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FINANCIAL LITERACY, RISK TOLERANCE AND STOCK MARKET PARTICIPATION

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iD **Rajesh Mishra**[1]

[1]Faculty, ICFAI Business School, Gurgaon, Haryana, India
Email: rajmish25@rediffmail.com

ABSTRACT

This study explores how households' stock market investment decisions are influenced by self-assessed financial literacy, investment awareness, risk propensity and socio-economic characteristics. This study used national survey data of Indian households across the country, a survey conducted by SEBI (Securities and Exchange Board of India) to get a comprehensive view of households' characteristics, behaviour and investment patterns. The results of logistic regression indicate that individual having more risk tolerance, financial literacy, and investment awareness significantly influences the stock market investment decisions. ANOVA results indicate the significant difference among different groups of responding households according to age, education, zone, saving, debt, and income level while no significant difference found in level of stock market participation based on gender, occupation, and marital status. The results also validate the usefulness of financial education programme for enhancing the financial awareness among households that positively impacts the investment decision regarding stock market investments.

Contribution/ Originality: This study contributes to the existing literature of Indian studies for determining the influential factors for household`s investment decisions regarding stock market investments examined through logistic regression. This research study is one of the very few studies conducted in India to predict the household`s stock market participation based on financial literacy, risk tolerance, investment awareness, and financial education.

1. INTRODUCTION

Amongst emerging economies, India has very low participation in equity related products despite of the fact that India has high savings rates with Gross Domestic Savings rate of 32.3% of the Gross Domestic Product (RBI, 2017). India is one of the high saving economies of the world and ranked at 22nd in the list of top saving countries of the World. In India, household sector contribute 59.3% of the Gross Savings. Net financial savings increased in 2015-16 over the previous year 2014-15 whereas savings in physical assets decreased during the same period. The Indian household investors` saving and investment preferences have also been changing over a period of time. There is sharp increase in investments in shares and debentures, from Rs. 41,317 crores in 2015-16 to Rs. 1,82,578 crores in 2016-17, a splendid growth of 441% (RBI, 2017). In the same period, contribution of investments in

securities market in all household assets has grown from 2.7% to 10% but it is still very low in comparison to bank deposits which take a major part at 60% of total savings (RBI, 2017).

Investors would always be benefitted if major part of their portfolio consists of equity or equity linked products but still participation of investors in the stock market has not reached at remarkable levels across countries (Guiso and Sodini, 2013). There are lots of deliberations surrounding investment habits in India. Specifically, there has been major concern about the low savings in financial assets as compared to savings in physical assets (Davar and Gill, 2009). In daily life, households and individuals are required to take important investment decisions while some products might be complex and hard to understand especially for financially non-savvy investors. Pertinent examples are decisions regarding asset allocation and risk- diversification, financial planning and wealth accumulation, saving for retirement, mortgage financing etc.

As personal investment decisions are taken by fully informed individuals to maximize their expected lifetime value and aggregate of overall individual financial decisions affects household well-being, economic development, and the firmness of the financial system. It is now recognized that due to low level of financial literacy, individuals are generally not well prepared to make complex financial decisions (Bajo *et al.*, 2015).

Understanding the behaviour of Indian households while making investment decisions could lead to initiatives ensuing active participation of investors, reinforced by their long term investment goals while considering their short term needs.

The purpose of this study is to explore the socio-economic attributes, level of financial literacy, investment awareness, financial education and risk propensity of Indian households to envisage their stock market participation. This study would be helpful in looking for the concerned area for improvement thus enabling the individual for taking appropriate investment decisions for future stability which would be contributing to the growth and development of country.

This study is divided into following sections: Section 1 is about the introduction of the topic, section 2 discusses about literature review, section 3 mentions about research questions and hypotheses. Data and methodology used for the current study is explained in section 4 while results and findings of the study are discussed in section 5. Conclusions and implications of the study are described in section 6 and section 7 respectively. In the last, section 8 is about future scope of research and limitations of this study.

