Impact Of Demographic Factors On Retail Investors' Investment Decisions - An Exploratory Study

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INTRODUCTION

Since the economic liberalization, there is an increase in the number of investment avenues available for retail investors, depending upon his / her risk appetite, they can choose between bank deposits, government / private bonds, shares and stocks, exchange traded funds (ETF), mutual funds, insurance, derivatives, commodities, currencies, etc. Every investment in the stock markets involves decision making, the outcome of which is unpredictable. This fact has fostered discussion of risk. There are many factors, both intrinsic and extrinsic like age, gender, marital status, level of income, educational background, etc that affect the assessment of risk and thereby investors' behaviour and decision making. The present paper assesses the impact of demographic factors on retail investor's investment decisions.

REVIEW OF LITERATURE

❁**Barua and Srinivasan (1986, 1987, and 1991)** conclude that the risk perception of individuals is significantly influenced by the skewness of the return distribution. This implies that while taking investment decisions, investors are concerned about the possibility of maximum losses in addition to the variability of returns. This means the variance framework does not fully explain the investment decision-making process of individuals.

❁**O.P.Gupta (1989)** questioned whether there is a risk of return relationship or is the risk return parity violated in the Indian Stock exchanges? He observed that answers to these questions have serious implications for the investors. Further, he observed that chartist techniques are not useful in studying the Indian stock exchanges. He also concluded that there is limited evidence in favor of weak level efficiency test.

❁**L.C.Gupta (1991)** argued that designing a portfolio for a client is much more than merely picking up securities for investment. The portfolio manager needs to understand the psyche of his client while designing his portfolio. According to Gupta, investors in India regard equity, debentures and company deposits as being in more or less the same risk category, and consider including all mutual funds, including all equity funds, almost as safe as bank deposits.

❁**James M. Poterba (2000)** in his article, "*Population Age Structure and Asset Returns: An Empirical Investigation"* investigates the association between population age structure, particularly, the share of the population in the saving years is motivated by the claim that the aging of the population in the United States is a key factor in explaining the recent rise in asset values. It also addresses the associated claim that asset prices will decline when this large cohort reaches retirement age and begins to reduce its asset holdings.

❁**K. Santi Swarup (2003)** in her research article *"Measures for Improving Common Investor Confidence In Indian Primary Market - A Survey"* concentrates on the decisions taken by the investors while investing in primary markets. The study indicates that the sample investors give importance to their own analysis as compared to broker's advice.

❁**C. S. Shylajan and Sushama Marathe (2006)** in their research article, *"A Study of Attitudes and Trading Behaviour of Stock Market Investors"* identify the major factors responsible for determining the attitudes and trading behavior of stock market investors. Based on their shared investing attitude and behaviour, the stock market investors are classified into two categories, i.e. aggressive investors and non - aggressive investors.

❁**Joydeep Biswas (2006)** in his research article, *"Indian Stock Market in Comparison"* evaluates the impact of

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financial liberalization on the growth; development & efficiency of the Indian Stock Market vis-à-vis other select Asian markets. Though the expansion of the Indian stock market in the post-liberalization period is truly impressive, in terms of quality, there has been regress. Trading has become increasingly concentrated in some sectors and companies, and the higher volatility in the market, without a corresponding high return, portends greater risk and more instability for investors.

❁**Srivastava Aman (2007)** in his study, *"An Analysis of Behavior of Investors in India"* highlights the changes in the Indian business environment since post liberalization and emerging trends like increase in the number of IPOs, investment by DIIs and FIIs, which lead to the change in the perception of retail investors towards stock market investment, which resulted in an increase in the number of retail investors in the Indian stock market over the last fifteen years. This study also attempts to measure the expectations and confidence of the retail investors in the Indian stock market.

❁**D. S. Chaubey and Rajat P. Dimri (2009)** in their research article, *"Investment Pattern: A Psychographic Study of Investors of Garhwal Region of Uttrakhand"* identify the investment perceptions and their behaviour for designing effective investment policies. Analysis indicates the shifting trend of investors from post office and other government investment schemes to investments in banks, mutual funds, equity, etc.

