Investigating the impact of demographic, socio-economic and dispositional factors on investors' financial decisions in risky assets compared to non-risky assets

by

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ABSTRACT

This research paper aims to investigate the impact of demographic, socio-economic and dispositional factors on investors' behaviour with a specific focus on the difference in attitudes towards risky assets compared to non-risky assets. The study will incorporate a combination of primary and secondary data to examine the effect of factors such as age, gender, income, education, risk tolerance and spontaneity on investment decisions. The study will use a qualitative research design where primary data will be collected through first-hand interviews with a sample of investors recruited through quota sampling. The secondary data will be collected from literature on behavioural finance in financial publications. The data will be analysed using statistical methods such as hypothesis testing to compare investor attitudes towards risky and non-risky assets in an attempt to determine any significant differences in the approaches. The results of this research will contribute to the understanding of the role these key factors play in shaping investor preferences. This will have significant implications for the development of the field of finance and investments which will ultimately provide valuable insights for investors, firms, financial practitioners and policymakers.

INTRODUCTION

An investor is an individual or an institution that allocates capital into investment instruments in order to generate a positive financial return. Investments are essentially the process of utilising money to make more money. Investments can be done with a variety of instruments, ranging from risky to risk-free instruments. The underlying assumption while investing is the expectation that the value of the assets will appreciate over time, thus resulting in positive financial returns. Investors tend to invest in order to achieve particular financial goals such as growing wealth, preparing for retirement or saving for children’s higher education. In essence, investments are used to achieve long-term financial goals.

Previous studies on investments and investor behaviour have revealed that not all financial decisions are made on a rational basis. Human behavioural factors such as greed and fear can govern utilitarian decisions, often resulting in suboptimal returns. Moreover, investors allow their psychological factors to define their investment decisions instead of conducting thorough research on trends, facts and figures. The inherent emotional and psychological biases of humans are enhanced while investing in risky assets since there is a high level of uncertainty, driving investors to make spontaneous and premature decisions.

At the same time, risky instruments such as equities tend to offer the prospect of large returns. This may prompt investors to not only invest large sums of capital, but also nudge them to invest more regularly in the hopes that the asset will appreciate and yield substantial returns.

Investor behaviour is greatly influenced by a wide range of factors. Demographic factors like age and gender, socio-economics factors such as income and education, and dispositional factors such as risk taking nature and spontaneity define investor decisions. However, these financial decisions are dependent on the nature of the asset and the associated risk.

Therefore, this paper will further explore the research question as follows:

What is the impact of demographic, socio-economic and dispositional factors on investors' financial decisions in regards to risky assets as against non-risk assets?

This research question is worthy of investigation because understanding the factors that affect investment behaviour and decisions would enable investors to make more informed financial

decisions that could potentially improve their returns. Simultaneously, investor research also helps financial professions and advisors to better understand the facets of investor decisions to provide more nuanced advice. Insights into investor behaviour would also be useful to organisations to divide strategic financial decisions, improving the functioning of financial markets.

Asset classes

An asset class is a category of financial instruments that behave similarly in the market and share similar characteristics. Asset classes can be defined on the basis of a variety of factors like purpose, risk and returns. However, the classification is subject to context and perspective.

For the purpose of this paper, the following asset classes will be considered and assessed.

Asset class	**Example**	**Risk**	**Return**
Equities/stocks	Apple Inc., Amazon Inc. stocks	High risk	High return
Cryptocurrencies	Bitcoin, Ethereum	High risk	High return
Foreign exchange trading	INR→USD	High risk	High return
Mutual funds	PPFAS Mutual Fund	Moderate risk	Moderate returns
Fixed deposits	Tax saving FDs, Flexi FDs	Negligible risk	Low returns
Annuities	Immediate fixed, deferred variable.	Low risk	Low returns
Government bonds	Treasury bills, municipal bonds	Low risk	Low returns

Investor classification

On the basis of risk-taking nature, investors can be broadly classified into the following groups:

Aggressive investors

- Investors who predominantly invest in high-risk assets with large sums of money
- Usually experienced investors with a sounds understanding of investments
- Risk-taking by nature

Conservative investors

- Investors who predominantly invest in low-risk assets
- Generally not as experienced and hence prefer to refrain from investing in risky assets
- Risk averse by nature

Balanced investors

- Investors who keep a fair balance between risky and non-risky assets
- Have a good understanding of assets and therefore diversify their portfolios through a mix between fixed return instruments as well as volatile assets
- Moderately risk taking by nature

Balanced investors serve as the control group when comparing the two extremes of aggressive and conservative investors.

