



## Factors affecting retail investors behaviour towards equity derivative market

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### Abstract

Retail investor behaviour for equity derivative refers to the actions and decisions of the individual investors when dealing with financial instruments known as equity derivatives. Retail investors' behaviour is important in equity derivative market as it influences the market dynamics. In present scenario, more retail investors are dealing in equity derivatives due to increase in online trading platforms and it is impacting the volatility and liquidity in the market. The collective actions of the retail investors significantly influence price movements of equity derivative and amplifying trends. The behaviour of retail investors acts as a key indicator for market sentiments and offers valuable insights to assess the future market movements. There are so many factors which influence the retail investors' behavior towards equity derivative. In the present paper, an attempt has been made to study the factors affecting retail investors' behaviour towards equity derivatives.

**Keywords:** Retail investors, hedging, volatility, returns, price movements, etc.

### Introduction

A stock market is a public market in which company's stocks and derivatives are traded at an agreed price and the securities traded are listed in a recognized stock exchange. The financial market is a market where financial assets are traded at those prices which are determined by demand and supply forces. The stock market is one of the financial markets in which buying and selling of equities are done by traders/ investors. Stock market participants consist of small individual investors (retail investors) to large institutional investors. The stock market is one of the key indicators of a country's economic growth and development. Stock market participants play an important role in moving away the prices of assets from their true value (Kumawat, 2014).

A retail investor is a person who buys securities to get some financial returns. Individuals purchase securities from their personal account rather than institutional account is known as retail investment. Retail investors can purchase securities directly from the primary capital market or from existing investors through secondary capital market. Retail investor behaviour for equity derivative refers to the actions and decisions of the individual investors when dealing with financial instruments known as equity derivatives.

A derivative is a contract whose value is derived from the value of the underlying asset i.e. equity, commodity, exchange rate, interest rate or index. Derivatives are the financial instruments whose value is at least fully or partially derived from the value of security which is known as underlying asset. The underlying assets consist of equity or stock, commodities, mortgages, index, bonds and currencies (Ramana, 2007) <sup>[11]</sup>. Derivatives offer a trader to hedge its position against risk that offsets losses in the spot market. In India, derivative users would be called as hedgers and mainly derivative is used for hedging purpose. Main motive of derivative is hedging, and another motive is speculation (making profits against anticipated price movements). It is difficult to differentiate or depict whether a trade is for speculation or hedging. Both hedger and

speculator active participation is required for an active stock market. A third type of trader known as arbitrageurs, who attempts to make profit from market inefficiencies. It is a person who exploits difference in price of given security by simultaneously purchasing and selling of those securities. India's long history in arbitrage trading shows trader arbitrage prices between two stock exchanges in same city and between two exchanges located in different cities. Indian equity derivative market in 2002 shows the market was inefficient at that time.

### Review of Literature

Hon (2012) <sup>[6]</sup> studied the behaviour of small investors in derivatives market. The results indicated that factors namely reference group, personal background, risk tolerance, return performance and cognitive style were considered as key factors influencing the behaviour of small investors towards derivatives market. Amongst these five factors risk performance was the most significant factors whereas personal background was least important factor affecting small investors' behaviour in derivatives market. Jagongo and Mutswenje (2014) <sup>[7]</sup> examined the factors which influence the investment decision. The findings showed that performance and position of the firm, returns on investment and economic conditions, third party opinion, loss minimization and diversification, firm's goodwill and accounting information, environmental factors, perception about firms, feeling of firms and risk minimization were the main factors which influenced decision of investors regarding investment. The most important factors which influenced the investment decision were status of firm in industry, firm's reputation, profit statement, expected corporate earnings, price per share and past performance of firm's stock. Sudalai and vijayalakshmi (2014) <sup>[13]</sup> identified the factors which influence individual investors while investing in equity derivatives. Hedging, diversified portfolio, leveraging of capital, timing of the market, high speculative profits, arbitrage facility, carry forward facility, reduced risk in options were considered the important factors influencing individual investors decision. Hedging