OBJECTIVE OF THE STUDY

To study whether demographic factors have any impact on retail investor's investment decisions.

HYPOTHESES OF THE STUDY

H_0 : Demographic factors have an impact on retail investor investment decisions.

H_1 : Demographic factors do not have any impact on retail investor investment decisions.

TOOLS OF DATA COLLECTION AND METHODOLOGY

The data required for this study was collected from both the sources, i.e. primary sources and secondary sources. The primary data required for the study was collected through a structured questionnaire for retail investors between 2008 and 2009. The study is confined to Belgaum district of Karnataka state only, with a sample size of 700 retail investors. The data so collected with the help of primary and secondary sources was analyzed by using Statistical Package for Social Sciences (SPSS), whereas, Chi-Square Test and Correlation Analysis were used separately.

The demographic data presented in the Table 1 indicates that 28.29 percent of respondents fall in the age category of 25 to 34 years. 24.57percent of the respondents came under the age group of 35 to 44 years, whereas, 22.14 percent of the respondents came in the age group of 45 to 54 years, 11.29 percent fell in the age category of 55 to 64 years, 12.29 percent came in the age group of under 25 years, whereas, only 1.43 percent belonged to age group of 65 and above. 76.57 percent of the respondents were male and 23.43 percent were female. Educational profile of the respondents indicates that 66.14 percent were Graduates, 20.43 percent were Post Graduates, 8 percent were with 10 + 2 qualification, around 3 percent had school-level education, and 2.43 percent possessed other qualifications like Diploma, etc. Information pertaining to occupational categories reveals that most of the respondents, i.e. 47.14 percent belonged to Business Class, 19.29 percent were in Service, and 11.86 percent were Professionals like Doctors, Chartered Accountants, etc. 8.29 percent of the respondents were housewives, 6.29 percent were Students, 3.43 percent were agriculturists and balance 3.71 percent belonged to other categories of occupations. The data pertaining to number of dependents indicates that 46.14 percent of the respondents have a family size of 1 to 2 members, 24.57 percent did not have any dependents, and 23.43 percent had 3 to 4 members in the family dependent on the respondents; whereas 5.86 percent of the respondents had more than 4 dependents. The analysis also indicates that 41.29 percent of the respondents had a monthly income of ₹ 30000 and above, 24.57 percent fell in the income category of ₹ 20000 to ₹ 30000 per month, 17.57 percent earned ₹ 10000 to ₹ 20000 per month, whereas 16.57 percent had a monthly income of ₹ 5000 to ₹ 10000.

Risk is an important factor to be considered while making investments in the stock markets. It is the degree of risk taking ability of the investors, that has a major impact on his investment behaviour and decision making. Therefore, keeping risk as a constant factor, sub hypotheses were developed and cross analysis was carried out by applying Chi-

Table 1: Demographic Characteristics Of The Respondents

Characteristics		No. of Respondents	Percentage %
Total No. of Respondents		**700**	**100**
Age	Under 25	86	12.29
	25 - 34	198	28.29
	35 - 44	172	24.57
	45 - 54	155	22.14
	55 - 64	79	11.29
	65 &above	10	1.43
	Total	**700**	**100.00**
Gender	Male	536	76.57
	Female	164	23.43
	Total	**700**	**100.00**
Marital Status	Single	178	25.43
	Married	508	72.57
	Divorced	7	1.00
	Widow	7	1.00
	Total	**700**	**100.00**
Qualifications	Non - Matriculate	8	1.14
	Matriculate	13	1.86
	10 + 2	56	8.00
	Graduate	463	66.14
	PG	143	20.43
	Other	17	2.43
	Total	**700**	**100.00**
Occupation	Service	135	19.29
	Professional	83	11.86
	Student	44	6.29
	House Wife	58	8.29
	Agriculture	24	3.43
	Business	330	47.14
	Other	26	3.71
	Total	**700**	**100.00**
No of Dependents	None	172	24.57
	1 to 2	323	46.14
	3 to 4	164	23.43
	4 & above	41	5.86
	Total	**700**	**100.00**
Monthly Income	₹ 5000 to ₹ 10000	116	16.57
	₹ 10000 to ₹ 20000	123	17.57
	₹ 20000 to ₹ 30000	172	24.57
	₹ 30000 & above	289	41.29
	Total	**700**	**100.00**

Source : Primary Data from Survey

square test and Correlation analysis.

