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Empirical Study on Price-Risk Perception of Investors in Stock Market

Sanjeev Chowdhury*, Nitin Tiwari**

Abstract

In the most basic sense, risk is defined as the chance of financial loss. More formally, risk may be defined as the variability of returns associated with a given asset. Investors in commodity markets use various means to minimise the risk. Hedging is one way of minimising the risk, at the same time it can also help in locking the profits. The purpose of the present study is to examine if there exists a correlation between the type of securities and the risk associated with it. The study aims to be useful for analysing the most preferred means of securities buying and uncover investor objective behind purchasing those securities. For the purpose of this study a questionnaire was administered and data were collected from a stock trading house located in Delhi.

Keyword: Risk, Futures, Options, Debenture, Bonds

Introduction

Risk, in the language of finance, is defined as the variability of return associated with a given asset. The more certain an investor is about the return from the asset (financial securities like shares, bonds, debentures etcetera), the lesser is the variability and consequently the lesser the risk.

There are various types of risks and broadly they may be classified along these major lines-firm specific, investor specific, and firm and investor specific. From the viewpoint of investors, the major risk types are liquidity risk, interest rate risk, market risk, and financial risk.

One of the most popular methods of managing the price risk in stock portfolios of investors is hedging. The purpose of hedging is to offset/ protect against the risk of adverse price movements. Hedging does not ensure the maximisation of returns or the total negation of risks; it only provides a mechanism to reduce the variation in returns.

There are a number of reasons for investors to prefer hedging as a tool for risk mitigation. First, investors prefer hedging in the case of possible fall in prices or fall in prices in uncertain, volatile times. It is common to see investors prefer this practice before the Union Budget is presented.

Review of Literature

In the paper titled "Safely first stochastic dominance and optimal portfolio choice", Bawa (1978) mentions that the price spread is closely monitored by the prudent investor and in the event of the spread crossing certain limits the investor buys/ sells the stock.

In the paper titled "Anticipatory hedging: Optimizing currency risk and reward in international equity portfolios", Black (1989) discusses how hedging is used for controlling/ mitigating price risk.

Objectives of the Study

The study has the following objectives:

(1) To investigate if there exists a correlation between

* Assistant Professor, BCIPS, Dwarka, New Delhi, India. Email: chowdhurysanjeev48@yahoo.com
** Research Associate, Automotive Tyre Manufacturer's Association, New Delhi, India

the type of securities and the risk associated with it.

(2) To determine the risk and returns received by investors.

(3) To uncover investor objective behind purchasing securities.

Hypothesis Framed

The following hypotheses were framed for this study:

Null hypothesis (1): There is no correlation between the type of security chosen and the risk associated with the investment.

Null hypothesis (2): There is a positive correlation between the type of security chosen and the returns associated with it.

Null hypothesis (3): There is a positive association between the type of security chosen and the reason for investment.

Data Collection and Statistical Tools Used

A sample of 100 investor-respondents was chosen from a stock broking house in Delhi. A questionnaire was administered among these respondents to collect primary data. Secondary data were collected from books and research papers from other journals.

Since the variables are categorical in nature we have used the chi-square method of analysis to test the data.at 95% level of significance.

Results

A discussion on performing the chi-square test on the aforementioned hypothesis is provided below.

Null hypothesis (1): There is no correlation between the type of security chosen and the risk associated with the investment.

Using the classical approach the critical value is 12.592. However, the computed Chi-Square test statistic is 35 (greater than the critical value) as shown in Table 2. We reject the null hypothesis of no correlation between the type of security chosen and the risk associated with the investment at 5% level of significance.

Table 1: Test of Independence on Type of Security and Nature of risk (at 5% Level of Significance)

	Liquidity risk	*Interest rate risk*	*Market risk*	*Financial risk*	*Total*
Shares	27	21	8	6	62
Debentures	14	12	5	1	32
Bonds	2	2	2	0	6
Total	43	35	15	7	100

Table 2: Chi Square Test

Chi-Square test statistic value	*Degrees of freedom*
35	6

Null hypothesis (2): There is a positive correlation between the type of security chosen and the returns associated with it.

Table 3: Test of Independence Between the Type of Security Chosen and The Returns Associated with it (at 5% Level of Significance)

	Liquidity risk	*Interest rate risk*	*Market risk*	*Financial risk*	*Total*
Shares	22	27	12	1	62
Debentures	17	11	2	2	32
Bonds	2	0	4	0	6
Total	41	38	18	3	100

Table 4: Chi Square Test

Chi-Square test statistic value	*Degrees of freedom*
167	6

Using the classical approach the critical value is 12.592. However, the computed Chi-Square test statistic is 167 (greater than the critical value) as shown in Table 4. We reject the null hypothesis of a positive correlation between the type of security chosen and the returns associated with it at 5% level of significance.

Null hypothesis (3): There is a positive association between the type of security chosen and the reason for investment.

Using the classical approach the critical value is 5.991. However, the computed Chi-Square test statistic is 24.9 (greater than the critical value) as shown in Table 6. We reject the null hypothesis of a positive association between

the type of security chosen and the reason for investment at 5% level of significance.

Table 5: Test of Independence Between the Type of Security Chosen and The Reason for Investment

	Liquidity risk	*Interest rate risk*	*Market risk*	*Financial risk*	*Total*
Shares	23	38	22	0	83
Debentures	2	8	7	0	17
Bonds	0	0	0	0	0
Total	25	46	29	0	100

Table 6: Chi Square Test

Chi-Square test statistic value	*Degrees of freedom*
24.9	2

Limitations and Scope for Future Research

The responses of the investors are from only one stock broking company in Delhi. So, the results of the study cannot be generalised. Time involved in completing the study was a month and a half. The price changes are also not considered during the duration of the study.

The area of coverage can be wider and include other cities in India so that the results are more generalisable in nature. Also, the sample size may be increased to include multiple trading houses from various cities for a more generalisable result.

Conclusion

The findings of the study suggest that most of the investors do not use the risk mitigating tools while making investments. Most of the investors do not distinguish between risk and uncertainty while making investment decisions. The recommendation given to the broking house was to conduct awareness and training sessions among investors on risk mitigating tools, how to cope with uncertainty while making investment decisions and to provide timely support and encouragement.

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