was found to be most influencing factor followed by carry forward facility, high speculative profit and leveraging of the capital. Rakesh (2014) [10] studied the factors which influence the investment behaviour of individual investors. It was found that investors assimilate the objectives of saving, the factors influencing the saving and the sources of information for decision making. The investors possessed complete knowledge of the stock market. The investment decisions of investors were affected by market information. Nair *et al.* (2015) examined the factors influencing the preference of retail investors towards equity derivatives. 200 investors were selected for data collection. The findings highlighted that main factors affecting the decisions for investment of retail investors were capital appreciation, price and high returns. Investors preferred those schemes which were based on equity. Further, while considering investment decision bad past experience found as main preventive factor. Manrai (2015) [8] examined the retail investors behaviour towards derivatives market. It was revealed that behavioral finance is most widely used in stock market across India. Investors who were not risk takers invested their funds in mutual funds, insurance and government securities. Whereas, investors who were risk takers wanted to get more returns and they invested their funds in derivatives market. As more returns are offered by derivatives market along with hedging of risks viz. risk of interest rate and exchange rate risk with maximum profits and minimum loss. It has also been noticed that retail investors were aware regarding derivatives trading in India since last few years. Aruna and Rajashekar (2016) [3] studied the factors influencing the decisions of retail investors about investment. The results showed that various factors viz. demographics factors, economic factors, psychological factors, social and organizational factors influenced the investment decisions of retail investors. Investors were more influenced by various factors depending on the situation of the market. Ahmad (2017) [1] analyzed the factors influencing the behaviour of investor in financial markets of Pakistan and found that corporate earnings was the most impactful factor followed by dividend paid, marketability of the stock, condition of financial statements, expected dividend, existing economic conditions, past performance of stocks of the firms, recommendations of brokers and status of firm in industry. The factors which had least influence were religious reasons followed by affiliation to political party, environmental factors, firm's perceived ethics and opinion of family member. Samal and Mohapatra (2017) [12] studied the factors influencing investment decisions in Indian Capital Market in Oddissa. The findings showed that the most significant factors which influenced the decision-making process were organization efficacy, past performance of company stock, insider information, loyalty of company, recommendations of financial advisor and analyst and rumors etc. The least influencing factors were the lower level of risk in stock, level of publicity, religious reasons, expected losses from other investment and best opportunity for speculation etc. Dewan *et al.* (2019) [5] identified the factors influencing the investment behaviour of individual investor. The main factors which influenced individual investor behaviour were related to market, investment and company. The results revealed that many personal factors viz. knowledge level, pattern of saving, financial goals, pattern of consumption, influence of peer group, risk perception and unutilized funds with investors influenced the investment behaviour of investors.

**Objectives**

- To study the factors affecting retail investors' behaviour towards equity derivative market.

**Research Methodology**

For the present study, the data has been collected from National Capital Territory, Delhi, which is the universe of the study. Delhi is divided into 4 zones- East, West, North, South. From these zones, purposive sampling technique was used to collect the data. Data has been collected from 500 respondents. Demographics pertaining to age, gender, educational qualification, marital status, occupation, and income have been considered while collecting the data.

**Findings**

Retail investor behaviour for equity derivatives refers to the actions and decisions of the individual investors when dealing with financial instruments known as equity derivatives. There are various factors which influence the retail investors' behaviour while dealing in equity derivatives. Factors which influence the retail investors' behaviour towards equity derivatives are given below:

**Table 1: KMO and Bartlett's Test**

KMO and Bartlett's Test		
<b>KMO Measure of Sampling Adequacy</b>		.842
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	9241.252
	Df	325
	Sig.	.000
<b>Number of Items</b>	26	

KMO test assesses the sampling adequacy for factor analysis. KMO test is used to find out whether the collected data is adequate for Factor Analysis or not for this study. The value of KMO ranges from 0 to 1. The value of KMO which is near to 1 indicates that data is highly suitable for Factor Analysis and the value 0.5 to be considered as minimum. The table 1 shows that the value of KMO is 0.842. It depicts that data is adequate for Factor Analysis to further process. Bartlett's test is accepted where significance value is less than 0.05 (Tobias and Carlson, 1969). The Bartlett's test is significant as the p-value is significant (0.000), therefore the Factor Analysis can be used as a tool for analysis of data.

