

IMPACT OF FINANCIAL EDUCATION ON INDIVIDUAL INVESTMENT BEHAVIOR; AN EXPLORATION

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ABSTRACT

Financial Liberalization has brought crucial changes in financial scenario all across the globe and major changes are evidenced in developing countries including India. This changes in economic scenario has impacted the lives of individual masses as they have witnessed sudden positive changes in their disposable income. This has created a new platform for researches in the area of behavioral finance and experts from all across the globe had been conducting related studies from various dimensions in order to reach a consensus regarding determinants of investment behavior of individuals. Financial knowledge one have has emerged as one of the important demographic variables affecting investment behavior of individuals, though the studies of various researchers do not show a consensus in this regard.

Researchers like Robert Masters (1989) explored that knowledge of investment is positively correlated to an individual's financial risk tolerance and investment behavior. Considering financial education as a proxy of financial knowledge and drawing a sample from individuals in Indore, this study has attempted to explore the association of investment behavior with financial education. The study revealed that there is no significant association between Financial Education one have and his or her Investment Behavior.

Key Terms: Financial Education, Investment Behavior, Chi-square.

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INTRODUCTION

Investment Behavior of individuals is a mystery for long and experts of various disciplines have tried to reach a consensus by undertaking a large number of studies from various dimensions of individualism including demography, life-style, psychological traits, surroundings, etc. The studies in this area of behavioral finance have taken a boost recently in developing countries like India after the advent of globalization in early nineties. These developing economies have witnessed rising stock prices and growing income level, specifically of middle class, during last more than one decade.

Researches in this area of individual financial planning are broadly divided in two categories, one, those exploring rational behavior of individuals, and the other, against this. Traditional economics assumes individuals to be rational in behavior. Rationality in individual financial behavior is reflected through objective use of information available. It signifies that investors are rational when they make their investment decisions in an objective manner by utilizing the available information in an optimum manner (Kasilingam and Jayabal, 2010). On the other hand, standing on the platform of real life studies, various researchers in this area have explored certain irrational factors of individual investment behavior. These factors deviate the investors from taking rational decisions (Kasilingam and Jayabal, 2010).

With the growth of research in this area in recent times, the traditional investment theory based on rationality seems to gradually losing its relevance as a large number of factors affecting individual investment behavior have been explored. Renowned economists and Management thinkers like Neumann and Morgenstern (1947), Kahneman and Amos (1979) exploring some relevant psychological findings, have laid down arguments in support of irrational investment behavior of individuals. The studies of these experts have suggested that an individual's investment decisions are largely affected by his psychological traits, emotional biases and demography including desires, over-confidence, referrals, self-attribution, risk tolerance, framing effect, demographic factors like age, gender, income, marital status, occupation, wealth, etc., thereby deviating him from rational behavior.

RATIONALE BEHAVIOR; THE THEORETICAL UNDERPINNING

Stuart Rachels* noted that the theory of rational behavior has three main derivations: Ethical Behavior as Rationality, Self-interested Behavior as Rationality, and Instrumental Rationality. The first derivation suggests that when an individual behaves in an ethical manner, his behavior is said to be rational. According to second derivation, when an individual behaves keeping in mind one's self interest, he is said to be rationale in behavior. The third concept of rationality is associated with use of intelligence in decision making by an individual. This research work derives its base from the third concept of rationality, i.e. use of intelligence in financial decisions making so as to meet one's investment objectives.

In the words of Stuart Rachels (jamesrachels.org), "*I act with instrumental rationality just in case I maximize expected utility, under a specific interpretation*". The theory of Expected Utility is said to be the central element of neoclassical theory of rational economic theory. Expected Utility Theory is one of the widely used theories in economics for explaining rational decision-making under uncertainty. This theory states that under the conditions of uncertainty and risk, an individual chooses the options by comparing the expected utility values of various options.

The basic assumption of this research work is that formal financial education of an individual will add to his/her financial intelligence, thereby leading to a rational investment behavior. So, according to the theoretical perspective, the investment behavior of those not so financially educated will be different from those financially educated. This research work has attempted to explore the same.

RATIONALE OF THE STUDY

A large number of empirical studies have attempted to test the traditional theory based on rationality in individual behavior including investment decisions. This theory assumes that investors are rational and consider their knowledge and information before making investment decisions. Against the traditional financial theory based on rationality, a large number of researchers have empirically proved that psychological and demographic traits of individuals play an important role in investment decisions of individuals. This generates a contradictory situation that whether or not rationality has a role to play. This generates the very foundation of studies in the arena of behavioral finance relating to investment behavior of individuals.