2. REVIEW OF LITERATURE

2.1. Socio-Economic Characteristics

Investment decision of an individual is dependent on various factors comprising socio-economic characteristics like age, gender, income and level of education (Hallahan *et al.*, 2003; Bali *et al.*, 2009; Maxfield *et al.*, 2010; Ozmen and Sumer, 2011) individual`s own characteristics like behaviour traits, ethics, emotions, risk tolerance, etc (Mishra *et al.*, 2010; Chitra and Sreedevi, 2011; Young *et al.*, 2012). Various market related factors like expected risk, rate of return, transaction costs, and market environment etc. influence individual in decision making (Morse, 1998; Chang, 2008; Ferguson *et al.*, 2011). Few studies have analysed the influence of age, wealth, education, gender and risk aversion on stock market participation (Hong *et al.*, 2004; Georgarakos and Pasini, 2011; Almenberg and Dreber, 2015).

There is apprehension that households are not saving adequate for retirement, are building up too much debts, and are not taking benefit of financial innovation (Campbell, 2006; Lusardi and Mitchell, 2007). Al-Tamimi and Kalli (2009) conducted a survey on UAE investors and found risk-diversification, religious reasons, perceived beliefs and reputation of the organization to be most influencing factors on investment decision, whereas rumors, family member`s and friend`s opinions, easiness of getting borrowed funds were have least impact. Opinions about returns and overall suitability in the case of all investment opportunities look to be a major influencing factor with respect to future investments (Davar and Gill, 2009).

Nagy and Obenberger (1994) examined investors with large holdings in Fortune 500 firms and found classical wealth-maximization criteria as the most influencing factor. Safety and liquidity are the primary concerns while making decisions to select the assets for investments. Due to borrowing constraints young people are unable to invest in stock market (Constantinides et al., 2002). Surprisingly even 70% of formal savers are not financial literate (Klapper et al., 2015).

2.2. Financial Literacy

The financial literacy rate of average Indian is low at 24% in comparison to 33% of the adults worldwide. 80% of the respondents from 47% adults in India who were not having any bank account were not found to be financially literate while about 75% of the adult population who don`t invest in formal products are financial illiterate (Klapper et al., 2015). Other studies have also came out with similar results of low financial literacy rate in India (OECD, 2017; Gunther and Ghosh, 2018).

Many studies highlight the relationship between investors` financial awareness and investment behaviour. Safety aspect observed to be most important criterion for investments. The level of financial knowledge influences the decision related to mutual fund investments (Kozup et al., 2008; Dey et al., 2015). Generally, investors are unwilling to undertake transactions if they are unable to understand. Investors have very good knowledge about simple form of investments like fixed saving accounts and government savings schemes (Prasad and Subhas, 1991; Shollapur and Kuchanur, 2008).

Lack of financial knowledge may have impact on investment behaviour (Caroline et al., 2015). Bernheim (1995) found that majority of households are unable to do simple financial tasks and saving behaviour of many households is dominated by simple rule of thumb. There is significance relationship between financial literacy and investment decisions and those who are able to differentiate between stock and mutual funds are willing to take risks in their investment decision-making (Al-Tamimi and Kalli, 2009; Sabri, 2016). Harrison (2003) found the previous investment familiarity and experience impact the investors` decision while buying financial products.

Financial literacy does have statistically significant influence on investment decision and those with low literacy are much less likely to invest in stocks (Rooij et al., 2011; Jariwala, 2015). Financial literacy has the positive relationship and enhances the likelihood of stock market participation (Kimball and Shumway, 2010; Christelis et al., 2011; Rooij et al., 2011; Balloch et al., 2015; Mitchell and Lusardi, 2015; Sivaramakrishnan et al., 2017). Low level of financial literacy is associated to lower saving and wealth accumulation before retirement (Lusardi and Mitchell, 2006; Behrman et al., 2012; Clark et al., 2012) and influences funding decisions. Cole et al. (2009) found that financial behaviour is strongly predicted by financial literacy and the use of insurance products and banking accounts are more associated with the level of financial literacy in India and Indonesia respectively.