CHI-SQUARE TEST

❁ To Assess The Degree Of Relationship Between Investors' Age With Their Level Of Risk Taking Ability.

H_0 - There is no relationship between the retail investors' Age and the Level of Risk taking ability.

H_1 - There is a relationship between the retail investors' Age and the Level of Risk taking ability.

Table 2: Degree Of Relationship Between Investors' Age With Their Level Of Risk Taking Ability

			AGE						
			Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Above 65	Total
RISK	Low	Count	30	30	20	21	23	3	**127**
		Expected Count	15.6	35.9	31.2	28.1	14.3	1.8	127.0
	Moderate	Count	42	115	126	112	44	7	**446**
		Expected Count	54.8	126.2	109.6	98.8	50.3	6.4	446.0
	High	Count	13	26	22	17	11	0	**89**
		Expected Count	10.9	25.2	21.9	19.7	10.0	1.3	89.0
	Very High	Count	1	27	4	5	1	0	**38**
		Expected Count	4.7	10.7	9.3	8.4	4.3	.5	38.0
Total		**Count**	**86**	**198**	**172**	**155**	**79**	**10**	**700**
		Expected Count	**86.0**	**198.0**	**172.0**	**155.0**	**79.0**	**10.0**	**700.0**

Source : Primary data from Survey

Table 3: Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**72.278**	**15**	**.0001**
Likelihood Ratio	67.507	15	.0001
Linear-by-Linear Association	2.990	1	.084
N of Valid Cases	700		

a. 5 cells (20.8%) have expected count less than 5. The minimum expected count is .54.

Calculated value of Chi-square is **72.278**. Chi-square value at 5% Significance Level and 15 Degree of Freedom is **24.996**. As the calculated value of Chi-square is more than the critical value, Null hypothesis is rejected and alternative hypothesis is accepted, revealing that there is a relation between the retail investor's Age and the Level of Risk taken by him / her.

Table 4: Correlation Analysis Between Age Groups And The Level Of Risk Taking Ability

		AGE	RISK
AGE	Pearson Correlation	1	-.065
	Sig. (2-tailed)	.	.084
	N	**700**	**700**
RISK	Pearson Correlation	-.065	1
	Sig. (2-tailed)	.084	.
	N	**700**	**700**

Correlation analysis between age groups and with the level of risk taken by the retail investors' shows that there is a negative correlation between these two variables. An increase in age by one point leads to negative change of 0.065 points in the level of risk taken by the investor's.

❁ To Assess The Degree Of Relationship Between An Investors' Gender With Their Level Of Risk Taking Ability.

H_0 - There is no relationship between the retail investors' Gender and the level of risk taking ability (Tables 5,6,7).

H_1 - There is a relation between the retail investors' Gender the level of risk taking ability.

Table 5 : Degree Of Relationship Between Investors' Gender And The Level of Risk Taking Ability

			Gender		
			Male	Female	Total
RISK	Low	Count	99	28	**127**
		Expected Count	97.2	29.8	127.0
	Moderate	Count	325	121	**446**
		Expected Count	341.5	104.5	446.0
	High	Count	76	13	**89**
		Expected Count	68.1	20.9	89.0
	Very High	Count	36	2	**38**
		Expected Count	29.1	8.9	38.0
Total		**Count**	**536**	**164**	**700**
		Expected Count	**536.0**	**164.0**	**700.0**

Source : Primary data from Survey

Table 6 : Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**14.392**	**3**	**.002**
Likelihood Ratio	17.074	3	.001
Linear-by-Linear Association	6.025	1	.014
N of Valid Cases	700		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.90.