**Table 2: Eigen Value with Cumulative Percentage of Variance**

Factors	Eigen Value	% of Variance	Cumulative % of Variance
1	5.586	21.486	21.486
2	3.386	13.025	34.511
3	2.893	11.127	45.638
4	2.735	10.517	56.155
5	2.219	8.535	64.690
6	2.043	7.857	72.547
7	1.652	6.355	78.902

Data analysis has been done by using Principal Component Method. Varimax rotation method of Factor Analysis was used to rotate the Component matrix. Seven factors have been extracted from 26 variables. The highest factor loading has been selected from values given in rows of each variable though factor loading of 0.50 is significant (Quazi & O'brien, 2000). Factor extraction was stopped at a point where Eigen value came to 1. A total variance of 78.902 percent recorded for these seven factors.

**Table 3: Unrotated Component Matrix**

Unrotated Component Matrix							
Variables	Components/ Factors						
	1	2	3	4	5	6	7
1	.489	.122	-.324	-.366	.264	.270	-.475
2	.492	.143	-.371	-.366	.206	.290	-.483
3	.479	.161	-.413	-.377	.233	.252	-.404
4	.158	-.385	.454	.238	.484	.125	-.063
5	.157	-.402	.361	.263	.508	.083	-.054
6	.234	-.345	.455	.168	.542	.013	-.049
7	.233	-.414	.308	.224	.541	.032	-.069
8	.461	-.045	-.134	-.124	.161	-.752	-.022
9	.522	.060	-.121	-.142	.134	-.701	-.007
10	.499	.010	-.128	-.100	.145	-.746	-.045
11	.569	-.163	-.377	.577	-.162	.075	.051
12	.603	-.174	-.351	.555	-.208	.054	-.041
13	.606	-.160	-.311	.589	-.180	.084	.004
14	.588	-.198	-.275	.572	-.224	.091	-.037
15	.573	-.380	.372	-.304	-.368	.050	-.004
16	.546	-.414	.396	-.338	-.361	.067	.002
17	.566	-.323	.327	-.367	-.364	.091	.007
18	.543	-.357	.384	-.326	-.393	.046	-.014
19	.426	.187	-.210	-.148	.292	.236	.506
20	.470	.140	-.098	-.195	.228	.265	.470
21	.448	.080	-.175	-.240	.179	.111	.540
22	.372	.115	-.158	-.234	.171	.068	.473
23	.404	.704	.420	.169	-.017	.018	-.071
24	.407	.678	.431	.219	-.058	.002	-.014
25	.387	.710	.395	.150	-.030	.020	-.071
26	.351	.718	.422	.202	-.043	.027	-.078

**Extraction Method:** Principal Component Analysis.

**Table 4: Rotated Component Matrix**

Rotated Component Matrix							
Variables	Components/ Factors						
	1	2	3	4	5	6	7
1					.906		
2					.923		
3					.886		
4				.820			
5				.802			
6				.827			
7				.805			
8						.902	
9						.873	
10						.904	
11		.913					
12		.918					
13		.919					
14		.905					
15			.898				
16			.921				
17			.879				
18			.900				
19							.798
20							.758
21							.770
22							.677
23	.925						
24	.919						

25	.908						
26	.929						

**Extraction Method:** Principal Component Analysis.

Seven factors have been extracted after using Factor Analysis. These are market information, hedging, recommendation of brokers, high expectations of returns, past performance, risk-seeking capacity, Behavioral bias. These are explained in detail as under:

**Factor 1: Market information**

Sr. No.	Variables ( $\alpha=0.944$ )	Factor Loading
1	Market information is important for my stock investment	.929
2	I rely on updates of economic indicators to invest in derivatives	.925
3	I consider financial news and reports of media while investing in derivatives	.919
4	My trading decision is based on publicly available Information	.908

There are four variables loaded on the first factor. The basic structure of this factor states that market information plays a significant role in influencing the retail investors behaviour while investing in equity derivatives. Market information is important for retail investors for making investment in derivatives. Knowledge of the stock market also helps the investors to take maximum return from the investment made by them. Retail investors considered the financial news and various reports of media before investing in equity derivatives. They also rely on updates of economic indicators for investing in equity derivatives.

