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Generational Differences in Risk–Return Perceptions: Evidence from Telangana

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ABSTRACT—This paper seeks to examine the effects of generational differences, socio-economic status, and different modes of investments on individual investor risk-return trade-offs in Telangana. The main data collected in this research study was collected using a questionnaire from 180 respondents who were randomly selected and evenly divided across three generations, namely Generations Y/Z (aged 18-28), Generation X (aged 29-44), and Baby Boomers (aged 45-60). The statistical tools used in this study include descriptive statistics, one way ANOVA, Pearson correlation, and multiple regressions. In this research, the researchers have established that there exists a significant difference between generations in terms of their perception of risks ($F=4.871$; $p=0.009$), with the younger generations showing more risk-taking behaviour than their peers. Monthly income exerts negative impacts on risk-taking behaviour ($r=-0.237$, $p=0.001$), whereas educational background does not affect risk perception. Risk perception is not significantly affected by investment channels ($F = 1.477$, $p = 0.211$), such as social media, online sources and financial advice, suggesting that investors make investment decisions largely based on their own financial acumen. The results reveal that age and monthly income are the key factors influencing risk perception, with others having a limited impact. This research adds regional insights on investor behaviour from Telangana, India, which is relatively understudied.

Keywords—Risk–Return Perception,Generational Differences, Investment Behaviour, Risk Tolerance, Socio-Economic Factors, Monthly Income, Investment Channels.

I. INTRODUCTION

Investment is defined as the allocation of money in various financial assets with an aim to earn returns in the future. In a changing financial environment marked by digitalisation, financial literacy and economic dynamics, it is essential to understand investors' behaviour. Risk and return are the twin pillars of investment: investors expecting higher returns face higher risks, while those who are more risk-averse earn lower returns. Post economic liberalization in 1991, the Indian investment scenario has witnessed drastic changes. SEBI and RBI have played an important role in maintaining integrity and trust within the market. There has been a rise in online brokerage firms such as Zerodha, Groww and Upstox, making investment easy for all kinds of investors, especially tech-savvy millennials.

A vibrant investment culture has been observed in Telangana, especially in Hyderabad, regardless of age. This presents a conducive environment for studying the differences in risk and return perceptions among various generations. According to studies, there are differences in investment behaviour across different generations. Generation X (born between 1965 and 1980) are risk-averse and prefer conservative investments such as fixed deposits, gold and insurance. Generation Y or Millennials (born between 1981 and 1996) combine conventional investments with market investments. Generation Z (born after 1997) are innovative and risk-seeking, preferring equity, mutual funds and online investments.

Figure 1: Risk–Return Trade-Off

Despite the fact that there is ample literature available about the generational differences in the field of investment behaviour, hardly any attempt has been made to understand the risk-return attitude of individuals from different generations in a regional context in India. Although a number of researchers have focused on national and international perspectives, only a handful of studies have been conducted on the topic from a regional perspective. It is hoped that the current research endeavour will help address the existing knowledge gap by investigating the risk-return attitude of investors from different generations in Telangana region.

- To analyse the generational differences in investment preferences in Telangana.
- To assess the differences in risk and return across generations.

• To assess the influence of socio-economic attributes (income and education) on risk-return perceptions.

• To examine the effect of investment channels on risk–return perceptions.

II. LITERATURE REVIEW

A substantial body of literature examines generational differences in investment behaviour, risk tolerance, and financial literacy. In a sample of 240 investors in Bacolod, Philippines, Rehmat and Magada (2025) used the Grable and Lytton risk tolerance scale and found high financial knowledge, with Millennials having the highest risk tolerance and Baby Boomers the lowest. Likewise, Syukur et al. (2025), employing Structural Equation Modelling with 1,293 retail investors in Indonesia, found that herding behaviour positively affects investment decisions, with a significant impact on Generation X, while Generations Y and Z are more affected by social media and technology. Thomas et al. (2024), in a comparative study of Generations X, Y and Z in Bengaluru with a sample of 301, reported that while there was no difference in financial literacy, Generation Z was more risk-taking and preferred mutual funds and shares. Fadjar et al. (2024) performed behavioural experiments involving four generations and found that Baby Boomers have the highest risk-avoidance behaviour, followed by moderate risk-avoidance behaviour in Millennials and Generation Z.