With this framework, this research work has attempted to explore the impact of financial education on investment behavior of individuals in Indore. The results of the study would help the financial planners and advisors to come up to the expectations of their clients from Indore by developing suitable investment plans and suggesting feasible investment avenues matching to their financial education.

2. LITERATURE REVIEW

Researchers and practitioners have suggested that demographic factors can be used to differentiate individuals in terms of their investment choice. The majority of the research conducted in the area of behavioral finance has attempted to explore the role of demographic variables on investment behavior of individuals. The focus has been on various demographic characteristics such as gender, age, marital status, profession, income, and education and finance specific knowledge.

Though no specific studies have been conducted on association of financial education with Investment choice of individuals, specifically in Indore, a large number of studies have been conducted on impact of various demographic traits including education of individuals on their Investment Behavior. One important observation that researchers could come across which exploring the existing body of knowledge was that most of the studies focused on exploring the association/impact of demography on financial risk tolerance of individuals rather than on their investment behavior and it was presumed that the financial risk tolerance will in turn affect the investment decisions of individuals. Below produced is a gist of the findings explored out of existing literature on these two fronts:

A large number of researches have been undertaken to document investment behavior of individuals [see Odean (1998) and Shu et al. (2005)]. There also exist evidences in existing literature that suggests that individuals tend to reduce the amount of efforts involved in decision-making as the decision grows more complex [see Payne et. al. (1984)]. Further, researchers have also attempted to categorize individual investment strategies using empirical evidences [see Ng and Wu (2006) and Feng and Seasholes (2007)]. Extending this, other researchers have explored the factors affecting individuals' investment behavior [Lewellen et al. (1977), Bajtelsmit and Bernasek (1996) and Kover (1999)].

Increased education is assumed to increase the risk tolerance of individuals. This is because of the fact that education enables the person to assess risk more accurately and hence gain out of riskier decisions. Similar are the findings of researchers like Baker and Haslem (1974). and Sung and Hanna (1996). A large number of researchers have found that level of information/knowledge and experience that an individual possess, have forbearance on the risk tolerance and investment choice one have. Dynan et al (2004) explored that the risk taking differences between both genders soothe significantly when knowledge of financial markets and investments is considered.

Baker and Haslem (1974) explored that investors with less education found price stability more important than those with at least some college training. This finding was in contradiction with findings from other researchers including Powell and Ansic (1997), who explored that those with little education were desirous of quick profits from risky trading. Researchers like Hammond et al. (1967) found that education of the head of the household was significantly related to premium expenditures.

Some researchers also explored that general education level was not always a factor influencing investment decisions, but that in general, investors with higher education levels are found inclined towards higher risk investments (see Masters, 1989). Similarly, Shaw (1996) also concluded that more education level of individuals was explained to have a positive forbearance on the risk taking of individuals.

Haliassos and Bertaut (1995) concluded that education was an important factor in overcoming the barriers to tolerate risk associated with stockholding by individuals. It was also found that those with below college education level were significantly less likely to hold stocks than those with at least a college degree. Zhong and Xiao (1995), in their study, reported that ownership of risky assets by individuals increased with education. Similar were the findings of Lee and Hanna (1995), who concluded that education significantly increased the proportion of individuals willing to take risks.

So, findings from the existing body of knowledge are contradictory in the sense that these not only differ in terms of the impact of education on risk tolerance/investment behavior of individuals, but the disagreement extend to the degree and significance of this impact across studies.

RESEARCH DESIGN AND METHODOLOGY

RESEARCH QUESTION:

What is the Investment Behavior of Individuals in Indore and is it significantly associated with their Education?

RESEARCH OBJECTIVES:

The basic objectives behind this research work can be summed up as follows:

- To study the Investment Behavior of Individuals in Indore.
- To explore the association between Financial Education and Investment Choice of Individuals in Indore.
- To explore the association between Financial Education and Investment Objectives of Individuals in Indore.

RESEARCH HYPOTHESIS: Standing on the platform of rational economic behavior and expected utility theory, the researchers hypothesized that:

Ho1: There is a significant association between education and investment choice of Individuals in Indore.

Ho2: There is a significant association between education and investment objectives of Individuals in Indore.

