

RISK PERCEPTION AND PORTFOLIO MANAGEMENT OF EQUITY INVESTORS -A CRITICAL STUDY

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Abstract:

Equity investors are individuals who allocate capital to a company in exchange for a share of ownership, thereby participating in the company's potential growth and profits. Understanding risk perception and its influence on investment behavior is a central focus of behavioral finance research. Equity investors typically encounter two primary types of risks: systematic risk, which affects the entire market, and unsystematic risk, which is specific to a particular company or industry. To effectively manage these risks, equity investors often rely on portfolio management.

Portfolio management is the sophisticated practice of selecting the optimal investment strategy to achieve the dual objectives of minimizing risk and maximizing returns. Under the expert guidance of a portfolio manager, investors receive tailored advice on the best investment mix based on their income, budget, age, and risk tolerance. The portfolio manager's role is to craft a diversified portfolio that aligns with the investor's financial goals while mitigating potential risks.

The primary aim of this study is to explore the risk perceptions of individual equity investors and examine how these perceptions influence their portfolio construction and management strategies. Additionally, the study delves into the diverse profiles of individual equity investors, analyzing

variations in investment behavior based on factors such as income, occupation, gender, and age. Through this lens, the research seeks to provide a comprehensive understanding of how different demographic groups navigate the complexities of equity investment and risk management.

Keywords: Portfolio Management, Risk Perception, Systematic Risk, Behavioural Finance.

1. Introduction:

Risk perception is a deeply personal concept, shaped by an individual's understanding of the nature and severity of potential risks. It encompasses a wide array of cognitive and emotional factors, including beliefs, attitudes, judgments, and feelings, as well as the social, cultural, and individual values that influence decision-making. When evaluating hazardous activities, substances, or technologies, people's perceptions of risk play a crucial role in guiding their choices. This is particularly evident in the context of equity investments, where the perception of risk has evolved over time, reflecting the prevailing attitudes and sensibilities of different eras.

Throughout history, the perception of risk has oscillated between instinctual responses and analytical measurements, mirroring the broader temper of society. In the realm of equity investment, this perception is especially significant,

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as investors recognize that they have little control over the returns generated by equity shares. This lack of control introduces an element of uncertainty, making equity investments inherently risky. However, the acceptance of this risk is seen as a legitimate human endeavor, driven by the pursuit of opportunity and the willingness to explore, experiment, and demonstrate choice. Investors, aware of the unpredictable nature of returns from equity shares, must carefully navigate the trade-offs between risk and reward. The inherent uncertainty in equity investments requires individuals to balance their desire for potential gains with the recognition that returns are never guaranteed. As they weigh these factors, investors make decisions that reflect their unique risk perceptions, striving to achieve a delicate equilibrium between the risks they are willing to bear and the returns they hope to realise.

Additionally, people are generally risk averse, they like to invest where the returns are higher for a given level of risk or risks are least for a given level of return. Risk perception and equity share investments are negatively correlated, indicating that low risk perception will lead to high equity investment. Higher equity investments make people more entrepreneurial and catalyze them to take more risks, leading to the growth of the economy

Risk perception is a vital constituent in several assessments and, hence, psychologists are continuously attempting to find out the best way of measuring risk perception. Risk perception of an individual can be controlled provided that a person is aware of the different aspects of his/her risk perception, as well as the reason for the given risk perception. Therefore, authorities entrusted with the job of framing policies should strive to measure the risk perception of the individuals who manage it and implement the policies. Thus, there is a need to manage the risk perception of people which is only possible if it can be measured. Equity related risk perception among the retail investors is different in

economically advanced regions compared to economically backward and geographically remote regions. The levels of literacy, income, and available infrastructure in economically backward regions are relatively low compared to those of economically advanced regions

Therefore, a study on measuring the risk perception level of investors' in equity shares and the factors influencing the aforementioned risk perception will not only be important but also contemporary in order to understand the current equity investment scenario.

In order to measure the risk perception of equity investors, a survey on the basis of a structured questionnaire was given to the retail equity investors. The questionnaire was framed using the variables identified

2. Review of Literature:

A detailed and comprehensive literature review was undertaken to understand the facets of the area. The literature relevant to risk perception was studied to know the factors studied by other researchers. Karmakar (2001) opined that the people are in general risk-averse and safety is given the highest priority while taking an investing decision. Purkayastha (2008) revealed that age, salary, and designation do impact the risk appetite of an investor. In reality, investors tend to invest in average-risk mutual funds, irrespective of their demographics and risk tolerance.

