Indian Stock Market - Hedging of "Index Future" is a Boon or Bane

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I - INTRODUCTION:

Investment on securities such as shares, debentures, bonds are profitable as well as exciting. It is indeed rewarding but involves a great deal of risk. It is acknowledged to be one of the most risky avenues for investment. Risk reduction is significant for the investor as it is directly related to the return of the investments. Some of the risk management technologies that can be used in the capital market now days are: Risk Avoidance, Combination, Diversification, Risk Transfer, Portfolio Investment, and Hedging. The most important use of derivatives is in transferring market risk, called hedging, which a protection against losses is resulting from unforeseen price or volatility changes. Thus derivatives are a very important tool of risk management. The use of this technique of management is not known to many of the players in the market today. For instance, investment in future options came into existence in order to reduce risks. However, even these instruments are used for speculative purposes because of the leverage it gives. The study tries to understand how derivatives (index futures) are used for hedging or risk in portfolio of shares. Therefore, the study is conducted to analyze how to reduce the risk in the financial instrument by using index futures, which is a subset of the larger concept of derivatives.

SCOPE OF THE STUDY:

The scope of the study is limited to the Indian stock market and Indian derivatives market. The recommendations in the study are only subject to Indian capital market situations.

The study aimed to analyze how the investor can reduce his investment risk by the effective use of derivatives. The hedging in the future market will help to reduce the risk. The study is restricted to index futures.

II - THEORETICAL INPUT TO THE STUDY- DERIVATIVES

DERIVATIVES –DEFENITION:

The term Derivative means forward, future, option or any other hybrid contract of pre determined fixed duration, linked for the purpose of contract fulfillment to the value of a specified real or financial asset or to an index of securities. The Securities Contract (Regulation) Act 1956 defines derivatives as under:

"Derivative" includes-

- "A security derived from a debt instrument, share, loan weather secured or unsecured, risk instrument or contract for differences or any other form of security"
- "A contract which derives its value from the prices, or index of prices of underlying securities"

PRODUCTS, PARTICIPANTS AND FUNCTIONS:

Derivative contracts have several variants. The most common variants available are forward contract, future, option and swaps. There are three board categories of participants, hedgers, speculators and arbitrageur's trade in the derivative market. Hedger face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate the risk. Speculators buy and sell derivatives simply to make profit, not to reduce risk. In a market without these risk takers, it would be difficult; if not impossible for hedgers to agree on a price because the sellers (or short hedgers) want the lowest possible prices.

Apart from hedgers and speculators, there is a third category of traders known as arbitrageurs. They also ensure that the markets are liquid and the pricing is accurate and enhance price stability. Arbitrage involves making profits from the difference in price prevailing in two markets. The derivative market performs a number of economic

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functions, first price of underlying of the perceived future level. The prices of derivatives help in the discovery of future as well as current prices. Second, the derivatives market helps to transfer risk from those who have them but may not like them to those who have an appetite for them. Third, derivatives, due to their inherent nature are linked to the underlying cash market with the introduction of derivatives, the underlying market witnesses higher trading volume because of participation by more players who would not otherwise participate for lack of an arrangement to transfer risk. Fourth, speculative traders shift to a more control environment of derivative market.

Fifth, an important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright well-educated people with an entrepreneurial attitude. They often energize others to create a new business, new product and new employment opportunities, the benefits of which are immense. Finally derivative market helps increase savings and investments in the long run. Transfer of risk enables market participants to expand this volume of activities.

INTRODUCTION TO FUTURES:

Futures markets were designed to solve the problems that exist in forward markets. A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. But unlike forward contracts, the futures contracts are standardized and exchange traded. To facilitate liquidity in the futures contracts, the exchange specifies certain standard features of the contract. It is a standardized contract with standard underlying instrument, a standard quantity and quality of the underlying instrument that can be delivered, (or which can be used for reference purposes in settlement) and a standard timing of such settlement. A futures contract may be offset prior to maturity by entering into an equal and opposite transaction. More than 99% of futures transactions are offset this way.

Future Contracts:

A futures contract is one where there is an agreement between two parties to exchange any asset, currency, or commodity for cash at a certain future date, at an agreed price. There is no reference to an agreement 'between two parties' - this because futures contracts are often entered into through an intermediary (the exchange and seller to clearing house), which acts as the buyer to each seller and seller to each buyer.

A futures contract is a standardized, transferable, exchange-traded contract requires delivery of a commodity, bond, currency, or stock index, at a specified price, on a specified future date. Unlike options, futures contracts convey an obligation to buy. The risk to the holder is unlimited. Because the payoff pattern is symmetrical, the risk to the seller is unlimited as well. Money lost and gained by each party on a future contract is equal and opposite. In the other words, a future trading is a zero-sum proposition.

The Securities & Exchange Board of India (SEBI) regulates trading in futures. SEBI exists to guard against traders controlling the market in an illegal or unethical manner, and to prevent fraud in the futures market.