2.3. Risk-Aversion

Less participation in stock market is likely due to unwillingness to take more risk (Rooij et al., 2011). More risk tolerant investors are more willing to purchase stocks (Wood and Zaichkowsky, 2004). Risk preferences are an important element of stock ownership (Vissing-Jørgensen and Attanasio, 2003) and may segregate the households. Risk is the main consideration while making investment decision. The risk-tolerance attitude decides the investment approach (Hunter and Kemp, 2004; Fellner and Maciejovsky, 2007; Bali et al., 2009). Prior studies have shown that personal traits, emotions, previous experiences and financial knowledge are the key determinants of an investor's risk-taking attitude and investment decisions (Grable, 2000; Hunter and Kemp, 2004; Corter and Chen, 2005; Young et al., 2012). Lewellen et al. (1977) concluded in their study that highly educated young investors with higher level of income and less family members are more risk tolerant.

Risk averse investors are more likely to hold cash and bonds (Grable and Lytton, 2003) whereas investors hold stocks for more return and growth (Keller and Siegrist, 2006; Bali et al., 2009). Keller and Siegrist (2006) found risk tolerance and income level to impact positively on the willingness to invest in stocks. Usual instinct for not

investing in securities markets instruments is principally risk aversion followed by inadequate returns and lack of information (SEBI, 2015). Financial literacy affects the level of risk tolerance as households having less financial knowledge would be more risk averse (Bajo *et al.*, 2015). Degree of risk aversion among investors is very high which is the main reason for large share of banking and insurance products (Gupta and Jain, 2008; NCAER, 2008) and risk aversion is the main reason behind low participation in stock markets (Gupta, 1991; Lal, 1992; Gupta, 1993). High risk aversion is related with less likelihood of investment in stock market (Dimmock and Kouwenberg, 2010; Lim *et al.*, 2013).

2.4. Financial Education

Financial education is the practice of improving understanding of financial products, complexities involved, developing necessary skills and confidence to deal with such products in a more informed way (OECD, 2005). (Willis, 2008; Mandell and Klein, 2009; Collins, 2013; Bruhn *et al.*, 2014; Fernandes *et al.*, 2014) could not find the affirmative impact of financial education on the level of financial literacy while few studies could see the positive relationship between financial education and financial literacy (Lührmann *et al.*, 2015; Calderone *et al.*, 2018). Low participation in financial training courses might be due to low expected benefits (Bruhn *et al.*, 2014). Sometimes financial education may lead to worse decision by consumers as financial education increases confidence without ability that undermines the relative importance of education benefit-cost wise (Willis, 2008). Collins (2013) tracked the impact of mandatory 12 months financial education programme on the low income families for the improved behaviour but no sign of improved savings or credit could be seen. Impact of financial education recedes over time even in case of large intervention of 20 months or more (Fernandes *et al.*, 2014).

Lusardi (2004) strongly suggested the need of financial education like retirement seminars that resulted in sharp net worth increase for both high and low educated families and were effective in wealth accumulation. Martin (2007) concluded in his study the benefit of financial education may lead to better retirement planning, saving and borrowing behaviour. Financial education enhances the awareness and product familiarity for taking complex investment decisions (Carpena *et al.*, 2011).

3. RESEARCH PURPOSE AND HYPOTHESES

The purpose of this study is to explore and analyze the socio-economic attributes, financial literacy, investment awareness, risk aptitude, and financial education of households to predict the stock market participation.

This study would attempt to answer the following research questions.

RQ1: What are the most influential factors that would determine the investment in stock market?

RQ2: Does stock market participation differ according to socio-economic attributes?

Following hypotheses are framed to answer the research questions.

Hypotheses1 (H1): Financial literacy significantly influences the stock market participation.

Hypotheses2 (H2): Investment awareness significantly influences the stock market participation.

Hypotheses3 (H3): Risk tolerance significantly influences the stock market participation.

Hypotheses4 (H4): Financial education significantly influences the stock market participation.

Hypotheses5 (H5): Socio-economic characteristics significantly influences the stock market participation.

4. DATA AND METHODOLOGY

The data for this study was obtained from Securities and Exchange Board of India (SEBI) who conducted the fourth periodic studies in 2015 (SEBI, 2015) across the country to get the insights of household finance.

4.1. Sampling

The survey adopted a three-stage stratified sample design in which the first two stages used a readymade frame while the final third stage made use of a sampling frame. On the basis of demat account data, the estimated number of investor households in India are 3.37 crore (2.36 crore urban and 100.3 lakh rural households). Out of initial listing of 2,04,694 households from across the country who responded to first questionnaire during households listing exercise, finally 50,453 households including 36,756 urban and 13,697 rural households, were randomly selected to take part in the main survey.

