al.* (2009) studied investment strategy of members of four Australian superannuation funds and found that investors tend to chase recent historic returns in choosing which fund and option to invest in.

Role of Demographic Variables

Many studies highlight the role of demographic variables in identifying investor behavior. Age, sex, income and education affect investor preferences for capital gains, dividend and overall returns (Lewellen *et al.*, 1977). Blume and Friend (1978) also highlight the role of demographic variables in influencing investment selection and portfolio composition process.

Age: Warren *et al.* (1990) found that investors with heavier concentration of stocks and bonds in their portfolio tended to have children above 18 years of age. Clark-Murphy *et al.* (2009) found that as age increases the tendency to chase higher return investments increases. These studies indicate that as age increases, the investment in higher risk avenues like equity increases, possibly due to increased awareness for need to save as retirement approaches. These finding are against the theory that with age, risk taking ability of individuals goes down, thereby, investment in higher risk investment avenues is likely to reduce.

Income: Warren *et al.* (1990) found that the heavy investors investing more than $ 50000 and those with heavy concentration of investment in stocks and bonds (>30% of total investment) have household income in excess of $50000 p.a. Cohn

et al. (1975), in their study also provide evidence that risk aversion decreases as investor wealth increases.

Gender: Alcon A establishes the differences in attitudes of men and women about retirement, in the lifestyles of men and women in retirement and identifying the causes contributing to the differences. These causes include later entrance into the work force, interruptions in working life, lower pay, greater risk aversion, lower savings, and longer life expectancy for women (Grable and Lytton, 1999). Additionally, fewer women (40%) than men (47%) save through pension plans (Jacobius A). According to Warren, William *et al.* (1990) and Valenti (2007), males tend to invest more in stocks and bonds than females.

Marital Status: Warren, William *et al.* (1990) suggest that divorced, singles and widowed individuals tend to have a higher concentration of stocks and bonds than other form of investments.

Regional Differences: While many studies are found on the differences in individual investment behavior with respect to age, income, gender and occupation, no study was found on regional differences in investment behavior. This study tries to capture this trait in the demographic analysis for individual investment behavior.

Role of Investor Knowledge

The terms financial literacy, financial knowledge and financial education are used interchangeably in literature. Very few studies differentiate between the three and as of date no standardized tool to measure financial literacy/knowledge has been established.

March (1996) suggested that problem understanding or knowledge may provide an individual with solution routines to use while choosing among risky alternatives. Bodie and Crane (1997) elaborated that knowledge of investment principles represents individuals' or laypersons' understanding of the generally accepted investment principles communicated by the providers of financial products. Mandell and Klein (2007) applied the Goal setting theory of motivation to financial behavior and indicated that the better financial literacy results in improved financial behavior. They also suggested that Expectancy theory ties perception to behavior.

Dulebohn and Murray (2007) conclude that Greater knowledge of the retirement plans is related to greater risk taking in higher education employees, thereby establishing a link between knowledge and risk taking ability. Fry *et al.* (2008) found that higher levels of knowledge of credit and debit cards is associated with more informed savings behavior. All these studies indicate that financial knowledge is affecting financial behavior in some way. Sebastian and Martin (2010) examine how financial literacy affects the tendency to rely on actively managed funds rather than passively managed products. This study tries to measure if greater financial knowledge would result in a particular kind of investment behavior.

The next issue at hand is how financial knowledge should be measured. Huston (2010) examined 72 studies over 51 data sets to measures of financial literacy from 1996 to 2008. The author found that four distinct content areas were used to varying degrees in measuring financial literacy/ knowledge: (1) Money basics (including time value of money, purchasing power, personal financial accounting concepts), Intertemporal transfers of resources between time periods, including; (2) borrowing (i.e., bringing future resources into the present through the use

of credit cards, consumer loans or mortgages); (3) investing (i.e., saving present resources for future use through the use of saving accounts, stocks, bonds or mutual funds); and (4) Protecting resources (either through insurance products or other risk management techniques). Remund (2010) divided the conceptual definition of financial literacy into five distinct categories: (1) Knowledge of financial concepts; (2) Ability to communicate about financial concepts; (3) Aptitude in managing personal finances; (4) Skills in making appropriate financial decisions; and (5) Confidence to plan effectively for future financial needs.