HYPOTHESES

The reason why investors invest more aggressively in risky assets is due to the impact of demographic, socio-economic and behavioural factors. Further subcategories have been identified to categorise different aspects of traders. It is also worth noting that traders fall into multiple categories across the factors.

Demographic factors:

I. Age

H_0 - There is no significant difference in the investment style based on age.

H_1 - There is a significant difference in the investment style based on age.

- ➢ Younger investors invest more aggressively in risky assets than older investors. Older investors allocate more capital towards non-risky assets due to traditional investing beliefs. Moreover, older investors are more likely to be investing with the objective of saving for retirement which would require dependable and assured returns. Younger investors are more willing to risk their capital in risky assets since they have a greater number of years till retirement. Younger investors are more open to experimenting. Furthermore, the kind of media (including social media) consumed by youngsters promotes risky investments and apps/companies that provide risky asset investment services.

II. Gender

H_o - There is no significant difference in the investment style in men and women.

H_2 - There is a significant difference in the investment style in men and women.

- ➢ Men generally invest more aggressively in risky assets than women. Stereotypically, men tend to handle the finances of the family. Therefore, they may have a better understanding of financial markets and with good planning are willing to risk their capital in the hopes of earning positive financial returns. However, this is a simple generalisation based on the majority of the population and does not imply that women do not understand financial markets.

Socio-economic factors:

III. Income

H_o - There is no significant difference in the investment style with those who have higher incomes than do those with lower incomes.

H_3 - There is a significant difference in the investment style with those who have higher incomes than do those with lower incomes.

- ➢ Individuals with higher incomes invest more aggressively in risky assets than do those with lower incomes. This is due to the available amount of disposable and discretionary income. Investors with low incomes are not willing to risk large sums of their money since they might end up in personal financial crises. Conversely, investors with high incomes can invest large sums of money into risky assets since they are still able to cover their living costs even if the entire investment is lost thus not harming their financial stability.

IV. Education

H_o - There is no significant difference in the investment style with those who have undergone professional education and those who have not.

H_4 - There is a significant difference in the investment style with those who have undergone professional education and those who have not.

- ➢ Individuals who have undergone professional education tend to invest more aggressively in risky assets. Investors with higher education degrees are likely to be better informed and may therefore make more calculated investment decisions which may include investing in risky assets. Uneducated investors with limited education background may rely on non-risky assets due to the lack of information and awareness.

Dispositional factors:

V. Risk-taking nature

H_o - There is no significant difference in the investment style with investors who have high risk taking abilities than investors with low risk taking abilities.

H_5 - There is a significant difference in the investment style with investors who have high risk taking abilities than investors with low risk taking abilities.

- ➢ Investors with high risk taking abilities invest more aggressively in risky assets than do those with low risk taking abilities. Risk tolerance in investors is directly correlated with risky assets since individuals with an inherent risk taking ability are able to make risky financial decisions. Conversely, risk-averse investors tend to apply a similar attitude towards investments and neither do they invest large amounts of capital in risky assets, nor do they invest frequently in risky assets.

VI. Spontaneity

H_o - There is no significant difference in the investment style with investors who are more spontaneous than investors who are planned.

H_6 - There is a significant difference in the investment style with investors who are more spontaneous than investors who are planned.

- ➢ Planned investors invest more aggressively in risky assets than spontaneous investors. Planned investors tend to allocate their capital into a range of assets from risky to moderately risky and non-risky assets in order to have a balanced investment portfolio. Spontaneous investors often invest based on impulses or trends and therefore invest more frequently in risky assets.

METHODOLOGY

A combination of primary and secondary data sources were used along with a blend of quantitative and qualitative data.

Primary research

The primary data was exploratory in nature. To investigate the research question, interviews with investors in India were done. Interviews were conducted with 5 individuals falling under a combination of demographic, socio-economic and dispositional factors as listed above. The 5 interviewees were recruited through a quota sample. This was the chosen qualitative research method as interviews provide rich, personal and valuable information first-hand. Interviews also allow for follow-up questions and clarifications thus offering informative insights regarding

investor behaviour and patterns. A total of 16 questions with conditional follow-up questions were asked to all the interviewees. (Appendix 1)

Overview of interviewees

Interviewee	*Age**	*Gender*	*Education**	*Income*	*Risk-taking nature*	*Planned/ spontaneous**
1	Old	Male	High	High	Moderate	Planned
2	Old	Male	High	High	Averse	Balanced
3	Young	Female	High	Low	Averse	Planned
4	Old	Male	High	High	Moderate	Balanced
5	Young	Male	Low	Low	Averse	Planned

* <30 is considered young and >30 is considered old.