4.2. Research Procedure

The questionnaire was developed by Nielsen in co-ordination with SEBI to collect primary data on household investors in India from four different zones of India, i.e., north; south; east and west, that covers all 29 states, 5 Union Territories (excluding Lakshadweep) and the National Capital Region of Delhi. The survey questions were responded by main financial decision maker of the household and broad information on household investments, investment awareness, and risk aptitude etc. was collected during survey. The main survey was done using Computer Assisted Personal Interviews (CAPI).

4.3. Research Model

In this research study, after excluding the missing data, finally data of 5161 respondents was used for whom data to all of the variables used in this study was available. Table 1 shows the details of sample statistics of 5161 households used in current study. In the sample used for the study, majority of respondents are in age bracket of 41-50, 91% are males, and 91% of respondents are having education of 11 years and above while businessmen and servicemen are the major respondent occupation wise. Various socio-economic characteristics like age, gender, education, income, saving & investment habits, number of dependents, and occupation were also studied in relation to stock market participation to get the overview how these households` attributes influences while doing investments in securities market.

Table-1. Sample Statistics

		Frequency	%
Total Sample	5161		100
Age	20 – 30	418	8.1
	31 – 40	1729	33.5
	41 – 50	2262	43.8
	51 – 60	691	13.4
	Above 60	61	1.2
Gender	Male	4702	91
	Female	459	9
Education	1 - 7	33	0.6
	8 - 10	437	8.5
	11 - 15	2254	43.7
	Above 15	2437	47.2
Primary occupation service	Business	2364	45.8
	Agriculture	25	0.5
	Service	2739	53
	Retired	33	0.6
Total household income(Rs/Year)	Less than 20000	927	18
	20000 - 50000	3182	61.6
	51000 - 1 Lakh	469	9
	Above 1 Lakh	583	11.3
Savings (% of annual income)	20% - 40%	3137	60.8
	41% - 60%	1739	33.7
	More than 60%	285	5.5
Debt (% of annual income)	20% - 40%	2982	57.8
	41% - 60%	1735	33.6
	More than 60%	444	8.6

In this study sixteen items from the survey related to financial literacy, investment awareness (stock market literacy), risk aptitude, and financial education were chosen to construct the model for prediction of household`s stock market participation. Self-assessed financial literacy was measured through households` awareness about stock market products (equity, derivatives (equity/currency), mutual funds, and commodities futures) and overall awareness about various financial instruments (bank deposits, post office schemes, debentures/bonds, precious metals, real estate, company deposits, life insurance, pension schemes, equity, derivatives (equity/currency), mutual funds, and commodities futures). Self-assessed financial literacy can be used as a proxy of inherent financial literacy as both are strongly correlated (Parker *et al.*, 2012; Bajo *et al.*, 2015; OECD, 2016; Lusardi and Mitchell, 2017). Investment awareness was measured through awareness of measures, investor grievance, open of trading account and knowledge about consolidated account statement. Risk aversion was measured through households` perception about risk. Information was also collected regarding attending any of financial education programme to see the influence of investors` awareness programme on stock market participation. Any respondent who has ever invested in equity shares is considered as participation in stock market.

Table-2. Description of Measurement Variables

Code	Variable	Description
STKAWRN	Stock market products awareness	Equity, and related products like derivatives (equity/currency), mutual funds, and commodities futures
ALLAWRN	Overall awareness about financial instruments	Bank deposits, post office schemes, debentures/bonds, precious metals, real estate, company deposits, life insurance, pension schemes, equity, derivatives (equity/currency), mutual funds, and commodities futures
AWRMSR	Aware of measures	Measures taken by SEBI to increase the participation of retail investors in stock market e.g. reservation in IPO, discount offered etc.
AWROPN	Aware of open a trading account	Open a trade account and demat account
AWRGRV	Aware of investor grievance	Arbitration and grievance mechanism accessible to investors
AWRSTMT	Aware about the consolidated account statement	To view the investment in mutual funds and securities at one place in demat account
RISK	Risk aversion in terms of risk and return	Risk tolerance (low to large)
FINEDU	Attend any financial education/literacy programme	Any programme attended for enhancement of financial literacy