Role of Individual Financial Risk Tolerance

Risk preference refers to an individual's attitude towards risk taking in a specific context (Brockhaus, 1982). According to Weber and Bottom (1990), risk preference represents an individual's tendency to be attracted or repelled by alternatives that he or she perceives to be more risky over those perceived as less risky.

Ajzein and Fishbein (1977) propounded that a person's attitude has a consistently strong relation with his or her behavior when it is directed at the same target, and when it involves the same action, thereby establishing that there is a strong correlation between attitude and behavior. This is substantiated by the study conducted by Dulebohn and Murray (2007) where they conclude that individuals who prefer less investment risk select investments with an overall lower risk level, and those who prefer higher investment risk select investments with an overall higher risk level.

Having established that there is a relationship between Individual Risk Tolerance and behavior, the issue of how to measure Risk tolerance becomes critical. While there are various scales prevalent for measuring risk preference, no scale has yet been recognized and accepted as the most valid and reliable estimate of Individual investment risk tolerance.

Pratt (1964) and Arrow (1965) have measured Risk preference of individuals by the proportion of individual wealth invested in risky assets using the asset allocation approach. Lewellwn and Schalbaurn (1975) have also studied the proportion of individual investment in risky assets as a measure of investor risk aversion. These studies have measured risk preference by the investment behavior of individuals. This may not be a rational way as there could be factors other than risk preference like time period of investment, knowledge levels, psychological biases and social norms (Kahneman and Tversky, 1979) that may influence investment behavior.

Grable and Lytton (1999) studied individual's self reported responses to a questionnaire on his risk tolerance level to measure risk tolerance. John Gilliam *et al.* (2010) studied two tools (1) the Survey of Consumer Finance (SCF) –single item measure; (2) The Grable and Lyton Risk Tolerance Measure (G/L-RTM) which is a 13 item multidimensional measure. The study concluded that the SCF suitable measure for evaluating investment risk behavior, the G/L-RTM is a wider measure of financial risk tolerance of an individual. The G/L RTM has found wide acceptance in the financial planning profession mainly due to its ease of availability and ease of administration.

Research Gaps

A large body of literature exists on financial knowledge. But to date, there is no standardized scale to measure financial knowledge. Studies use customized tools to serve the purpose of their

research. As such, comparison of findings across different studies is difficult. There is a need to standardize a tool for arriving at a financial literacy score.

Similarly, there is no standardized tool to measure individual financial risk preference in the financial planning industry. There is a need to experiment with different scales to establish their validity in differing contexts.

India, with its distinct and diverse demographic and cultural structure, has witnessed economic transition in the last 20 years. Improved per capita GDP has helped in generating individual surplus. New financial products are being introduced in the market to tap the surplus. Companies offering these products need to understand the influence of various variables affecting investment behavior in order to design saleable products. Review of existing literature does not indicate many studies in the Indian context. This paper attempts to address this issue.

RESEARCH METHODS

The purpose of this study is to test if there is a significant relationship between Financial Knowledge and Investment risk preference with Individual investment behavior. It also attempts to test if there is a significant relationship between Financial knowledge and Investment Risk Preference. The study aims to examine the nature and strength of the relationship, if any, that exist between the variables. It is a cross sectional study requiring minimal researcher interface. The study involves stratified random sampling of individuals in the working age group of 18 years and above. The respondents are essentially from the city of Mumbai, India.

Data was collected by administering individual questionnaires which were filled up electronically where the three variables were examined. Individual Investment behavior has been operationalized as a product of savings in relation to income and investment spread over six different avenues, viz., Equity/Equity Mutual funds, Fixed Income instruments, Real estate, Gold/ precious metals and cash/bank balance. Financial knowledge has been measured with respect to knowledge on the basics of finance, investments and borrowings. The existing Financial literacy score model (Sebastian and Martin, 2010) has been used for the same. The responses have been scored and categorized into low, moderate and high knowledge levels. Investment Risk preference has been measured with respect to Investment risk, Risk comfort and experience and ability to take speculative risk. The existing G/L Risk tolerance scale (Grable and Lytton, 1999) has been used to measure speculative risk. Accordingly, investors have been categorized as risk averse, moderate risk takers and aggressive investors.

The data for the survey was obtained from an electronic questionnaire that was mailed to individuals using Google documents. Of the 55 mails sent, 30 usable responses (54.5%) were received. Participants were asked to answer 8 questions to test their financial knowledge and 13 questions to indicate their risk preferences. They were also asked to share how much of their income is saved and invested in avenues like equity, fixed income instruments, real estate, gold, cash and other assets. The variables also included demographic details of participants.