Calculated value of Chi-square is **14.392**. Chi-square value at 5% Significance Level and **3** Degree of Freedom is **7.815**. As the calculated value of Chi-square is more than the critical value, Null hypothesis is rejected and alternative hypothesis is accepted, indicating that there is a relation between the retail Investors' Gender and the Level of Risk taken by him / her.

Table 7: Correlation Analysis Between The Gender And The Level Of Risk Taken By The Retail Investors'

		Gender	RISK
Gender	Pearson Correlation	1	-.093
	Sig. (2-tailed)	.	.014
	N	**700**	**700**
RISK	Pearson Correlation	-.093	1
	Sig. (2-tailed)	.014	.
	N	**700**	**700**

* Correlation is significant at the 0.05 level (2-tailed).

Correlation analysis between gender and level of risk taken by the retail investors' shows that there is a negative correlation. An increase of one point in gender leads to negative change of 0.093 points in the level of risk taken by the investors.

❁ To Assess The Degree Of Relationship Between Investors' Marital Status With Their Level Of Risk Taking Ability (Tables 8,9 and 10).

H_0 - There is a relationship between the retail investors' Marital Status and the Level of Risk Taking Ability.

Table 8: Degree Of Relationship Between Investors' Marital Status With Their Level Of Risk Taking Ability

			MARITAL STATUS				
			Single	Married	Divorced	Widow	Total
RISK	Low	Count	40	83	2	2	**127**
		Expected Count	32.3	92.2	1.3	1.3	127.0
	Moderate	Count	93	346	3	4	**446**
		Expected Count	113.4	323.7	4.5	4.5	446.0
	High	Count	19	68	1	1	**89**
		Expected Count	22.6	64.6	.9	.9	89.0
	Very High	Count	26	11	1	0	**38**
		Expected Count	9.7	27.6	.4	.4	38.0
Total		**Count**	**178**	**508**	**7**	**7**	**700**
		Expected Count	**178.0**	**508.0**	**7.0**	**7.0**	**700.0**

Source : Primary data from Survey

Table 9: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**49.097**	**9**	**.0001**
Likelihood Ratio	43.382	9	.0001
Linear-by-Linear Association	5.922	1	.015
N of Valid Cases	700		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .38.

Table 10: Correlation Analysis Between The Marital Status And The Level Of Risk Taken By The Retail Investors

		RISK	MARITAL STATUS
RISK	Pearson Correlation	1	-.092
	Sig. (2-tailed)	.	.015
	N	**700**	**700**
MARITAL STATUS	Pearson Correlation	-.092	1
	Sig. (2-tailed)	.015	.
	N	**700**	**700**

* Correlation is significant at the 0.05 level (2-tailed).

Table 11: Degree of Relationship Between Investors' Level Of Income And Their Level Of Risk Taking Ability

			INCOME				
			₹ 5000 - ₹ 10000	₹ 10000 - ₹ 20000	₹ 20000 - ₹ 30000	₹ 30000 & above	Total
RISK	Low	Count	44	22	19	42	**127**
		Expected Count	21.0	22.3	31.2	52.4	127.0
	Moderate	Count	63	83	106	194	**446**
		Expected Count	73.9	78.4	109.6	184.1	446.0
	High	Count	8	15	20	46	**89**
		Expected Count	14.7	15.6	21.9	36.7	89.0
	Very High	Count	1	3	27	7	**38**
		Expected Count	6.3	6.7	9.3	15.7	38.0
Total		**Count**	**116**	**123**	**172**	**289**	**700**
		Expected Count	**116.0**	**123.0**	**172.0**	**289.0**	**700.0**

Source : Primary Data From Survey

H_1 - There is no relation between the retail investors' Marital Status and the Level of Risk Taking Ability.