Stock market products awareness was measured as sum of awareness about each product, Yes = 1, No = 0, so maximum 4 and minimum 0. *Overall awareness about financial instruments* was measured as sum of awareness about each product, Yes = 1, No = 0, so maximum 12 and minimum 0. *Aware of measures* was measured as Yes = 1, No = 0. *Aware of open a trade account* was measured as Yes = 1, No = 0. *Aware of investor grievance* was measured as Yes = 1, No = 0. *Aware about consolidated account statement* was measured as Yes = 1, No = 0. *Risk tolerance* was measured in terms of risk and return, Risk (small) = 1, Risk (mid) = 2, Risk (large) = 3. *Attend any financial education/literacy programme* was measured as Yes = 1, No = 0. Model outcome of this study, stock market participation was measured as Yes = 1, No = 0, through the variable – Have you ever invested in the equity shares?

4.3.1. Model Goodness-of-Fit

The independent variables in this model were tested for multicollinearity. All of the predictors having tolerance less than 0.10 may be a cause of concern (Menard, 1995). Myers (1990) suggested variance inflation factor (VIF) of more than 10 to worry about the case of collinearity. In this model, collinearity statistics indicated presence of no collinearity among independent variables (Tolerance>0.10, VIF<10 for all independent variables).

After looking at variance proportions it is observed that all variables having high proportions are not in the same small eigenvalue indicating that variance of their regression coefficients are not dependent.

The model was tested for Hosmer-Lemeshow goodness-of-fit test and found significantly fit ($\square^2 = 6.471$, Significance: $0.595 > 0.05$). Nagelkerke R^2 (0.256) indicates moderate fit of model. Classification shows that this model accurately predicts 68.5% of the time for stock market participation. Overall fitness of the model is tested by -2Log likelihood statistic and chi-square statistics associated with it. The final model is said to be significant fit of data if chi-square statistics significance is less than 0.05. In this study, -2 Log likelihood for the final model was compared with the model that consists of only constant and it was observed that -2 Log likelihood decreased from 7151 to 6050 for the final model and this change in -2 Log likelihood was found to be significant (p<0.05) that indicates the overall fitness of the model.

5. RESULTS AND FINDINGS

Logistics regression was applied to predict how the financial literacy, investor awareness, risk tolerance, and financial education influence the stock market participation. In logistic regression, the dependent variable i.e. stock market participation is binary variable and the attempt has been made to predict whether households would participate in stock market. Table 3 shows the results of logistic regression of independent predictors while controlling socio-economic attributes like age, gender, income, occupation, education, no. of dependents, savings & debt as a percentage of annual income. Reference category in case of risk tolerance is low risk while in all other cases, predictors would be evaluated against the response "No" as the reference category.

Table-3. Logistic Regression Results

Variable	β (S.E.)	Wald	Odd Ratio	95% C.I. for Odd Ratio	
				Lower	Upper
STKAWRN	0.299 (.034)	78.22*** (.000)	1.349	1.262	1.442
ALLAWRN	-0.052 (.014)	14.12*** (.000)	0.949	0.923	0.975
AWRMSR	0.054 (.091)	30.72*** (.000)	1.656	1.385	1.979
AWROPN	0.302 (.098)	9.44*** (.002)	1.353	1.116	1.641
AWRGRV	0.082 (.103)	0.64 (.423)	1.086	0.888	1.328
AWRSTMT	0.251 (.098)	6.56*** (.01)	1.285	1.061	1.557
RISK	0.649 (.039)	277.16*** (.000)	1.91	1.772	2.065
FINEDU	0.411 (.071)	33.74*** (.000)	1.509	1.313	1.734