RESULTS AND DISCUSSION

The demographic details of the 30 respondents are captured in Table 1 below.

Table 1: Demographic Details		
Category	**Frequency**	**Percentage**
Age18 – 35 years	10	33.3
36 – 55 years	16	53.3
Above 55 years	4	13.3
Gender		
Male	21	
Female	9	
Marital Status		
Single	7	
Married	23	
Educational Qualification		
XIIth Standard	1	
Graduation	7	
Post Graduation	19	
Doctorate or higher	3	
No. ofDependants		
Nil	9	
1 – 2	11	
3 – 4	9	
More than 4	1	
Occupation		
Employed	27	
Self employed	3	
Regionality		
Eastern India	4	
Western India	13	
North India	5	
South India	7	
Central india	1	
Annual income		
Less than Rs3 lakhs	5	
Rs 3 lakhs – Rs 6 lakhs	7	
Rs 6 lakhs – Rs 12 lakhs	7	
Rs 12 lakhs – Rs 24 lakhs	4	
More than Rs 24 lakhs	7	

Association between the Independent variables and the dependent variable: Chi-square tests were conducted to establish the relationship between Financial knowledge and Investment risk preference with Individual Investment Behavior (Table 2).

Table 2: Chi Square Test for Independence of Financial Knowledge and IRP with IIB

	Knowledge		IRP	
	Value	**Asymp. Sig. (2-sided)**	**Value**	**Asymp. Sig. (2-sided)**
Equity	0.933	0.627	2.988	0.224
Fixed income	0.75	0.687	1.182	0.554
Real estate	2.195	0.334	1.759	0.415
Gold	2.52	0.284	5.649	0.059
Cash	1.129	0.569	1.294	0.524

The data indicates that there is no statistically significant association between Knowledge and investment behavior with respect to any investment avenue. This indicates that individuals with low knowledge, moderate knowledge or high knowledge do not differ significantly with respect to their investment behavior.

Similarly, there is no statistically significant association between IRP and investment behavior with respect to any investment avenue. This indicates that there is no significant difference in

the investment behavior of risk averse individuals, moderate risk takers and aggressive individuals.

Association between Knowledge and IRP: As, both knowledge and IRP have been measured as scores, a correlation analysis was conducted to assess the relationship between these two independent variables (Table 3).

Table 3: Correlation Analysis of Relationship Between Knowledge Score and IRP Score

		Knowledge Score	IRP Score
Knowledgescore	Pearson Correlation	1	.510
	Sig. (2-tailed)		.004
	N	30	30
IRPscore	Pearson Correlation	0.510	1
	Sig. (2-tailed)	0.004	
	N	30	30

Knowledge score shows a significant positive correlation with IRP score. This indicates that as knowledge score increases, IRP score is also likely to increase. Individuals with low financial knowledge are likely to be Risk averse and those with high knowledge are likely to be aggressive.

No significant association is seen between the independent and dependent variables with respect to any of the demographic variables.

CONCLUSION

Financial service providers need to understand the role of various factors that influence individual financial decision making in order to design products that suit the market. There can be various factors that may affect investor behavior. This study concentrates on two factors - knowledge and risk preference and their relationship with investment behavior. It is seen that there is no significant relationship between knowledge and individual investment behavior. No significant relationship is seen between investor risk preference and individual investment behavior. This finding is contradictory to the previous studies as seen in literature. Indian investors may tend to be basing their investment decisions based on cultural upbringing, or may be influenced by social norms and psychological biases. Role of friends, relatives and financial advisors may be a major influencing factor.

There is a significant correlation between knowledge and risk preference. Literature also suggests that respondents who are more knowledgeable tend to be more risk tolerant. Financial service providers need to target more knowledgeable investors for promoting products with high but uncertain returns. On the other hand, areas having individuals with lower financial knowledge should be targeted for products with stable returns.

The focus of this paper is to study the relationship between financial knowledge and Investor risk preference with Individual Investment behavior. There could be other variables like social norms, psychological biases and time horizon of investment which influence the investment behavior of individuals which are not the focus of the current study.