**Factor 2: Hedging**

Sr. No.	Variables ( $\alpha=0.945$ )	Factor Loading
1	Equity derivatives is an important hedging tool	.919
2	Less fund requirement is the factor that leads me to trade in derivatives products	.918
3	Limited margin is required to carry forward	.913
4	I believe that hedging is helpful to stabilize returns in uncertain market conditions	.905

All the variables loaded on factor-2 are having positive factor loading. This factor clearly demonstrates that hedging has significant impact on mentality of retail investors. Hedging is an important tool which attracts the investors towards equity derivatives market. Retail investors use hedging as a tool of risk management. Retail investors invest more funds in equity derivatives with the perception that derivative is a tool to mitigate potential losses. It is also observed that limited margin is required to carry forward also influences the behaviour of retail investors while they trade in equity derivative. Less fund requirement is the motivating factor which leads the retail investors to invest in equity derivatives.

**Factor 3: Recommendation of brokers**

Sr. No.	Variables ( $\alpha=0.934$ )	Factor Loading
1	I rely on the advice given by my broker as compared to my own analysis of market	.921
2	Improved broker services motivated me to trade	.900
3	I use the opinion of reference group	.898
4	My trading decision is based on the recommendation of brokers	.879

Factor-3 consists of four variables with high positive loading. It is inferred that the recommendations of brokers significantly influence the behavior of retail investors while investing in equity derivatives. Investors make investment in equity derivatives on the basis of recommendations of brokers. Positive recommendations given by brokerage firms often attract investors to invest in particular derivative products. Better services of brokers also influence the retail investors behaviour towards equity derivatives market. Investors are found to be attracted to brokers who are offering better services viz. real time market data, educational resources, advanced trading platforms and responsive customer support. Better and improved services by brokers provide a more user-friendly and efficient trading experience to retail investors. Retail investors are found to be more confident and empowered with improved services of brokerage firms, leading to increased participation in equity derivative market. Opinions from the experts and peer group significantly influence the retail investors behaviour in equity derivatives market. It gives confidence to investors and encourages them to invest more in derivatives.

**Factor 4: High Expectation of Returns**

Sr. No.	Variables ( $\alpha=0.835$ )	Factor Loading
1	I often observe positions of derivatives closely for increasing return potential	.827
2	I trade in equity derivative market because of higher returns expectation	.820
3	I use complex strategies of derivative to maximize returns	.805
4	I consider derivatives not for hedging but also for making more profit	.802

The fourth factor has been named as ‘high expectations of return’. High expectation of retail investors for returns motivates them to participate actively in equity derivative investments. The possibility of higher returns on investment attracts the investors seeking to increase their portfolio performance. Equity derivatives market is volatile in nature, so this high expectation may cause some risk. Frequent innovation in derivatives market also influences retail investors behaviour by offering new opportunities and

challenges. It is required for retail investors to consider these innovations for achieving higher returns. The influence of frequent innovations on the behaviour of the retail investors depends on risk tolerance and adaptability of retail investors. Retail investors use complex strategies of equity derivatives to increase their returns and to take maximum advantages of frequent innovation in the equity derivatives market.

**Factor 5: Past Performance**

Sr. No.	Variables ( $\alpha=0.921$ )	Factor Loading
1	I consider past trends of stocks for my investment	.923
2	I use my past investment performance as an indicator of future performance and rely on this to make investment decisions	.906
3	I consider the financial position of the company while investing in equity derivatives	.886

Factor-5 includes three variables with high positive loading. The past performance of an investment significantly influences the retail investors behaviors towards equity derivative market. Past performance of an investment plays an important role in shaping investor sentiment and risk perception. Positive past performance motivates investors to invest in derivatives and take it as an opportunity for more returns. Investors were more cautious when an investment shows poor performance. Retail investors have greater confidence in the companies having strong financial resources. Equity derivatives of the companies become more attractive with the confidence of retail investors. Moreover, companies which are financially sound can invest in growth opportunities, enhance their future prospects and attract the retail investors.

**Factor 6: Risk-seeking Capacity**

Sr. No.	Variables ( $\alpha=0.903$ )	Factor Loading
1	My trading decision depends on the risk level of the portfolio	.904
2	I consider volatility in the market as opportunity while investing	.902
3	I am willing to take risks when there is a possibility of substantial gain	.873

There are three variables loaded on the sixth factor. This factor depicts that risk-seeking ability influences the retail investors behaviour towards equity derivative market. Retail investors who have higher risk-seeking ability invest more funds in equity derivatives. Retail investors with high risk-seeking capacity have potential for higher returns in derivatives. Risk-averse investors are more careful and less willing to invest in equity derivatives. Risk-averse investors invest in those options which are more stable and traditional in order to avoid potential losses causes with the volatility of derivatives market. Risk-averse investors use derivatives for hedging purpose for protecting their investment against adverse market changes.