VARIABLES CONSIDERED FOR THE STUDY

INVESTMENT BEHAVIOR; INVESTMENT CHOICE AND INVESTMENT OBJECTIVES

With the growth of economies all across the globe and modernization of business events and procedures, investment options for individuals have considerably increased. The growth and expansion of financial products industry and opening of developed and developing economies has further complicated the issue. All these recent developments have made individual investment choice a confusing decision, specifically in developing countries like India, where there is a considerable rise in disposable income of masses unmatched with required financial awareness. Similarly, with the complexities of modern lifestyle, the objectives behind investment decisions by individuals have increased manifold. These two aspects of financial behavior of individuals, i.e. Investment Choice and Investment Objectives, have been considered to construe investment behavior of individuals for the purpose of this research work. A large number of researches have been undertaken to document investment behavior of individuals [see Odean (1998), Odean (1999), Barber and Odean (2000), Barber and Odean (2001) and Shu et al. (2005).

EDUCATION AND QUALIFICATION

The level of education and individual has is considered as a reflection of person's awareness and capacity to assess risk inherent in an investment decision. Therefore, increased education is assumed to affect the investment decisions of individuals. This is because of the fact that education enables the person to assess risk more accurately and hence gain out of riskier decisions. Similar are the findings of researchers like Baker and Haslem (1974). Haliassos and Bertaut (1995) and Sung and Hanna (1996). In a one more similar research, MacCrimmon & Wehrung (1984) explored that higher education has been found to encourage risk taking and as such, investment managers assume that increased levels of education are associated with increased levels of risk tolerance.

In order to conduct this work, an empirical investigation of investment behavior of individuals in Indore was undertaken. The universe of this study is individuals in Indore with age of 18 and above and education level above schooling. This was imperative in order to explore the association of financial education with investment behavior of individuals. A self-structured questionnaire with close-ended options was instituted on respondents. The respondents were asked to state their qualification, which was later classified in two broad categories, financial and non-financial. Qualification at undergraduate and above level relating to accounting/finance/economics was classified as financial education, and the rest were classified as non-financial education. To study the investment behavior of individuals, the respondents were asked to rank their preferences on two parameters, first the investment avenues, and second the investment objectives. For this purpose, all the available investment avenues in six categories based on a closed group discussion among finance professionals and academicians. These

categories are 1. Equities and Derivatives, 2. Fixed return investments, 3. Gold and Bullion. 4. Mutual Funds 5. Real Estate 6. Insurance and Annuities. Similarly, investment objectives were also classified in 1. High Rate of return, 2. Certainty of Return, 3. Safety of Investment, 4 Availability of Tax Benefits, 5 Liquidity Available, and 6. Physical Existence of Assets categories. Thereafter, an attempt has been made to explore the association between Investment Behavior (including Investment Choice and Investment Objectives) Financial Education of Individuals in Indore.

A total of 600 questionnaires were instituted on the respondents during the months of March-June 2011, out of which 504 completed questionnaires with a response rate of 84% have been finally considered. The analysis of the data was carried out using Statistical Package for the Social Sciences (SPSS) for Windows. Chi-square test has been applied to determine the association between Investment Choice (dependent variable), Investment Objective (dependent variable) and Education (independent variable).

DATA ANALYSIS

Table I gives the summary of demographic characteristics of the respondents.

Table I: Demographic Characteristics of Respondents			
VARIABLE		FREQUENCY	PERCENTAGE
Gender	Female	243	48.2
	Male	261	51.8
Age	> 30 yrs.	171	33.9
	30+ yrs. to 45 yrs.	180	35.7
	45+ yrs. to 60 yrs.	120	23.8
	More than 50 yrs.	33	6.5
Marital Status	Married	390	77.4
	Single	114	22.6
Household Income (Rs.)	Less than 5 Lacs	213	42.3
	5 Lacs to 10 Lacs	192	38.1
	More than 10 Lacs	99	19.6
Qualification	Graduation	231	45.8
	Post-graduation	126	25.0
	Professional	69	13.7
	Others	78	15.5
Area of Specialization	Finance/Accounts/Economics	138	27.4
	Others	366	72.6

The respondents were asked to give relative ranks to six investment avenues and six investment objectives, one being most preferred and six being least preferred. The mean ranks of their investment choice and other relevant statistics is shown in table II.

The table IIA below exhibits the relative preference of an investment choice from the point of view of all the respondents. The table shows that the mean value of the preference/rank given to 'Gold and Bullion' is 2.46, which is least among the six choices given to respondents. It employs that 'Gold and Bullion' is the most preferred investment choice of respondents. This is followed by 'Fixed Return Investments' and 'Equity and Derivatives' with mean score of 2.57 and 3.54 respectively. 'Insurance and Annuities' is been explored as the least preferred choice of respondents with a mean score of as high as 4.21.

