A Study of Investor's Perception towards Derivative Market

Sarfaraz Ansari[1], Satnam Ubeja[2], Devendra Jain[3] and Soumya Pathak[4]

[1,2,3]*Prestige Institute of Management and Research, Indore*
[2]*ICICI Bank*

Abstract—*Derivatives products are becoming increasingly important tool for risk management financial market used to minimize risk. Investors using derivatives products to hedge their price risks. But the perception of investors differs because of variety of derivatives products, lots of derivatives strategies. This study aimed to find the perception of investors towards derivatives markets. The study has conducted a survey through structured questionnaire targeting 100 retail investors of Indore region to understand the perception of different derivatives products amongst the retail investors. With the help of factor analysis we found 6 factors, related to derivative market and investment activity. The study used t-test and ANNOVA test to examine the effect of demographic characteristics on derivatives market. The study finds that gender, age, income and education do not have significant effect on perception of derivatives products.*

Keywords*: financial derivatives, future, options, call option, put option, derivative markets*

1. INTRODUCTION

A derivative instrument is a product/contract that does not have any value on its own, i.e. it derives its value from some underlying asset. However, the availability of risk management products attracts more investors to the cash or spot market. Arbitrage between the cash and derivative markets fetches additional business to the cash market, in addition to facilitating improvement in delivery-based business, lesser volatility and improved price discovery, (M. Ranganathan). Perception of investors varies as they have many alternatives risk management tools in financial market. There may be many factors which affects the decision of investors while using derivatives tools to manage their financial risks. Education or Professional literacy offcourse increase the level of understanding and awareness among investors to understand the complex mechanism and strategies of derivatives.

2. TYPES OF DERIVATIVES

Forward Contracts: A forward contract is a customized contract between two parties, where settlement takes place on a specific date in future at a price agreed today. They are bilateral contracts and hence exposed to counter-party risk. Each contract is custom designed, and hence is unique in terms of contract size, expiration date and the asset type and quality. The contract price is generally not available in public domain. The contract has to be settled by delivery of the asset on expiration date. In case the party wishes to reverse the contract, it has to compulsorily go to the same counter party, which being in a monopoly situation can command the price it wants. (BSE)

Futures: Futures are exchange-traded contracts to sell or buy financial instruments or physical commodities for a future delivery at an agreed price. There is an agreement to buy or sell a specified quantity of financial instrument commodity in a designated future month at a price agreed upon by the buyer and seller. To make trading possible, BSE specifies certain standardized features of the contract. (BSE)

Options: Options are contracts through which a seller gives a buyer the right, but not the obligation, to buy or sell a specified number of shares at a predetermined price within a set time period. Options are derivatives, which means their value is derived from the value of an underlying investment. Most frequently the underlying investment on which an option is based is the equity shares in a publicly listed company. Other underlying investments on which options can be based include stock indexes, Exchange Traded Funds (ETFs), government securities, foreign currencies or commodities like agricultural or industrial products. Stock options contracts are for 100 shares of the underlying stock - an exception would be when there are adjustments for stock splits or mergers. Options are traded on securities marketplaces among institutional investors, individual investors, and professional traders and trades can be for one contract or for many. Fractional contracts are not traded. (NASDAC)

3. REVIEW OF LITERATURE

Gakhar and Meetu (2013), studied the evolution of Indian derivative market, trading mechanism in its various products and the future prospects of Indian derivative market. They found that inspite of the growth in the derivative market there are many issues like lack of economies of scale, tax, and legal bottlenecks, increased off-balnce sheet exposure of Indian

banks need for an independent regulator etc., which needs to be immediately resolved to enhance the investors' confidence in the Indian derivative market.

Thamotharan and Prabhakaran (2013), studied investors' perception towards Derivatives market and found that age has significant impact on investment and education qualification has significant impact on tax. They also found that charges, liquidity and investment attributes are mediating factors for investors' perception.

Sundaram (2011), studied various behavioural dimensions of investors and found that investors decision are influenced by both psuchological and behavioural dimensions. Psychological factors like fear of losing money, index fluctuations, and lack of confidence about their investment decision.

Adam (2008), studied investors' psychology changes the vision of financial markets and found that consequences of the new view of finance by capital market practitioners-investors and corporate policy makers.

4.   RESEARCH METHODOLOGY

2.1 Scope of the Study

- Study was focused only on investor perception toward derivatives.
- Study comprised different bank employees and brokers in Indore city.

5.   OBJECTIVES OF THE STUDY

- To identify the investment perception factors towards derivative market.
- To study the investor perception towards derivative market with reference to age
- To study the investor perception towards derivative market with reference to gender
- To study the investor perception towards derivative market with reference to income
- To study the investor perception towards derivative market with reference to education

6.   HYPOTHESIS

To know the perception of consumers towards derivative market, the following null and alternative hypotheses were framed:

H_{o1}: There is no significant difference between male and female perception towards derivatives products.