**Factor 7: Behavioral Bias**

Sr. No.	Variables ( $\alpha=0.771$ )	Factor Loading
1	I believe that my predictions about market are more correct as compared to others investors	.798
2	I become risk averse when faced with sure gain	.770
3	I believe that my skills and knowledge of the stock market can help me to outperform in the market	.758
4	I become a risk seeker when faced with sure loss	.677

Four variables with positive loading have been loaded on seventh factor. This factor demonstrates that Behavioral bias influences the retail investor behavior while investing in equity derivatives. In Behavioral bias, retail investors overestimate their abilities and knowledge with regard to equity derivatives. In the context of equity derivatives, this often leads retail investors to believe they can accurately predict short-term price movements or market trends, resulting in excessive trading activity. They may frequently engage in complex derivative strategies, such as writing options or trading futures, without fully understanding the associated risks. The leveraged nature of derivatives magnifies both gains and losses, and overconfident investors often take on disproportionately large positions, assuming they can control or predict market outcomes.

**Discussion**

The results of Factor Analysis reveal that seven factors have been extracted which influence the retail investors' behaviour towards equity derivatives. These seven factors include market information, hedging, recommendation of brokers, high expectation of returns, past performance, risk-seeking capacity and behavioral bias.

The above findings of the present study get support from the earlier researches. Hon (2012)<sup>[6]</sup> found that five factors such as personal background, reference group, return performance, risk tolerance and cognitive style were considered as key factors which influence the behaviour of small investors in derivative market. Sudalai and Vijayalakshmi (2014)<sup>[13]</sup> identified factors influencing individual investors while investing in equity derivative instrument. Hedging, diversified portfolio, leveraging of capital, timing of the market, high speculative profits, arbitrage facility, carry forward facility, reduced risk in option were considered the important factors influencing individual investors decision. Jagongo and Mutswenje (2014)<sup>[7]</sup> found that firm's position and performance, investments returns and economic conditions, third party opinion, diversification and loss minimization, the goodwill of the firm and accounting information, environmental factors, perception towards firms, firm's feeling and risk minimization found to be the main factors influencing the investment decision of investors. Manrai (2015)<sup>[8]</sup> found that derivative market offers more return, with the hedging of interest rate risk and exchange rate risk with maximum profits and minimum loss. Nair *et al.* (2015) found that major factors affecting the investment decision of retail investors were high return, price and capital appreciation. Aruna and Raja shekar (2016)<sup>[3]</sup> revealed that investors were prone to take risk while making decisions. Investor's behavior depends on the availability of market information to them. Ahmad (2017)<sup>[1]</sup> found that the most influencing

factors were expected corporate earnings followed by dividend paid, stock marketability, condition of financial statements, expected dividend, current economic indicators, past performance of the firms' stock, broker recommendations, firm status in industry and get rich quick. Samal and Mohapatra (2017) <sup>[12]</sup> found that most significant factors which influenced the decision-making process were organization efficacy, past performance of company stock, insider information, loyalty of company, recommendations of financial advisor. Dewan *et al.* (2019) <sup>[5]</sup> identified that the main factors which influenced individual investor behaviour were investors related factors, market related factors, and investment related factors and company specific problems. The results revealed that investment behaviour of the individual investors affected by their personal factors such as level of knowledge or skill, saving pattern, consumption pattern, financial goals, influence of friends and relatives, risk perception and the unused amount of funds with the investors.

### Conclusion

The study of retail investors' behaviour towards equity derivatives is important for financial markets, companies, market participants, and policymakers. Retail investors make a substantial segment of market participants. The engagement of retail investors with equity derivatives has a significant impact on market efficiency and liquidity. Retail investors' behaviour is affected by many factors. The study showed that market information, hedging, recommendation of brokers, high expectation of returns, past performance, risk-seeking capacity and behavioral bias are the main factors having impact on retail investors' behaviour towards equity derivatives. Companies should find it useful to understand how these factors influence the retail investors' behaviour in the derivatives market.

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