Table IIA: Descriptive Statistics of Investment Choice

Investment Avenue	N	Min.	Maxi.	Mean	Std. Dev.	Rank
Equities and Derivatives	504	1	6	3.54	1.37654	3
Fixed return investments	504	1	6	2.57	1.74753	2
Gold and Bullion	504	1	6	2.46	1.44980	1
Mutual fund and insurance	504	1	6	4.08	1.51149	4
Real estate	504	1	6	4.13	1.63123	5
Insurance and Annuities	504	1	6	4.21	1.58337	6

Similarly, table IIB below exhibits the relative preference of an investment objective from the point of view of all the respondents. The table shows that the mean value of the preference/rank given to 'Safety of Principal' is 2.49, which is least among the six options given to respondents. It employs that 'Safety of Principal' is the most preferred investment objective of respondents. This is followed by 'Certainty of Return' and 'High Rate of Return' with mean score of 3.08 and 3.11 respectively. 'Physical Existence of Assets' is been explored as the least preferred objective of respondents with a mean score of as high as 4.95.

Table IIB: Descriptive Statistics of Investment Objectives

Investment Objective	N	Min.	Maxi.	Mean	Std. Dev.	Rank
High Rate of Return	504	1	6	3.11	1.66340	3
Certainty of Return	504	1	6	3.08	1.39467	2
Safety of Principal	504	1	6	2.49	1.49245	1
Tax Benefit	504	1	6	3.30	1.41235	4
Liquidity	504	1	6	4.08	1.61948	5
Physical Existence of Asset	504	1	6	4.95	1.48549	6

The table IIIA below exhibits the frequency of respondents ranking the various investment avenues as their most preferred investment choice. A maximum of 162 respondents have ranked 'Fixed Return Investments' as their most preferred investment choice, followed by 120 respondents ranking for 'Gold and Bullion' as their most preferred choice. A minimum of 24 respondents have ranked 'Insurance and Annuities' as their most preferred investment choice and this is reciprocated by the fact that a maximum of 189 respondents have ranked this avenue as their least preferred investment choice.

Table III A: Frequency Table for Ranks allotted by Respondents to Investment Avenues:

Investment Option Rank Allotted	Equity & Derivatives	Fixed Ret. Investments	Gold & Bullion	Mutual Funds	Real Estate	Insurance & Annuities
1	111	162	120	30	57	24
2	42	108	186	42	48	78
3	96	102	114	54	36	102
4	84	78	24	159	105	54
5	57	24	48	168	150	57
6	114	30	12	51	108	189

Total	504	504	504	504	504	504
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Similarly, table IIIB below exhibits the frequency of respondents ranking the various investment objectives as their most preferred investment objective. A maximum of 186 respondents have ranked ‘Safety of Principal’ as their most preferred investment objective, followed by 141 respondents ranking for ‘High Rate of Return’ as their most preferred objective. Only a minimum of 27 respondents have ranked ‘Physical Existence of Assets’ as their most preferred investment objective, which is again reciprocated by the fact that a maximum of 270 respondents have ranked this as their least preferred investment objective.

Table III B: Frequency Table for Ranks allotted by Respondents to Investment Objectives:

Investment Option Rank Allotted	High Rate of Return	Certainty of Return	Safety of Principal	Tax Benefit	Liquidity	Physical Existence of Asset
1	141	60	186	30	60	27
2	30	144	96	162	48	24
3	129	108	93	90	48	36
4	96	108	66	117	72	45
5	54	54	45	60	189	102
6	54	30	18	45	87	270
Total	504	504	504	504	504	504

The prime objective of the study is to explore the association between Education of Individuals in Indore and their Investment behavior measured in terms of investment choice and investment objectives. The hypothesis of the study has been tested with the help of chi-square performed with the help of SPSS software. The hypothesis has been tested at 5% significance level.

ASSOCIATION BETWEEN EDUCATION AND INVESTMENT CHOICE

As seen from table IV below, a maximum of 30.4% of ‘financially educated’ respondents have ranked ‘Fixed Return Investments’ as their first preference, and similarly, a maximum of 42.1% respondents with non-financial education have ranked the same avenue as their most preferred investment choice. Not only this, the two groups of respondents also seems to be indifferent in terms of their least preferred investment choice. For Financially educated respondents, ‘Mutual Funds’ and ‘Insurance and Annuities’ have arrived as least preferred investment choice, while for non-financially educated respondents, ‘Mutual Funds’ and ‘Gold and Bullion’ have arrived as least preferred investment choice. So, apparently it seems to be that respondents are indifferent in terms of Education and Investment Choice.