* An education above a bachelor's degrees is considered high and any level of education below a bachelor's degree is considered low

* An income greater than 30 Lakhs is considered high and an income less than 30 Lakhs is considered low.

* Spontaneity is considered as behaviour on impulse and trend with less restriction.

Discussion

The interviews provided in-detail insights into investor behaviour and were hence helpful. The flexibility offered by interviews also made it easier to derive a deeper understanding of investor behaviour. In terms of applicability, interviews are easy to conduct and do not involve capital investment. However, interviews are time consuming hence enabling only small sample sizes that may not be representative of an entire population. Interviews are also subject to interviewee

bias where they might alter their answers in order to conform to their self-serving bias, where responses are impacted by the interviewees' need to enhance their self-esteem. Nevertheless, the interview provided different perspectives and offered insights into the role different demographic, socio-economic and behavioural factors play in financial decision making.

Secondary research

A range of different secondary sources including articles, research papers, data sets and surveys were used to investigate the impact of demographic, socio-economic and dispositional factors on investor decisions. These results of these secondary data sets are presented below.

RESULTS

Hypothesis testing was used to test the validity of the null and alternative hypotheses for all the factors. The chi-squared test was used to determine if the null hypothesis should be accepted or rejected. A chi-squared test, represented by X^2, is used to compare the size and discrepancies between expected and actual results. The test can be used to determine if two variables are related or independent from one another. All tests were conducted at a 5% significance level.

1) Age

The data for the age related data was taken from Kamini Khanna & Veena Chavan 2017[1]. The sample included a survey taken by 50 participants who provided insights into their investment patterns.

	Frequency	Percent
Less than 30 years	17	34
31 - 40	18	36
41 - 50	11	22
More than 50 years	4	8
Total	**50**	**100**

Hypothesis	Chi-square value	P-value	Strength	Hypothesis accepted/ rejected
H_1 - There is a significant difference in the investment style based on age.	15.8	0.071	Weak	Rejected

Given the data above along with the primary data, H_0 is accepted and H_1 is rejected. It can be concluded that there is no significant difference in the investment style based on age.

2) Gender

The data for the age related data was also taken from Kamini Khanna & Veena Chavan 2017.

	Frequency	Percent
Male	30	60
Female	20	40
Total	**50**	**100**

[1] Khanna, Kamini & Chavan, Veena. (2017). A Study of Risk Profiling and Investment Choices of Retail Investor. SSRN Electronic Journal. 10.2139/ssrn.3434233.

Hypothesis	Chi-square value	P-value	Strength	Hypothesis accepted/ rejected
H_2 - There is a significant difference in the investment style in men and women.	7.42	0.05	Weak	Accepted

Given the data above along with the primary data, H_2 is accepted and H_0 is rejected. It can be concluded that there is a significant difference in the investment style in men and women.

3) Income

The data for the income related data was also taken from Kamini Khanna & Veena Chavan 2017.

	Frequency	Percent
Less than 5 Lakhs	15	30
5-10 Lakhs	24	48
More than 10 Lakhs	11	22
Total	**50**	**100**

Hypothesis	Chi-square value	P-value	Strength	Hypothesis accepted/ rejected
H_3 - There is a significant difference in the investment style with those who have higher incomes than do those with lower incomes.	33.01	0	Strong	Accepted

Given the data above along with the primary data, H_3 is accepted and H_0 is rejected. It can be concluded that there is a significant difference in the investment style with those who have higher incomes than do those with lower incomes.

4) Education

The data for the age related data was taken from Manoharan Kannadhasan 2011[2]. The sample included a survey taken by 183 participants who provided insights into their investment patterns.

	Frequency	Percent
Non-professionals	122	66.7
Professionals	61	33.3
Total	**183**	**100**

Hypothesis	Calculated value	Df	Table value at 5% confidence	Hypothesis accepted/ rejected
H_4 - There is a significant difference in the investment style with those who have undergone professional education and those who have not.	7.724	6	12.60	Accepted

Given the data above along with the primary data, H_4 is accepted and H_0 is rejected. It can be concluded that there is a significant difference in the investment style with those who have undergone professional education and those who have not.