In addition, Kurniadi and Herdinata (2024) showed via PLS-SEM that financial literacy and investment experience are key factors in investment decisions, with risk tolerance as a mediator. Overseas, Smith et al. (2023) surveyed more than 80,000 individuals in the United States and discovered that Baby Boomers had higher investment activity despite lower levels of risk tolerance, while Millennials displayed moderate levels of risk tolerance and investment activity. Likewise, Antwi and Naanwaab (2022) validated generational differences through bivariate probit regression, with education, income and home ownership proving significant factors influencing asset ownership. In the Indian context, Deshmukh and Kayumi (2021) explored differences in investment behaviour between Generation X and Generation Y, and found that Generation X invested more of their income and had a preference for traditional financial instruments like gold, housing, and fixed deposits, while Generation Y had a preference for mutual funds and insurance. But there was no significant overall difference statistically. Tolani et al. (2020) also found generational differences in the use of technology and satisfaction with investments.

Previous research by Velmurugan et al. (2015) and Avinash (2015) has shown that investors' characteristics such as age, income and occupation are major determinants of investment awareness and preferences in India. In summary, the existing literature suggests that age, income and financial literacy play significant roles in the investment decision-making process and risk perception. But there is a lack of region-based studies exploring the impact of generational differences in the perception of the risk-return trade-off in the Indian context and even more so in states such as Telangana. The current study seeks to provide insights into this by examining the risk-return perceptions of different generations of investors in Telangana.

III. METHODOLOGY

A. Research Design and Scope

This research uses a descriptive and analytical research approach. The study is focused on individual investors in the state of Telangana and the differences in their risk-return perceptions among three generations of investors - Generation Y/Z (18-28 years of age), Generation X (29-44 years of age) and Baby Boomers (45-60 years of age). Institutional investors' behaviour is not considered. Data were gathered from primary (structured questionnaire) and secondary sources (peer-reviewed publications, financial and regulatory publications).

B. Sample and Data Collection

A sample of 180 was chosen using convenience sampling from different regions of Telangana. Stratified sampling ensured an equal number from each of the three generations (60 each). The respondents comprised of a mix of students, government and private sector employees, self-employed, and homemakers. The questionnaire was divided into five sections which contained questions on demographics, risk-return preferences, socio-economic characteristics, usage of investment channels and open-ended questions.

C. Hypotheses

Three sets of hypotheses were tested:

- H_1: There is a significant difference in risk tolerance and expected return perceptions across generations (ANOVA).
- H_2a: Monthly income significantly influences risk perception;
- H_2b: Education significantly influences risk perception (multiple regression).
- H_3: Investment channels significantly influence risk–return perceptions (multiple regression).

D. Risk Score Construction and Analytical Tools

A Risk score was calculated, which was the arithmetic average of six Likert-scale items (1 = Strongly Disagree, 5 = Strongly Agree) related to investment risk behaviour. The formula used was:

Risk score = (Q1 + Q2 + Q3 + Q4 + Q5 + Q6) / 6.

This dependent variable was used in inferential statistical tests. Analytical techniques involved descriptive statistics and percentage analysis of demographics; One-Way ANOVA and post hoc Tukey HSD to test differences in risk-taking between generations; Pearson correlation and multiple regression to measure the influence of socio-economic variables; and another multiple regression model to measure the influence of investment channels. All the statistical analyses were done in SPSS and MS Excel

IV. RESULTS AND DISCUSSION

A. Demographic Profile

There were equal numbers of participants within each of the three age categories at 33.3%. Females made up 55.6% of the sample while males were 44.4%. In terms of education levels, graduates were in majority (42%), followed by post graduates (32.8%), intermediate level (15%), those with 10th standard qualification (6.7%) and professional degree holders (3.3%). Professionally, those employed in the private sector represented the majority (33.3%), followed by students (26.1%), self-employed (18.3%), government staff (16.1%), homemakers (5.6%), and retired people (0.6%). Economically, 51.7% had income less than ₹50,000, 30

Table I: Demographic Summary of Respondents

Variable	Category	Frequency	Percentage (%)
Age	18–28 (Gen Z/Y)	60	33.3
	29–44 (Gen X)	60	33.3
	45–60 (Boomers)	60	33.3
Gender	Male	80	44.4
	Female	100	55.6
Education	Up to 10th	12	6.7
	Intermediate	27	15.0
	Graduation	76	42.0
	Post Graduation	59	32.8
	Professional Degree	6	3.3
Monthly Income	Below ₹50,000	93	51.7
	₹50,001–₹1,00,000	54	30.0
	₹1,00,001–₹2,00,000	28	15.6
	Above ₹2,00,000	5	2.8
Risk Level	Low	133	73.9