H_{11}: There is significant difference between male and female perception towards derivatives products.

H_{o2}: There is no significant difference between various investors' age group perception towards derivatives products.

H_{12}: There is significant difference between various investors' age group perception towards derivatives products.

H_{o3}: There is no significant difference between various investors' of different income range perception towards derivatives products.

H_{13}: There is significant difference between various investors' of different income range perception towards derivatives products.

H_{o4}: There is no significant difference between various investors' perception of different levels of education towards derivatives products.

H_{14}: There is significant difference between various investors' perception of different levels of education towards derivatives products

7.   DATA SOURCE

To design the structured questionnaire the13 items of customer perception towards derivative markets are taken from extensive study of sales literature viz. journals of marketing, international journals of marketing, various business review and marketing management magazines etc. The primary data has been collected from 100 customers' different banks, brokers and financial Institutions spread across Indore city, above 18 yrs of age and who have already invested in derivative market. Apart from these 13, four categorical variables are also used to know the effects of all factors on customer perception.

8.   SAMPLE AND DESIGN

The design of the present study is empirical in nature and for data collection random sampling has been used. The sample comprised of the respondents above 13 years of age and maximum age group was above 50yrs ages who have invested in the derivative markets or having some perception about derivative markets.

9.   DATA COLLECTION

The questionnaire is split into two sections. First section deals with the demographic factors; second section is related to 13 factors of derivative markets. The questionnaire had given five point scales rating; highly dissatisfied to highly satisfied and comparative weights one to five, where five is the highest rank. The data has been collected from customers of different banks , financial institutions and broking house.

10. TOOLS FOR ANALYSIS

In the application of statistical tool, care has been taken to draw a real picture without any manipulation. For identification of factors of investment perception Factor

Analysis has been used. T test has been applied to analyze the customer perception towards derivative market and also find their effectiveness & variances with ANOVA test with respect to demographic variable. The statistical package like SPSS (version 17) has been used, MS – Excel also has been used for analysis. The levels of significance tested were of five percent level.

11. FACTOR ANALYSIS

The normal varimax solution is not obtained directly from a correlation matrix. It is obtained by rotating other types of factor solutions to the varimax form. In the present study it was considered desirable to use the highest factor loading criterion to select customer satisfaction included in sales promotion mix and all group of factors. This criterion was uniformly used in the factor analyses carried out on the total sample of the study.

12. T TEST

The T test has been applied to test the significant difference between mean satisfaction levels between each factors and rest.

$$\text{Mean of } X = \Sigma X / n,$$

$$S = \sqrt{\Sigma (X - \text{Mean of } X)^2 / n-1}$$

$$T = (\text{Mean of } X - \mu) \sqrt{n} / S$$

13. RELIABILITY TEST

After the testing of questionnaire we have tested reliability of whole data on all factors. Reliability test has been made on whole sample for testing the reliability of customer satisfaction. With the help of Coefficient (Cronbach Alpha); We have tested the reliability of factors. Reliability of 100 samples for customer has Cronbach's Alpha (.737) **(see Annexure 1)** which is good, according to different theories of reliability value above 0.7 is appropriate, low value below the 0.6 implies that reliability is poor. No item has been removed from the questionnaire.

14. ANOVA TEST

The generated factors which have got with factor analysis by using SPSS software (17.1) version, with the help of these factors we have applied ANOVA test by using SPSS software(17.1) to measure the variance among different variables. Tukey Karner multiple comparison has been used to get the mean difference and analyzing the results. It has been applied on 5% level of significance, to test the variance between different demographic variables on derivatives

15. RESULT AND DISCUSSION

Factor analysis was adopted to capture investment perception on derivative marketing in Indore city. (Annexure 2) It summaries the results of the factor analysis which was run using the Principal Component Approach with a varimax rotation.

Bartlett's test of sphericity and Kaiser-Olkin (KMO) meaure are adopted to determine the appropriateness of data set for factor analysis. High value (between0.5 to 1) of KMO indicates that the factor analysis is appropriate, low value below the 0.5 implies that factor analysis may not be appropriate. In this study, the result of Barteltt's test of sphericity (0.00) and KMO (0.899) and (0.523) indicates that the data are appropriate for factor analysis.

In this study, factor analysis was carried out in two stages. In stage one; known as the factor extraction process, objective was to identify how many factors to be extracted from the data. Using principal component analysis,13 items were extracted by six factors. Only the factors having latent roots or eigen value greater than 1 were considered significant; all factors having eigen value less than 1 were considered insignificant and were discarded. All the six factors together accounted 63.6% of the total variance.