[2] Kannadhasan, Manoharan. (2011). Risk Appetite and Attitudes of Retail Investors' with Special Reference to Capital Market.

5) **Risk-taking nature**

The data for the age related data was taken from Pratima Rawal & Jivan Kumar Chowdhury 2018[3]. The sample included a survey taken by 200 participants who provided insights into their investment patterns.

	Frequency	Percent
Conservative	76	25.3
Balanced	170	56.7
Aggressive	54	18.0
Total	**300**	**100**

Given the data above along with the primary data, H_5 is accepted and H_0 is rejected. It can be concluded that there is a significant difference in the investment style with investors who have high risky taking abilities than investors with low risk taking abilities.

6) **Spontaneity**

Based on the primary research, it was observed that most interviewees were either planned or balanced investors who take calculated risks. However, there was no significant difference observed hence H_6 is rejected and H_0 is accepted. It can be concluded that there is no significant difference in the investment style with investors who are more spontaneous than investors who are planned.

[3] Rawal, Pratima & Jivan, Kumar & Chowdhury,. (2018). Trading behaviour of Retail investors.

CONCLUSION

All the results of the tests are summarised below:

Hypothesis	Hypothesis accepted/rejected
$\mathbf{H_1}$ - There is a significant difference in the investment style based on age.	Rejected
$\mathbf{H_2}$ - There is a significant difference in the investment style in men and women.	Accepted
$\mathbf{H_3}$ - There is a significant difference in the investment style with those who have higher incomes than do those with lower incomes.	Accepted
$\mathbf{H_4}$ - There is a significant difference in the investment style with those who have undergone professional education and those who have not.	Accepted
$\mathbf{H_5}$ - There is a significant difference in the investment style with investors who have high risky taking abilities than investors with low risk taking abilities.	Accepted
$\mathbf{H_6}$ - There is a significant difference in the investment style with investors who are more spontaneous than investors who are planned.	Rejected

Given the qualitative and quantitative factors findings, it can be concluded that specific demographic, socio-economic and dispositional factors impact investors' decisions in regards to risky and non-risky financial assets.

Implications

The findings imply that age and spontaneity do not impact investor behaviour in risky and non-risky assets, suggesting that investors across a range of ages invest similarly. Consequently,

factors such as gender, income, education and risk-taking ability were shown to be significant in influencing investor behaviour. For example, a high risk taking investor would be willing to invest in cyclical assets while a risk averse investor would prefer to invest in assets providing guaranteed returns. Similarly, an investor with a higher education degree is more likely to invest in risky assets than an investor without a bachelor's degree. This hypothesis implication also suggests that there exists disparities in financial literacy that involve class impacts as well.

Limitations and possible improvements

A potential improvement would be to use a larger sample size that is representative of the target population to increase the generalizability of the findings. Moreover, interviewing individuals from a range of careers would provide deeper insights into investor behaviour as the 5 interviewees were working in the wealth management sector. This would potentially eliminate the bias of interview and data content. Additionally, using an ethnically diverse sample would also be representative of a larger target population. Another possible improvement may be to use more recent data to ensure the results are more relevant.

Scope for further investigation

A possible extension to this study could be investigating different test statistics. Instead of studying the significance, the extent of similarity or difference would offer insights into which factors are more influential than others. Another extension to this investigation could involve assigning weights to each of the conducted factors and then construct models such as logistic regression to predict investors' riskiness.

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APPENDIX

Appendix 1 - Interview questions

1. How old are you?
2. When did you start investing?
3. Do you currently have more risky or non-risky investments? Why?
4. What is your purpose behind investing? What is your goal?
5. What all assets do you invest in?
6. What do you think age/gender has to do with investment behaviour?
7. If you were 10 years younger, how would you have invested differently?
8. What proportion of your income do you invest?
9. If you had a lower/higher income, how do you think that would affect the amount you invest?
10. How frequently do you invest in risky assets?
11. Do you consider yourself risk taking or risk aversive?
12. Are you a planned or spontaneous investor? How do you think that affects the way, amount and frequency at which you invest?
13. Do you think the media influences your investments?
14. What role do you think education plays in investment behaviour is risky and non-risky assets?
15. Do you see any particular trends in the investment behaviour of your peers? Where do they invest?
16. What other factors do you think play a role in investor behaviour?