	Medium	43	23.9
	High	4	2.2

B. Investment Preferences Across Generations

The sample was on average low risk (73.9%) with very few (2.2%) investing in high risk instruments, suggesting that Telangana investors are risk averse. When it came to investment preferences, Gold (48.3%) and Fixed Deposits/Bonds (47.8%) were the most preferred, reaffirming the inclination towards low-risk instruments. Mutual Funds (41.7%) showed increased willingness to invest in market-linked instruments, while Equities (22.8%) and Real Estate (23.9%) were relatively popular. Online Platforms (15.6%) are the least popular, suggesting that while we are moving towards technology, traditional investment is still preferred.

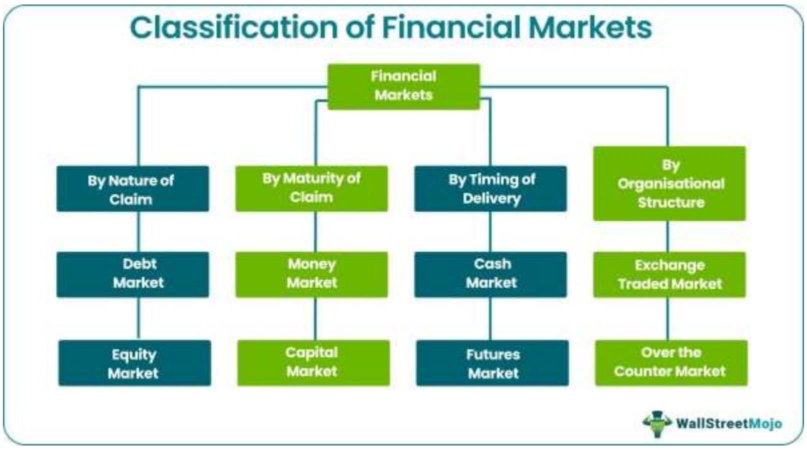

Figure 2: Investment Preferences of Respondents (Multiple Response)

Table II: Generational Characteristics and Investment Preferences

Generation	Characteristics	Risk Level	Tech Usage
Gen Z / Gen Y (18–28)	Tech-savvy, experimental, higher risk tolerance	Moderate–High	High
Gen X (29–44)	Balanced, adaptable, moderate risk	Moderate	Medium
Baby Boomers (45–60)	Conservative, experienced, risk-averse	Low	Low

C. Generational Differences in Risk Tolerance (One-Way ANOVA)

The hypothesis H_1 was analyzed via the use of a One-Way ANOVA test, where the dependent variable was Risk score, while age group was the independent variable. From the descriptive statistics, the mean risk scores were declining from one age group to another, whereby the mean score for the age group 18-28 was 2.25 (SD = 0.574), the age group 29-44 scored 2.05 (SD = 0.702), and the age group 45-60 scored.

Table III: Descriptive Statistics — Risk Score Across Age Groups

Age Group	N	Mean	Std. Deviation	95% CI Lower	95% CI Upper
18–28	60	2.2500	0.57449	2.1016	2.3984
29–44	60	2.0500	0.70196	1.8687	2.2313
45–60	60	1.9056	0.53182	1.7682	2.0429
Total	180	2.0685	0.62006	1.9773	2.1597

The output of ANOVA indicates that $F(2, 177) = 4.871$, p-value = 0.009, thus indicating that there exists significant variation among generations with respect to the tendency to take risks. Consequently, we can reject the null hypothesis H_0.

Table IV: One-Way ANOVA Results — Risk Score by Age Group

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.590	2	1.795	4.871	0.009
Within Groups	65.231	177	0.369		
Total	68.822	179			

As per the post hoc test done using Tukey's HSD test, there exists a significant difference in the mean of two cohorts having ages 18-28 years and 45-60 years respectively (Mean Diff. = 0.344, p-value = 0.006). However, there does not exist any significant difference in the mean of two consecutive cohorts with ages 18-28 years, 29-44 years and 45-60 years.