Also, data for the study has been collected essentially from Mumbai city in India. Mumbai is known as the financial capital of the country and, hence, there is a possibility that investment behavior in the city differs from other parts of the country. These limitations can be overcome in future researches to provide credibility to the findings. Samples can be drawn from different strata with respect to regions, gender, income levels and marital status.

REFERENCES

1. Ajzein I and Fishbein M (1977), "Attitude-behavior relations: A theoretical analysis and review of empirical research", *Psychological Bulletin,* Vol. 84, No. 5, pp. 888–918.
2. Alcon A (1999), "Financial Planning and the Mature Women," *Journal of Financial Planning,* Vol. 12, No. 2, pp. 82-88.
3. Blume M E and Friend I (1978), "The changing role of the Individual investor", New York, John Wiley & Sons.
4. Bodie Z and Crane D B (1997), "Personal investing: advice, theory and evidence", *Financial Analyst Journal.*
5. Brockhaus R H (1982), "The psychology of the entrepreneur", *The Encyclopedia of Entrepreneurship.*
6. Clark-Murphy Marilyn, Gerrans Paul and Speelman Craig (2009), "Return Chasing as a Driver in Individual Retirement Savings Investment Choices: Evidence from Australia", *J fam Econ Iss.*
7. Cohn R A, Lewellen W G , Lease R C and Schlarbaum G G (1975), "Individual Investor Risk aversion & Investment Portfolio composition", *Journal of Finance.*
8. Dulebohn J H and Murray B (2007), "Retirement savings behavior of higher education employees", *Research in higher education*.
9. Fry T R, Mihajilo S, Russell R and Brooks R (2008), "The Factors Influencing Saving in a Matched Savings Program: Goals, Knowledge of Payment Instruments, and Other Behavior", *Journal of Family and economic issues.*
10. Grable Lytton (1999), "Financial risk tolerance revisited: The development of a risk assessment instrument", *Financial Services Review*.
11. Huston Sandra (2010), "Measuring Financial Literacy", *Journal of Consumer Affairs.*
12. Prait J W (1964), "Risk Aversion in the Small and in the Large", *Econometrica.* January-April.
13. Jacobius A (2001), "Women Still Earning, Saving Less than Men", *Pensions and Investments,* Vol. 29, No. 11, pp. 8.
14. John Gilliam, Swarn Chatterjee, and John Grable (2010), "Measuring the perception of financial risk tolerance: a tale of two measures", *Journal of financial counselling and planning.*
15. Arrow K J (1965), "Aspects of the Theory of Risk Bearing", Helsinki: Yrjo Jahnsson Foundation.
16. Kahneman D and Tversky A (1979), "Prospect Theory: An analysis of Decisions under risk", *Econometrica.*
17. Kahneman D and Tversky A (1982), "The Psychology of preferences", *Scientific American.*
18. Lewellen W G, Lease R C and Schlarbaum G C (1977), "Patterns of investment strategy and behavior among Individual investors", *Journal of Business.*
19. Mandell Lewis and Klein Linda Schmid (2007), "Motivation and financial literacy", *Financial Services Review.*
20. March J G (1996), "Learning to be risk averse", *Psychological Review,* Vol. 103, No. 2, pp. 309–319.

21. Markowitz H M (1959), "Portfolio selection: Efficient diversification of Investment", Cowles Foundation Monograph 16, New Haven, Yale University Press.

22. Neumann J and Morgenstern O (1947), "Theory of Games and economic behaviour", Princeton University Press.

23. Remund D L, 2010, "Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy", *Journal of Consumer Affairs.*

24. Sebastian Müller and Martin Weber (2010), "Financial Literacy and Mutual Fund Investments: Who Buys Actively Managed Funds?", *Schmalenbach Business Review.*

25. Valenti M A (2007), "401(k) Plan Participation: What Factors Affect Contribution Levels and Investment Decisions", *Journal of Deferred Compensation.*

26. Warren William E, Stevens Robert E and McConkey C William (1990), "Using Demographic and Lifestyle Analysis to Segment Individual Investors", *Financial Analysts Journal.*

27. Weber E U and Bottom W P (1990), "An empirical evaluation of the transitivity, monotonicity, accounting, and conjoint axioms for perceived risk, Organizational Behavior and Human Decision Processes".

International Journal of Management Research and Business Strategy
Hyderabad, INDIA. Ph: +91-09441351700, 09059645577
E-mail: editorijmrbs@gmail.com or editor@ijmrbs.com
Website: www.ijmrbs.com