Investment Preference → Education ▼		Equity & Derivatives	Fixed Ret. Investments	Gold & Bullion	Mutual Funds	Real Estate	Insurance & Annuities
Financial	Count	30	42	36	06	18	06
	%	21.7	30.4	26.1	4.3	13.0	4.3
Non-	Count	81	120	84	24	39	18

financial	%	10.5	42.1	5.3	5.3	26.3	10.5
Pearson Chi-Square				Value	df	Asym. Sig. (2-sided)	
				.663	5	.985	

To confirm this further, Chi-square test was conducted, the results of which are shown in table above. As seen from the table, chi-square value of .663 with asymptotic significance of .985 confirms that there is no significant association between education and investment choice of respondents. Hence, the null hypothesis H01 “*There is a significant association between education and investment choice of Individuals in Indore*” is rejected.

ASSOCIATION BETWEEN EDUCATION AND INVESTMENT OBJECTIVE

As seen from table V below, a maximum of 34.8% of ‘financially educated’ respondents have ranked ‘High Rate of Return’, followed by ‘Safety of Principal’ as second most preferred investment objective with 30.4%, which is also the most preferred investment objective of respondents with non-financial education as 41% of them have ranked the same as their most preferred investment objective. Similarly, the two groups of respondents also seems to be indifferent in terms of their least preferred investment choice as, for both of these groups, ‘Physical Existence of Assets’ has arrived as least preferred investment objective. So, apparently, the respondents also seem to be indifferent in terms of Education and Investment objective.

Investment Objective → Education ↓		High Rate of Return	Certainty of Return	Safety of Principal	Tax Benefit	Liquidity	Physical Existence of Asset
		Financial	Count	48	24	42	06
	%	34.8	17.4	30.4	4.3	13.0	00
Non-financial	Count	93	36	150	18	42	27
	%	25.4	9.8	41.0	4.9	11.5	7.4
Pearson Chi-Square				Value	df	Asym. Sig. (2-sided)	
				7.112	5	.212	

As seen from the table above, chi-square value of 7.112 with asymptotic significance of .212 confirms that there is no significant association between education and investment objective of respondents. Hence, the null hypothesis H02 “*There is a significant association between education and investment objective of Individuals in Indore*” is rejected.

MAJOR FINDINGS:

The major findings of this research work are summed up as follows:

- Gold and Bullion, followed by Fixed Return Investments, is the most preferred investment choice of individuals in Indore.
- Safety of Principal is the most preferred investment objective of individuals in Indore.
- Financial Education, as against the traditional theory of rationality, is found to have no significant association with investment choice and investment objectives of individuals in Indore.

POLICY IMPLICATIONS

The findings of the above study has explored that investment behavior of individuals in Indore is not associated with their education, financial or non-financial. So, while promoting investment vehicles among individuals in Indore, other demographic traits and other factors are to be considered and there may be as such no requirement to consider the nature of education associated with the aspirants. One thing that is to be specifically taken care of in this regard is that individuals in general are most concerned about the safety of the amount invested by them irrespective of the type of investment avenues considered for investment. So, for individuals in Indore, investment instruments may be designed keeping in view safety of the principal amount as one of the key features.

LIMITATIONS OF THE STUDY

The major limitation of this research work is that it has just attempted to explore the association of education of individuals in Indore with their investment behavior measured in terms of investment choice and investment objectives, and no attempt has been made to explore the role of other factors that have been empirically investigated by other researchers. Further, this research work has also failed in exploring the cause behind the major findings of this research work, which are well against the traditional theory of rationality. So, this research work does not give any insight into changing role of traditional theory of rational behavior in current and emerging scenario.

CONCLUSION

Various academicians, research scholars and research organizations have conducted a large number of studies exploring the association of financial education of individuals with their investment behavior. Certain empirical studies have evidenced that investors do behave rationally and hence their investment behavior is affected by the financial knowledge and education they carry, while certain other studies have explored that investors do not behave rationally and their investment behavior is decided by other factors like demography, lifestyle, etc.

The present study was conducted with a sample of 504 individual respondents from Indore city with a minimum of above schooling education, with the basic objective of exploring association of financial education with investment behavior of individuals. On the basis of qualification, respondents were divided in two groups, financially educated and non-financially educated. Investment behavior of respondents was observed on two parameters, investment choice and investment objective. In order to know the same, an association of education with investment choice and investment objective was explored by conducting chi-square test. It was explored that there is no significant association between Education and Investment Behavior of individuals in Indore.

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