Table V: Post Hoc Analysis (Tukey HSD)

(I) Age	(J) Age	Mean Diff. (I–J)	Std. Error	Sig.	95% CI
18–28	29–44	0.200	0.11084	0.171	[–0.062, 0.462]
18–28	45–60	0.344*	0.11084	0.006	[0.083, 0.606]
29–44	45–60	0.144	0.11084	0.395	[–0.118, 0.406]

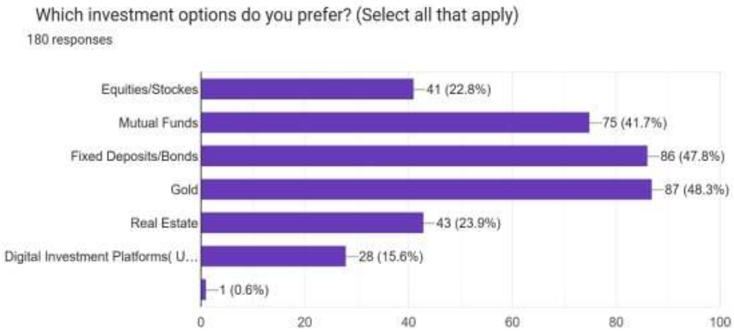

Figure 3: Mean Risk Score Across Age Groups

D. Effect of Socio-Economic Factors on Risk Perception

The Pearson correlation test found a significant negative association between monthly income and risk perception ($r = -0.237$, $p = 0.001$), suggesting that people with high income have low risk-taking capacity. The level of education was not significantly correlated to risk perception ($r = 0.070$, $p = 0.350$).

Table VI: Pearson Correlation Matrix

Variable	Risk score	Monthly Income	Education
Risk_score	1	–0.237**	0.070
Monthly Income	–0.237**	1	–0.021
Education	0.070	–0.021	1

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

Regression analysis with both income and education as the independent variables produced an R^2 of 0.060 and an adjusted R^2 of 0.049, which suggests that these variables account for only 6% of the variation in the risk perception variable. The entire model was found to be statistically significant (F=5.648, p=0.004). At the level of the coefficient, monthly income was a statistically significant negative predictor (B=–0.175, p=0.001), thus validating the assertion that income is negatively associated with risk-taking behaviour. Education was not a significant predictor (B=0.041, p=0.393). Diagnostics showed that there is no problem of multicollinearity (VIF=1.000 for both predictors).

Table VII: Regression Coefficients — Socio-Economic Factors

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	2.237	0.184		12.170	0.000
Monthly Income	–0.175	0.054	–0.236	–3.232	0.001
Education	0.041	0.048	0.062	0.855	0.393

E. Role of Investment Channels on Risk Perception

In the second regression analysis, there were four independent variables that represented investment channels. They included use of online application/websites, use of experts' opinion, online comparisons of different options, and use of social media or YouTube channels. The regression model indicated $R^2 = 0.033$ (Adjusted $R^2 = 0.011$). This implies that the model has very poor explanatory power. There was no statistically significant result from ANOVA (F = 1.477, p = 0.211). All of the predictor variables were not statistically significant (p-value > 0.05); for instance, online apps p = 0.059; experts p = 0.673; comparison p = 0.473; social media p = 0.654. However, there was no problem with collinearity (VIF < 5 for all variables). Therefore, H_3 is rejected.

Table VIII: Regression Results — Investment Channels

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.627	0.209		7.795	0.000
Online Apps/Websites	0.100	0.053	0.146	1.900	0.059
Expert Advice	0.026	0.061	0.036	0.423	0.673
Compare Options Online	0.038	0.052	0.055	0.720	0.473
Social Media/YouTube	0.029	0.064	0.038	0.448	0.654

Pearson Correlations

Highly Positive: *(None)*

Positive: *(Risk_score <---> Education)*

No Linear Correlation: *(None)*

Negative: *(Risk_score <---> Monthly Income), (Monthly Income <---> Education)*

Highly Negative: *(None)*

Note: Curated Help is calculated based on actual cell values, not the formatted values.