In the second stage, all the factors were interpreted and labelled. Items having factor loading more than 0.5 were included in the interpretation. More detailed descriptions of the factors are presented in the next section.

To find the impact of different demographic variables on customer satisfaction; with the help of factor analysis; here, summarized all 13 group of factors into 6factors. Now, with the help of these factors; found the impact of demographic variables on customers' perception towards derivative market. For this, various null and alternative hypotheses have been assumed on the basis of different factors, demographic variables. As discussed above, Factors have been extracted with the help of factor analysis and ANOVA was used to study the variations in the customer satisfaction across demographic variables. The six factors are summarized and calculated one by one here:

16. FACTOR 1 INVESTOR'S EARNING PREDICTABILITY

Annexure 2 indicates that this factor measures the earning prediction; which gives customer perception of Indian customers in our sample. Customers, who score high on this factor is more attracted towards investment or always like different varieties of investment offered by brokers they always appreciate and attracted towards investment derivatives. Even for getting this type of satisfaction they don't afraid from any investment they always keep positive hope during investment. The highest loading (.785) item in this factor is "I can easily ascertain the expertise of the brokers offering service".

17. FACTOR *2* INVESTOR'S CONFIDENCE

Annexure 2 indicates that this factor measures the participating in buying and selling activity of derivatives; which gives more attraction and appealing in derivative market. Customers, who score high on this factor is more conscious in buying and selling activity, they have nature to confirm the surety of gaining profit. Even for this type of getting investment satisfaction they do take care of extra precautions and do needful help to others also. The highest loading (0.769) item in this factor is "I feel that the idea of participating in a buy/sell on the derivative market is appealing".

18. FACTOR 3 INVESTORS RATIONALITY

Annexure 2 indicates that this factor measures the investor's conscious behaviour during the derivative purchase process; which do not give any regret in their mind to withdraw from the market. Customers, who score high on this factor is very conscious about the derivative purchasing behaviour and sudden changes in price or trading activity, they are very comfortable in derivative trading system, they feel bad when their precautions not worked properly. The highest loading (0.699) item in this factor is "I am cautious about derivatives which show sudden changes in price or trading activity".

19. FACTOR 4 INVESTOR KNOWLEDGE

Annexure 2 indicates that this factor measures the customer's information taking behaviour during the investment process in derivatives; customer's knowledge and education is very important part of this factor. Customer, who score high in this factor is very experience and knowledgeable about derivative market, their education play very important role during all the process. They use their knowledge and information seeking behaviour for getting better satisfaction. The highest loading (0.844) item in this factor is "My investment in stocks is largely based on investment knowledge, experiences and education."

20. FACTOR 5 CREDIBLE INFORMATION

Annexure 2 indicates that this factor measures the trust of derivative market; customer always fined the way to identify the market credibility so that their risk should be low. Customers who score high in this factor is based on totally trust and reputation of the derivative market, their image and perception about the market play important role in this process. Customer those who want to invest in the market, always identify the credible brokerage firm , before investing in the derivative market. The highest loading (0.773) item in this factor is "It is always easy to determine the credibility of the derivative market".

21. FACTOR 6 STOCK MARKET PERFORMANCE

Annexure 2 indicates that this factor measures the negative performance of the trading market; customers who score high in this factor is very conscious about performance of the trading market. For getting satisfaction they always identify the past record of the market and trading system. The highest loading (0.838) item in this factor is "I usually have worry investing derivatives that have had a negative performance trading".

Annexure 3 indicates the effect of demographical variables on consumer perception with respect to age, gender education and income. As per said table there is no significant impact of all demographical variables i.e. age, sex, education and income on consumer perception towards derivative market. ANNOVA test indicates that observed the p-value of all demographical variables which is higher than critical p-value i.e. 0.05 which state that null hypothesis is accepted at 5% significance level and therefore it can be concluded that there is no significant difference between investors of different age, education , gender and income range perceptions towards derivatives product.

22. CONCLUSION

The above study was done on derivative market because it is a fast growing market in india. The contribution of financial derivatives to the Indian financial system had been significant. The above study indicated the effect of perception of investors towards the derivative market. It indicated that four factors affected the perception of investors towards the derivatives. But there is no effect of demographic variables on perception towards the derivatives. The main limitation of this study is that it was conducted on a small sample of 100 respondents. The future scope of the study is that it can be conducted on large sample and various other regions of the country.

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ANNEXURE 1

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.737	.737	13

ANNEXURE 2

Variable	Significance value
Age	.538
Gender	.83
Income	.846
Education	.676