Singh and Bhowal (2010a) highlighted that the risk perception of the employees for the shares of their own company share is relatively lower than the risk perception for the shares of other companies. Singh (2009) found that investors perceive mutual funds as relatively less risky than that of direct investment in equity. Roszkowski (2010) stated that the economic crisis of 2008 was said to lower the risk tolerance of the investors. MacCrimmon and Wehrung (1990) conducted a study among the executives to know the characteristics of risk-taking

by them and it was found that the most successful executives are the biggest risk takers and most mature executives are the most risk-averse. Lion and Meertens (2005) suggested that risk avoiders and risk takers differ in the extent to which they focus on the worst and best outcomes of the risky activity.

Veeramani and Karthikeyan (2014) concluded that investors' perception of the total investment risk and return determines the capacity of investors and investors prefer less risky investment avenues.

Risk perception can be managed and in order to achieve this, there is a need to measure risk perception. Sitkin and Weingart (1995) highlighted the determinants of risky decision-making behavior and the role of risk perceptions. There were studies conducted to design the appropriate measure of risk and to establish a relation between risks and return (Powers 2009). Palmer (1996) and Weber (2001) have focused on the way where people subjectively convert objective risk information (i.e., possible consequences of risky choice options such as mortality rates or financial returns and their likelihood of occurrence) in ways that reflect the impact that these events have on their lives.

MacGregor et al. (1999) and Koonce et al. (2005) in their studies asked financial experts to rate the risks involved in various types of investments. The results of these two studies were comparable, in line with each other, and found that quantitative aspects (probability of loss and volatility) and qualitative aspects (such as worry and anxiety, and knowledge^{-3 3-}) were both significant predictors of perceived risk.

Duxbury and Summers (2004), Klos et al. (2005), Nasic and Weber (2010), and Veld and Veld-Merkoulova (2008) presented their results of studies using experimental approach which commonly reveal that potential losses arise larger than the volatility of outcomes both for describing risk judgments and predicting investment decisions.

Singh and Bhowal (2011) measured investors risk

perception from the perspective of the marketing mix. Singh (2012) studied the risk perception of general investors in respect of their investment in Initial Public Offer (IPO) of shares. Deb and Singh (2018) have used the scale of Singh and Bhowal (2011) to study the risk perception of investors in respect of mutual funds.

2.1 Research Gap:

There have been many studies on measuring risk and risk perception in several situations and markets, but no attempt has been made to measure the risk perception of retail equity investors. Therefore, this study has made an attempt to measure the risk perception of retail equity investors. Based on the above background and gap areas, the present study tries to bridge the gap between the existing literatures to measure the risk perception of retail investors in equity shares. The investigation on the risk perception of the investors will help in knowing the level of risk perception of the investors. The study is also helpful in framing policy with respect to investment education so that misperception, if any, can be eliminated or reduced.

2.2 Objectives the Study:

- ❖ To determine the perception of risk of different individual investors
- ❖ To determine the portfolio construction and its management of equity investors.

3. Method of Study:

3.1 Sources of Data & Statistical Tools Applied:

The data were collected from primary sources for this study for which a structured questionnaire was developed for the target respondents from urban areas specifically from Cuttack and Bhubaneswar and the sample size was taken as 120. The statistical tools of Chi-square test were applied to measure the perception of individual equity investors by taking different parameters in to consideration.

4. Presentation of Data and its Analysis:

The following table highlights the demographic background of the respondents from different perspectives.

Table 1: Consolidated Data of Respondents Demography.

Parameter/ Gender	Male				Female			
Age	<20	20-30	30-40	>40	<20	20-30	30-40	>40
	10	48	09	16	00	19	12	06
Education	10 th	12 th	Grad.	P.G	10 th	12 th	Grad.	P.G
	00	11	26	46	00	05	17	15
Occupation	Govt. employees	Private employees	Professional	Business Person	Govt. employees	Private employees	Professional	Business Person
	23	30	28	02	08	13	15	01
Income	<250000	<400000	<600000	>600000	<250000	<400000	<600000	>600000
	34	12	17	22	13	08	07	09
Choice of Investment Avenues	Equity		Equity Linked Mutual Fund		Equity		Equity Linked Mutual Fund	
	59		25		31		05	
Proportion of Investment	<10%	10%-20%	20%-30%	>30%	<10%	10%-20%	20%-30%	>30%
	22	38	24	00	09	19	08	00