Calculated value of Chi-square is **49.097**. Chi-square value at 5% Significance Level and **9** Degree of Freedom is **16.919**. As the calculated value of Chi-square is more than the critical value, Null hypothesis is accepted, suggesting that there is a relation between the retail investor's Marital Status and the Level of Risk taken by him / her. Correlation analysis between the Marital Status with the Level of Risk taken by the retail investor shows that there is a negative correlation between these two variables. An increase of one point leads to negative change of 0.092 points in the level of risk taken by the investors.

Table 12: Chi-Square Test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**84.731**	**9**	**.0001**
Likelihood Ratio	73.002	9	.0001
Linear-by-Linear Association	18.020	1	.0001
N of Valid Cases	700		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.30.

❁ To assess the Degree of relationship between Investors' Level of Income with their Level of Risk Taking Ability (Tables 11,12,13).

H_0 - There is a relation between the retail Investors' Level of Income and the Level of Risk taken.

H_1 - There is no relationship between the retail Investors' Level of Income and the Level of Risk taken.

Calculated value of Chi-square is **84.731**. Chi-square value at 5% Significance Level and **9** Degree of Freedom is **16.919**. As the calculated value of Chi-square is more than the critical value, Null hypothesis is accepted, indicating that there is a relation between the retail Investor's level of Income and the Level of Risk taken by him / her.

Table 13: Correlation Analysis Between The Level Of Income And The Level Of Risk Taken By The Retail Investors'

		INCOME	RISK
INCOME	Pearson Correlation	1	.161
	Sig. (2-tailed)	.	.0001
	N	**700**	**700**
RISK	Pearson Correlation	.161	1
	Sig. (2-tailed)	.0001	.
	N	**700**	**700**

** Correlation is significant at the 0.01 level (2-tailed).

Table 14: Degree Of Relationship Between Investors' Level Of Market Knowledge And Their Level Of Risk Taking Ability

			LEVEL OF KNOWLEDGE					
			Little	Some	Moderate	Good	Extensive	Total
RISK LEVEL	Low	Count	58	48	16	4	1	**127**
		Expected Count	28.1	45.7	30.1	15.4	7.6	127.0
	Moderate	Count	87	173	122	54	10	**446**
		Expected Count	98.8	160.6	105.8	54.2	26.8	446.0
	High	Count	10	28	23	25	3	**89**
		Expected Count	19.7	32.0	21.1	10.8	5.3	89.0
	Very High	Count	0	3	5	2	28	**38**
		Expected Count	8.4	13.7	9.0	4.6	2.3	38.0
Total		**Count**	**155**	**252**	**166**	**85**	**42**	**700**
		Expected Count	**155.0**	**252.0**	**166.0**	**85.0**	**42.0**	**700.0**

Correlation analysis between the Level of Income and the Level of Risk taken by the retail investors shows that there is positive correlation between these two variables. An increase of one point in level of income leads to positive change of 0.161 points in the level of risk taken by the investors.

❁To Assess The Degree Of Relationship Between The Investors' Level Of Market Knowledge With Their Level Of Risk taken (Tables 14, 15 and 16).

H_0 - There is no relationship between the retail Investors' Level of Knowledge and the Level of Risk taken.

H_1 - There is a relation between the retail Investors' Level of Knowledge and the Level of Risk taken.

Table 15: Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	403.324	12	.0001
Likelihood Ratio	215.577	12	.0001
Linear-by-Linear Association	156.652	1	.0001
N of Valid Cases	700		

a. 2 cells (10.0%) have expected count less than 5. The minimum expected count is 2.28.

Calculated value of Chi-square is **403.324**. Chi-square value at 5% Significance Level and **12** Degree of Freedom is 21.026. As the calculated value of Chi-square is more than the critical value, Null hypothesis is rejected and alternative hypothesis accepted revealing that there is a relation between the retail Investor's level of Market Knowledge and the Level of Risk taken by him / her.

Table 16: Correlation Analysis Between The Level Of Market Knowledge And The Level Of Risk Taken By The Retail Investors'

		KNOWLEDGE	RISK
KNOWLEDGE	Pearson Correlation	1	.473
	Sig. (2-tailed)	.	.0001
	N	**700**	**700**
RISK	Pearson Correlation	.473	1
	Sig. (2-tailed)	.0001	.
	N	**700**	**700**

** Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis between the level of knowledge and the level of risk taken by the retail investors shows that there is a positive correlation between these two variables. An increase of one point in level of knowledge leads to positive change of 0.473 points in the level of risk taken by the investors.