*** represent statistical significance at 1% level

Logistic regression shows that Wald statistics for β coefficient of all of the predicting variables except awareness of grievance are significant at 1% level thus indicating that these variables are significant predictor of the stock market participation. The results are also interpreted in terms of odd ratio for predictors that signify the likelihood of occurring the event in one group to the likelihood of the same event occurring in reference group. Stock market product awareness has odd ratio of 1.349 indicating individual who is aware of the products traded on stock market like equity, derivatives, commodities, and mutual funds has 35% more likelihood of participation in stock market compared to those who are not aware of these products. Individuals who are aware of measures undertaken by SEBI are 65% more probable to invest in stock market. Similarly being aware about open trade account and consolidated account statement would make it more likely by 35% and 28% respectively on the part of households to investment in stocks. The above findings confirms H1 and H2. It is found that risk tolerant households are 1.91 times more likely to invest in stock market comparable to those who are less risk tolerant. Attending the financial education programme would result in 50% more probability of stock market participation. The above outcomes confirm H3 and H4.

Table 4 reassessed the regressions for exploring the interaction between independent predictors to see the impact of one predictor as moderator on the relationship between other predictor and dependent variable. Due to

interaction, the degree of the influence of one independent variable on a dependent variable fluctuates as a function of a second independent variable. In all regressions standardised variables are used. Control variables are age, gender, income, education, occupation, number of dependents, and savings & debt level.

Table-4. Logistic Regression for Interaction between Predictors

Stock Market Product Awareness 1.405***	**Stock Market Product Awareness * Risk Tolerance 0.842*****
	Stock Market Product Awareness * Financial Education 0.895***
Overall Financial Instruments Awareness 0.789***	Overall Financial Instruments Awareness * Risk Tolerance 1.218***
	Overall Financial Instruments Awareness * Financial Education 1.237***

*** represent statistical significance at 1% level

Table 4 shows that all interactions are statistically significant. Attempt was made to explore the influence of Risk Tolerance on the relationship between Overall Financial Instruments Awareness and Stock Market Participation. An interaction term, Overall Financial Instruments Awareness * Risk Tolerance reflects the relationship between Overall Financial Instruments Awareness and Risk Tolerance. Statistically significant interaction term indicates that risk tolerance influences the strength of relationship between overall financial instruments awareness and stock market participation. Fig. 1 demonstrates the risk tolerance and probability of stock market participation by level of overall financial instruments awareness. It is shown that slope of line depicting high risk tolerance is upwards and much steeper than that of low risk tolerance signifying that high risk tolerant individuals behave significantly different from low risk tolerant individual regarding investment in stock market for changes in their level of awareness of overall financial instruments.
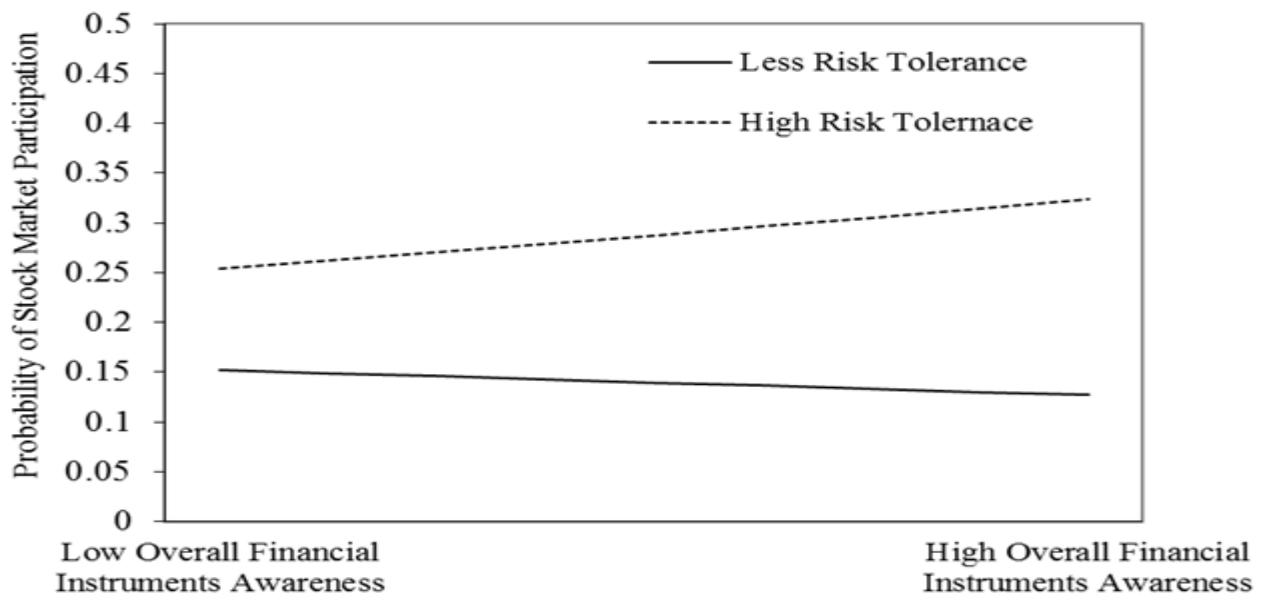