Source : Author's Own Compilation

To understand the perception of respondents towards equity investments, data was collected from both male and female participants. By analyzing the choice of investment avenues for each gender, we aim to gain insights into their

attitudes and preferences regarding equity investments. This approach will help expedite the study and provide a comprehensive understanding of gender-based investment behaviors

Table 2: Choice of Investment Avenues of Male Respondents:

Parameter/ Investment Avenues	Equity				Equity linked Mutual Fund			
Age	<20	20-30	30-40	>40	<20	20-30	30-40	>40
	10	38	05	06	00	11	04	09
Occupation	Govt. Employee	Pvt. Employee	Professional	Business Person	Govt. Employee	Pvt. Employee	Professional	Business Person
	7	17	22	13	04	09	07	06
Income	<250000	<400000	<600000	>600000	<250000	<400000	<600000	>600000
	24	08	09	18	10	04	08	04

Source : Author's Own Compilation

Table 3: Choice of Investment Avenues of Female Respondents:

Parameter/ Investment Avenues	Equity				Equity linked Mutual Fund			
Age	<20	20-30	30-40	>40	<20	20-30	30-40	>40
	00	14	12	05	00	06	00	00
Occupation	Govt. Employee	Pvt. Employee	Professi onal	Business Person	Govt. Employee	Pvt. Employee	Professio nal	Business Person
	03	06	05	04	04	07	05	04
Income	<250000	<400000	<60000 0	>600000	<250000	<400000	<600000	>600000
	11	06	06	09	02	02	01	00

Source : Author's Own Compilation

4.1 Analysis of Respondents

Demography:

The analysis of equity and equity-linked mutual fund investments unveils several compelling insights into the demographics and preferences of the respondents. Out of the 120 individuals surveyed, 83 are male and 37 are female, reflecting a predominant male interest in these investment avenues. Notably, 64% of the respondents are 30 years old or younger, with a composition of 58 males and 19 females, underscoring a pronounced inclination among the younger demographic towards equity investments. Educationally, a remarkable 52% of respondents possess a postgraduate degree or higher, with an additional 35% holding a bachelor's degree, highlighting a correlation between higher education and a propensity for engaging in risky investments. Professionally, 72% of the respondents are employed as private sector workers or professionals, a group evidently more willing to embrace risk for the prospect of quick financial returns. Investment preferences further reveal that 75% of investors favor direct equity investments over equity-linked mutual funds, with two-thirds of these investors being male. Additionally, 48% of

the respondents allocate 20% to 30% of their earnings to these investment opportunities. Overall, the data suggests that equity investments are particularly favored by young, well-educated individuals in private and professional roles, who are not only inclined to invest a significant portion of their earnings but also show a clear preference for direct equity investments over mutual funds.

4.2 Analysis of Risk Perception of Respondents:

Before investing in any financial products or instruments, it is essential for individuals to have adequate knowledge about their chosen investment options. This understanding not only helps investors make informed decisions but also allows researchers to accurately gauge the perceptions and attitudes of investors towards these products or instruments. While analysing the risk perception of individual investors towards equity investment the following point has to be considered.

- Understanding of equity product
- Familiarity with Equity Products
- Risk of losing money
- Risk of getting lower return

Table 4: Understanding of equity Product

	Number of Respondents		Total
	Equity	Equity linked Mutual Fund	
Understanding equity products			
Easy	36	6	42
Quiet easy	38	1	39
Quiet difficult	9	18	27
Difficult	7	5	12
Total	90	30	120

Source : Author's Own Compilation

Table 5: Familiarity with Equity Products

	Number of Respondents				Total
	Govt. employees	Private employees	Professional	Business Person	
Familiarity of equity products					
Not familiar	12	7	5	0	24
Some-how Familiar	17	17	12	1	47
Familiar	2	14	23	1	40
Very familiar	0	4	5	0	09
Total	31	42	45	02	120

Source : Author's Own Compilation

Table 6: Risk of Losing Money

	Number of respondents			
	Govt. employees	Private employees	Professional	Businessman
Risk of losing money				
Very low	3	12	11	0
Low	6	17	25	1
High	16	7	5	1
Very high	6	6	4	0

Source : Author's Own Compilation

Table 7: Risk of Getting Lower Return

	Number of respondents			
	Govt. Employees	Pvt. Employees	Professional	Businessman
Risk of getting lower return				
Low	6	11	6	0
Medium	11	17	22	1
High	17	12	13	0
Very high	0	0	3	1

Source : Author's Own Compilation

Formulation of Hypotheses:

((H₀₁)= The equity investors does not have better understanding of equity products.