Figure 4: Histogram of Standardized Residuals (Regression Model)

MAJOR FINDINGS

- A Pearson correlation test found that there was a statistically significant inverse correlation between monthly income and risk perception ($r = -0.237$, $p = 0.001$), meaning that people earning higher incomes have lower risk-taking tendencies. No statistically significant correlation was observed between education and risk perception ($r = 0.070$, $p = 0.350$).
- There were marked differences in the risk-return perception between different generations ($F = 4.871$, $p = 0.009$). Age must therefore be regarded as one of the most important factors determining investor behaviour. Differences in life cycle, interest in finances, and expertise affect the way investor's view risk.
- Investors within the age group of 18-28 years have perceptions about their investment as risky because of the long-term nature of their investments, absence of any financial liability, and awareness of investment options.
- Risk perception among investors aged between 45 and 60 years is low since the emphasis is placed on the accumulation of capital and earnings generation. The results validate the life-cycle theory of investing, especially for older investors who prefer investments that have no risk at all.
- A strong negative relationship exists between the level of income per month and the risk perception ($r = -0.237$, $p = 0.001$). People having high-risk investments have large monthly incomes because of their efforts to protect their savings.
- There was no significant relationship between educational background and risk perception, based on the correlation coefficient.
- Investment plays a minor role in shaping risk perception, as there is no correlation between investment types and risk perception through media or professional consultation ($F = 1.477$,

$p = 0.211$).
- On average, risk avoidance when choosing investments is common, as over 73.9% of people demonstrate low risk tolerance. This implies that people's attitudes toward low-risk investments are very conservative.
- Investing trends indicate that conventional investments are more popular, which means that gold and fixed deposit savings are the most popular types of investments, while stock market trading is less popular.

SUGGESTIONS AND RECOMMENDATIONS

- Financial education programs have to go beyond theoretical knowledge and focus on issues like risk evaluation, portfolio diversity, and good investment skills. Improved financial education will assist the investor in identifying appropriate investments based on his/her level of risk tolerance.

- It is important to educate people on the gains they derive from investing in various securities such as mutual funds, stocks, and investments in order to promote further investments. People can be encouraged to invest in other portfolios in order to increase wealth through smart investment.

- Financial institutions should come up with risk evaluation method to assess the risk tolerance of the investor. The investors should be guided to invest based on their financial status.

- Various portfolios should be developed for investors considering their ages and financial gains at different points in their lives.

- In order to educate investors on the aspect of risk-return trade-off, some elements need to be incorporated into the investor education program. The regulatory body or government agencies need to consider some important steps such as initiatives taken by regulatory authorities like SEBI.

- The website should be made credible enough and easy to use to attract many users. This step will enable the investors to be attracted to use the website; even the conservative investors who prefer using offline services are expected to use this site.

- The behavioural finance aspect should also be considered while coming up with an investor education plan. The problem of overconfidence, herding behaviour, and risk aversion should be addressed to curb the effects. Finance psychology will help investors make sound financial decisions.

- Investment alternatives should be provided by the financial institution to cater to all categories of investors with different income levels and risk. The investment options include goal-oriented investment, hybrid investment, and stock.

Research Future Opportunities, in any future study, the sample size could be improved to increase the scope of application of the findings. Combination of certain elements such as those used in behavioral finance along with psychological elements would result in very interesting discoveries about investor behaviour.

- Some other aspects which could be considered for future research purposes include disruptive technology and its influence on investors’ behaviour and willingness to take risks. FinTech and AI could be analyzed considering the younger generation.

V. CONCLUSION

Through empirical research, this study confirms the importance of generational cohorts for determining risk-return perceptions of investors in Telangana. As evidenced by the outcomes of ANOVA analysis, younger investors (aged 18-28) are found to have considerably higher risk tolerance compared to older investors, such as Baby Boomers (aged 45-60). The findings of the study are aligned with the theory of life-cycle hypothesis, suggesting that younger investors are more prone to take risks due to having longer investment periods and low financial obligations.

Of all the socio-economic determinants considered, monthly income is revealed to have a considerable impact on investors' risk perceptions, being inversely correlated with them. More affluent people demonstrate lower levels of risk tolerance due to the desire to preserve capital. On the contrary, no statistical significance was observed for education qualification. Thus, formal education does not determine risk perception and behaviour of investors.

Furthermore, the channels of investments, such as expert advice, online platforms and social media, have been found to have no considerable impact on investors' perceptions. It can be concluded that decision-making process regarding investment channels is largely dependent on individual financial situation of investors and is not affected much by external factors.

This paper adds substantial regional value to the existing body of knowledge in that it provides evidence through a case study of Telangana State, which is less researched in the literature on generational investment decisions. In terms of managerial implication, the results of this paper imply that investments products and plans need to be customized according to the investors' demographics and socio-economic status. Furthermore, the current emphasis on spreading awareness needs to be redirected towards improving people's perception of risks and decision-making process.

Further research could build on this study with a much wider sample size from other regions, along with introducing behavioural finance variables.

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