Fig-1. Risk tolerance and probability of stock market participation by level of overall financial instruments awareness. This graph has been generated using template from www.jeremydawson.co.uk/slopes.htm

One-way ANOVA was run to determine whether there is any significant difference in level of stock market participation among different groups of respondents according to age, gender, education, zone, saving, debt, income, occupation, and marital status. Homogeneity of variances was measured through Levene statistics while robustness of equality of means was tested through Welch statistics. The results as illustrated in Table 5 indicate that there is

significant difference among different groups of responding households according to age, education, zone, saving, debt, and income level while no significant difference found in level of stock market participation based on gender, occupation, and marital status.

Table-5. ANOVA for difference among Socio-economic Groups

Between Groups	Sum of Squares	df	Mean Square	F-ratio	Levene Statistic	Welch Statistic
Age	24.173	4	6.043	24.620*** (.000)	53.725*** (.000)	25.414*** (.000)
Gender	.330	1	.330	1.3191 (.251)	14.824*** (.000)	1.352 (.251)
Education	81.204	3	27.068	115.507*** (.000)	224.280*** (.000)	133.541*** (.000)
Zone	119.020	3	39.673	174.766*** (.000)	651.368*** (.000)	254.180*** (.000)
Savings	3.619	2	1.809	7.256*** (.001)	3.649** (.026)	7.256*** (.001)
Debt	10.719	2	5.359	21.613*** (.000)	89.469*** (.000)	22.528*** (.000)
Income	31.157	3	10.386	42.555*** (.000)	194.775*** (.000)	47.068*** (.000)
Occupation	.426	3	.142	0.568 (.636)	31.183*** (.000)	0.56 (.643)
Marital Status	1.124	3	.375	1.499 (.213)	182.733*** (.000)	1.5162 (.239)

*** and ** represent statistical significance at 1% and 5% level respectively

Table-6. Logistic Regression results for Socio-Economic Variables

Attribute	β	S.E.	Wald	Sig.	Exp(β)
Age					
31-40	.006	.115	.003	.959	1.006
41-50	.419	.114	13.396***	.000	1.520
51-60	.829	.137	36.530***	.000	2.291
Above 60	.234	.351	.445	.505	1.263
Gender	.382	.106	12.984***	.000	1.465
Income					
20,000 - 50,000	-.407	.080	25.633***	.000	.665
51,000 - 1 lakh	.476	.131	13.202***	.000	1.610
Above 1 lakh	-.487	.116	17.492***	.000	.614
Education					
1- 7	-1.707	.404	17.878***	.000	.181
8 - 10	-1.857	.128	210.254***	.000	.156
11 - 15	-.729	.065	124.791***	.000	.482
Occupation					
Agriculture	-.163	.426	.146	.703	.850
Service	.030	.062	.235	.628	1.030
Retired	.761	.468	2.643	.104	2.140
Number of Dependents	-.046	.023	4.072**	.044	.955
Savings (% of annual income)					
41%-60%	-.221	.084	6.818***	.009	.802
Above 60%	-.297	.146	4.129**	.042	.743
Debt (% of annual income)			18.625***	.000	
41%-60%	.237	.087	7.470***	.006	1.267
Above 60%	-.263	.125	4.382**	.036	.769

*** and ** represent statistical significance at 1% and 5% level

In order to check the category wise impact of socio-economic attributes on stock market participation, logistics regression was applied. Table 6 summarises the results of logistics regressions for socio-economic variables.