Correlation analysis data indicates that 1 point change in educational level boosts the investor's risk taking ability by 0.203 point (Refer to Table 17 and 18).

Investors having higher educational level have high risk taking ability as compared to other educational categories. The primary rational behind this phenomenon is that a higher educational level generally brings an in depth understanding of investment avenues and the risks associated with them. Further, it helps investors in understanding the general macro trends and their risk levels and gives them the ability to reduce risk in their investments.

The correlation analysis (Refer to Table 19 and 20) between number of dependence and level of risk taken by the investors indicates that there is a negative correlation between these two variables. As observed from the research data, that 1 point change in the number of dependents leads to a negative change of 0.066 in the risk taking ability of investors.

Table 17: Frequency Distribution Showing Cross Tabulation Between Educational Qualification Of Respondents And Level Of Risk Taking Ability

		LEVEL OF RISK				
		Low	Moderate	High	Very High	Total
EDUCATIONAL QUALIFICATIONS	Non Matriculate		7	1		**8**
			1.6%	1.1%		1.1%
	Matriculate	5	7		1	**13**
		3.9%	1.6%		2.6%	1.9%
	10 + 2	17	34	4	1	**56**
		13.4%	7.6%	4.5%	2.6%	8.0%
	Graduate	89	306	60	8	**463**
		70.1%	68.6%	67.4%	21.1%	66.1%
	PG	16	77	22	28	**143**
		12.6%	17.3%	24.7%	73.7%	20.4%
	Other		15	2		**17**
			3.4%	2.2%		2.4%
Total		**127**	**446**	**89**	**38**	**700**
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source : Primary Data From Survey

Table 18: Correlation Analysis Between The Educational Qualification of Respondents and the Level of Risk Taking Ability

		EDUCATION	RISK
EDUCATION	Pearson Correlation	1	.203
	Sig. (2-tailed)	.	.0001
	N	**700**	**700**
RISK	Pearson Correlation	.203	1
	Sig. (2-tailed)	.0001	.
	N	**700**	**700**

** Correlation is significant at the 0.01 level (2-tailed).

Table 20: Correlation Analysis Between Number of Dependents of the Respondents And The Level of Risk Taking Ability

		DEPENDENTS	RISK
DEPENDENTS	Pearson Correlation	1	-.066
	Sig. (2-tailed)	.	.081
	N	**700**	**700**
RISK	Pearson Correlation	-.066	1
	Sig. (2-tailed)	.081	.
	N	**700**	**700**

Table 19 : Frequency Distribution Showing Cross Tabulation Between Number of Dependents of Respondents And The Level of Risk Taking Ability

		NO OF DEPENDENTS				
		None	1 to 2	3 to 4	4 & above	Total
RISK	Low	26	64	25	12	**127**
		15.1%	19.8%	15.2%	29.3%	18.1%
	Moderate	110	210	106	20	**446**
		64.0%	65.0%	64.6%	48.8%	63.7%
	High	10	45	27	7	**89**
		5.8%	13.9%	16.5%	17.1%	12.7%
	Very High	26	4	6	2	**38**
		15.1%	1.2%	3.7%	4.9%	5.4%
Total		**172**	**323**	**164**	**41**	**700**
		100.0%	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source Primary Data from Survey

CONCLUSION

This study identifies that investors' investment decisions are based on various demographic factors like age, gender, marital status, level of income, level of market knowledge, educational qualification of retail investors and the number of dependents etc. These factors have a major impact on investment decisions and behaviour of retail investors.

The null hypothesis that demographic factors have an impact on retail investor investment decisions is accepted. This conclusion has been drawn on the basis of cross analysis between demographic factors and level of risk taking ability of the investors, which was carried out by applying Chi-square test and Correlation analysis.

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