(H₁₁) = The equity investors have better understanding of equity products.

Here the frequencies are arranged in the form of 4*2 contingency table. Hence the degrees of freedom are $(4-1)(2-1)=3*1=3$

(H₀₂)= Government employees are familiar with equity products.

(H₁₂) = Government employee are not familiar to equity products.

Here the frequencies are arranged in the form of a 4*4 contingency table. Hence the degrees of freedom are $(4-1)(4-1)=3*3=9$

(H₀₃) = Government employees are high risk taker.

(H₁₃) = Government employees are low risk taker.

Here the frequencies are arranged in the form of a 4*4 contingency table. Hence the degrees of freedom are $(4-1)(4-1)=3*3=9$.

(H₀₄)= Risk of getting lower return is high for private and professional employee.

(H₁₄) = Risk of getting lower return is low for private employees and professionals.

Here the frequencies are arranged in the form of a 4*4 contingency table. Hence the degrees of freedom are $(4-1)(4-1)=3*3=9$.

4.3 Results & Discussion:

The analysis of equity product understanding and risk perceptions reveals several insights. For understanding equity products, the Chi-square value of 33.62 far exceeds the tabulated value of 7.815 at 3 degrees of freedom and a 5% significance level, leading to the rejection of the null hypothesis. This indicates that individuals who have directly invested in equity products generally find them easy or quite easy to understand. In terms of familiarity with equity products, the Chi-square value of 24.584 surpasses the tabulated value of 16.919 at 9 degrees of freedom and a 5% significance level. This result highlights that government employees are less familiar with equity products compared to private employees, professionals, and businessmen, who demonstrate greater familiarity. When examining the risk of losing money, the Chi-square value of 97.133 is significantly higher than the tabulated value of 16.919, leading to the rejection of the null hypothesis. This finding suggests that government employees are generally lower risk-takers, whereas private employees and professionals exhibit a higher risk tolerance. Lastly, regarding the risk of getting lower returns, the Chi-square value of 33.575 exceeds the tabulated value of 16.919, resulting in the rejection of the null hypothesis. The analysis indicates that private employees and professionals perceive a lower risk of getting lower returns, while businessmen have a more varied perception, with some viewing the risk as both low and very high.

Table 8: Consolidated Statement of Chi-square Analysis

Sl. No.	Hypothesis	Degree of freedom	Chi-square Values		Result
			Tabulated	Calculated	
1	The equity investors do not have better understanding of equity products.	3	7.815	33.62	Rejected
2	Government employees are familiar with equity products	9	16.919	24.584	Rejected

3	Government employees are high risk taker	9	16.919	97.133	Rejected
4	Risk of getting lower return is high for private and professional employee.	9	16.919	33.575	Rejected

Source : Author's Own Compilation

5. Research Findings:

The investment patterns of individuals vary significantly across different age groups and occupations, reflecting distinct risk tolerances and levels of familiarity with equity products. Young investors (20-30 years) predominantly invest in equities over equity-linked mutual funds due to their higher risk tolerance and preference for direct equity investments. Middle-aged investors (30-40 years) tend to balance their portfolios, distributing investments equally between equities and equity-linked mutual funds, indicating moderate risk tolerance and a desire for diversification. Older investors (above 40 years), who generally have a lower risk appetite, prefer equity-linked mutual funds, supported by the availability of investment guidance. Across all age groups, most investors