Omitted variables for reference category are age group of 20-30, male as gender, education above 15, income less than 20,000, businessman as occupation, both savings & debt as 20%-40% of annual income. It is revealed that stock market participation of the households varies significantly with age, gender, education, income, savings, debt, and number of dependents and these findings confirms the H5. The results indicate that increase in age, education, income and debt would increase the likelihood of stock market investment while surprisingly more savings would not have positive influence on an individual to invest in stock market. Unexpectedly female households decision maker have 46.5% more likelihood of stock market participation in comparison to male household decision maker.

6. CONCLUSION

In this study efforts were made to predict the households` investment in stock market and results indicate that financial literacy, investment awareness, risk tolerance, and financial education significantly influence the stock market participation. It was observed that self-assessed financial literacy increases the likelihood while making decisions for stock market investments confirms the outcomes of previous research (Rooij *et al.*, 2011; Balloch *et al.*, 2015; Mitchell and Lusardi, 2015). This research has found more risk tolerant households to be more participative in stock markets while risk aversion is one of the strong reason that would keep the individuals away from stock market, these results are in line with prior findings (Wood and Zaichkowsky, 2004; Rooij *et al.*, 2011). It is also revealed that there is need for individuals to enhance financial knowledge and awareness through attending financial education programmes or seminars being conducted by various organisations, as established in previous work (Carpena *et al.*, 2011) that would make the probability of stock market participation even much stronger. This study reveals that more savings could not influence the channelization of funds towards investment in stock market, the results concur with earlier studies (Klapper *et al.*, 2015) while more debt i.e. borrowed money might increase the probability of investment in stock market products confirms the findings of previous research work (Constantinides *et al.*, 2002).

It is found in this study that stock market investment decisions are significantly impacted by various socio-economic factors like age, education, zone, saving, debt, and income level which is in line with other studies (Lusardi and Mitchell, 2007; Allgood and Walstad, 2013; Filipiak and Walle, 2015; OECD, 2016). Our study shows that investment behaviour of households` is impacted by the level of financial knowledge that confirms the findings of previous research studies (Hilgert *et al.*, 2003; Agarwalla *et al.*, 2015; Asaad, 2015). In this study, we find that the socio-economic characteristic, risk profile, and investment awareness positively influence future stock market investment decisions that is consistent with the findings of earlier studies (Al-Tamimi and Kalli, 2009; Dimmock and Kouwenberg, 2010; Rooij *et al.*, 2011; Lim *et al.*, 2013; Henager and Cude, 2016; Sabri, 2016).

7. IMPLICATIONS OF THE STUDY

Our study makes noteworthy contributions from the policy perspective. In a worldwide survey conducted by S & P in 2015, it is found that financial literacy of Indian households is very low at 24% while in other survey average financial literacy rate is found to be 20% for an Indian household (Klapper *et al.*, 2015). Such a low financial literacy rate would make it really hard for individuals to be ready for stock market investment that is considered as the product which requires understanding of fundamentals concepts related to economy, industry, and companies. Lack of financial literacy in 70% of the households, who are consistently saving some part of income, could be the reason behind low investment in stock market despite of India being the one of the high savings economies of the world. Lack of awareness is also one of the reason behind non-investment in stock markets. It has been observed from the findings of this study that investments in the stock market are significantly influenced by the level of financial awareness or knowledge and in order to boost investments in securities market, it is important that investor should be having high financial awareness and this gives credential to the ongoing financial education programme that are currently being conducted by various financial agencies for the enhancement of financial literacy. Risk aversion is

the key reason behind non-investment but policy maker should make sure that it should not be due to non-awareness of financial products. In India, for both urban and rural investors' awareness level of bank deposits is almost 100% whereas for equity products awareness level is 26.3% and 1.4% respectively that should be the real concern (SEBI, 2015).

8. FUTURE RESEARCH AND LIMITATIONS OF THE STUDY

This study was undertaken for urban respondents only and rural respondents might be considered for future study as awareness of rural respondents seem to be very low in comparison to urban respondents. Future study might be undertaken for in-depth geographical analysis of investors in different zones as 50 percent of all Indian investors are from the West zone while a mere 7 percent reside in the South zone. In addition to that, study on market participants would help the policy makers to take more concrete steps to make the markets more mature and useful for more participation.

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