6. Conclusion & Scope for Future Research:

The analysis reveals that investment decisions are significantly influenced by factors such as age, income, occupation, and educational qualifications. Younger individuals, private sector employees, professionals, and businessmen, who are generally more risk-tolerant, prefer direct equity investments and find these products relatively easy to understand. In contrast, risk-averse individuals, particularly those over the age of 40 and government employees, are more inclined to invest in equity-linked mutual funds and often perceive equity products as more difficult to comprehend. This difference in understanding also correlates with the perceived risk of financial loss and

allocate approximately 10% to 20% of their income to both equities and equity-linked mutual funds, suggesting a balanced approach to investment. In terms of perception and understanding, those directly investing in equities find these products easier to comprehend, while those in equity-linked mutual funds often view them as more complex. Occupationally, private sector employees and professionals, who are more familiar with equity products, tend to be higher risk-takers, perceiving a lower risk of receiving lower returns. In contrast, government employees, less familiar with equities, exhibit lower risk tolerance and perceive a higher risk of lower returns. Businessmen display a varied risk perception, with some viewing the risk of lower returns as high, while others perceive it as low, reflecting diverse approaches to risk management. potential lower returns, highlighting the critical role of financial literacy in investment decision-making. Future research could explore the impact of targeted financial education programs on improving the understanding and confidence of risk-averse individuals, particularly government employees and those over 40, in equity investments. Additionally, studying the long-term performance and satisfaction levels of investors in direct equities versus equity-linked mutual funds could provide deeper insights into the effectiveness of various investment strategies. Analyzing the role of technological advancements and digital tools in enhancing financial literacy and investment outcomes across different demographic groups could also offer valuable directions for further study.

List of Appendices

Appendix-1:

Chi-square Data Analysis-1 (Understanding of equity Products)

O_i	E_i	$O_i - E_i$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
30	26.25	3.75	14.06	0.53
32	24.75	7.25	52.56	2.12
7	16.50	-9.5	90.25	5.40
6	7.5	-1.5	2.25	0.3
5	8.75	-3.75	14.06	1.60
1	8.25	-7.25	52.56	6.37
15	5.50	9.5	90.25	16.40
4	2.5	1.5	2.25	0.9
2	4.68	-2.68	7.182	1.534
				33.62

Appendix-2:

Chi-square Data Analysis (Familiarity with Equity Products)

O_i	E_i	$O_i - E_i$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
0	5.2	4.8	23.04	4.430
14	10.14	3.86	14.899	1.469
2	8.84	-6.84	46.785	5.292
0	1.82	-1.82	3.312	1.82
6	7	-1	1	0.142
14	13.65	0.35	0.122	0.008
12	11.90	0.1	0.01	0.0008
3	2.45	0.55	0.302	0.123
4	7.40	-3.4	11.56	1.562
10	14.43	-4.43	19.624	1.359
19	12.58	6.42	41.088	3.266
4	2.59	1.41	1.988	0.767
0	4	-4	16	4
1	0.78	0.22	0.048	0.061
1	0.68	0.32	0.102	0.15
0	0.14	0.14	0.019	0.135
				24.584

Appendix 3:

Chi-square Data Analysis (Risk of Losing Money)

O_i	E_i	$O_i - E_i$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
2	5.46	-3.46	11.971	2.192
5	10.66	-5.66	32.035	21.375
13	6.24	6.76	45.697	7.323
6	6.64	2.36	5.569	1.529
10	7.35	2.65	7.022	0.955
14	14.35	-0.35	0.122	0.008
6	8.40	-2.4	5.76	0.685
5	4.90	0.1	0.01	0.002
9	7.77	1.23	1.512	0.168
21	15.17	5.83	33.988	2.240
4	8.88	-4.88	23.814	2.68
3	5.18	2.18	4.752	0.91

0	0.42	-0.42	0.176	0.419
1	0.82	0.18	0.032	0.039
1	0.48	0.52	27.04	56.33
0	0.28	0.28	0.078	0.278
				97.133

Appendix 4: Chi-square Data Analysis (Risk of getting Lower Return)

O_i	E_i	$O_i - E_i$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
5	5.20	-0.2	0.04	0.007
18	10.92	-2.92	8.526	0.780
13	9.10	3.9	15.21	1.671
0	0.78	-0.78	0.608	0.779
10	7	3	9	1.285
14	14.70	-0.7	0.49	0.033
11	12.25	-1.25	1.562	0.127
0	10.5	-10.5	110.25	10.5
5	7.40	-2.4	5.76	0.778
19	15.54	3.46	11.971	0.770
11	12.95	-1.95	3.802	0.293
2	1.11	0.89	0.792	0.713
0	0.4	-0.4	0.16	0.4
1	0.84	0.16	0.025	0.029
0	0.7	0.7	0.49	0.7
1	0.94	0.94	0.883	14.71
				33.375

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