ADVANTAGES OF FUTURES TRADING IN INDIA:

There are many inherent advantages of trading futures over other investment alternatives such as savings accounts, stocks, bonds, options, real estates and collectibles.

High Leverage, Profit in Bear and Bull Markets, Lower Transaction Cost, High Liquidity

USES OF FUTURES:

Futures contracts are useful for the following purposes: Risk management, Portfolio allocation, Hedging facility, Reducing the equity exposure in a mutual fund scheme, Investing the funds based by new schemes, Partial liquidation of portfolio in case of open-ended funds, Preserving the value of portfolio during times of market stress.

HEDGING USING INDEX FUTURES:

Investors studying the market often come across a security, which they believe is intrinsically undervalued. It may be the case that the profits and the quality of the company make it seem worth a lot more than the market think. A stock picker carefully purchases securities based on a sense that they are worth more than the market price. When doing so, he faces two kinds of risks:

1. His understanding can be wrong, and the company is really not worth more than the market price, or
2. The entire market moves against him and generates losses even though the underlying idea was correct.

So in order to protect the value of his investment, the investor needs to reduce his exposure to one or more kinds of risks. This can be achieved by hedging. So hedging is defined as a position taken in futures, options or other contracts for the purpose of reducing exposure to one or more kinds of risk.

Hedging Through Index Futures:

A month after their launch in Indian markets, index futures have not taken off the ground yet. One obvious reason for the dull is the lack of awareness among investors. Another reason is the complicated and deviant procedure of margining and mark-to market methods adopted by the exchanges. Let us, therefore, focus on the application of index futures and examine the opportunities being unfolded. Like individual stocks, index futures can be used for investment and trading. Unlike stocks, index futures can be used for arbitrage and hedging too. Stock index futures can be used to hedge the risk in a well- diversified portfolio of stocks. Here the strategy employed is "Have Portfolio Short Nifty", it is explained as follows: When one owns a portfolio of shares and there are chances that market will fall in the near future, it could be a very uncomfortable feeling. Or it could be that the market is in a few days of volatility and the investor is not the kind who can handle such anxiousness. The union budget being a common and reliable source of such volatility, market volatility is always enhanced for one week before or two weeks after a budget. This is particularly a problem if it is required to sell shares in the near future, for example, for buying a car or financing children's education. This planning can go wrong if, by the time the shares are sold, Nifty has dropped sharply. There are traditionally two things that one can try in such situations.

1. Sell shares immediately. The sentiment generates panic selling which is rarely optimal for the investor.
2. Do nothing; i.e. suffer the pain of the volatility. This leads to political pressures for government to do so something when stock prices fall. Now with index futures there is a third and remarkable alternative for those who are not satisfied with the above two alternatives.

Remove the exposure to index fluctuations temporarily using index futures. This allows rapid response to market conditions, without panic selling of shares. It allows an investor to be in total control of his risk, instead of doing nothing and suffering the risk. The idea here is quite simple. Each portfolio contains a hidden index exposure. This statement is true for all portfolios, whether a portfolio is composed of index stocks or not. In the case of portfolios, most of the portfolio risk is accounted for by index fluctuations (unlike individual stocks, where only 30-60% of the stock risk is accounted for by index fluctuations).

Hedge Ratio:

Hedge ratio is referred to the number of futures contracts required to be sold or bought, that provide maximum offset of risk of a given value of investment in shares or other goods. This depends on the following:

- Value of a future contract
- Value of the portfolio or stocks to be hedged and
- Sensitivity of the movement of the portfolio price to that of the index (beta)

It is calculated by using the following formula.

Hedge ratio = Portfolio value * Portfolio beta /index

The hedge ratio is closely related to the correlation between the asset (portfolio of shares) to be hedged and underlying (index) from which the future is derived.

BETA

Risk is an important consideration in holding any portfolio. The risk in holding securities is generally associated with the possibility that realized returns will be less than the returns expected. Risks can be classified as Systematic risks and Unsystematic risks.

Unsystematic risks:

These are risks that are unique to a firm or industry. Factors such as management capability, consumer preferences, labour, etc. contribute to unsystematic risks. Unsystematic risks are controllable by nature and can be considerably reduced by sufficiently diversifying one's portfolio.

Systematic risks:

These are risks associated with the economic, political, sociological and other macro-level changes. They affect the entire market as a whole and cannot be controlled or eliminated merely by diversifying one's portfolio.

What is Beta?

The degree, to which different portfolios are affected by these systematic risks as compared to the effect on the market as a whole, is different and is measured by Beta. To put it differently, the systematic risks of various securities differ due to their relationships with the market. The Beta factor describes the movement in a stock's or a portfolio's returns in relation to that of the market return. For all practical purposes, the market returns are measured by the returns on the index (Nifty, Mid-cap etc.), since the index is a good reflector of the market.

Methodology / Formula

Beta is calculated as:

$$\beta = \frac{Cov\,(X, Y)}{Var\,(X)}$$

where,

Y is the returns on your portfolio or stock - DEPENDENT VARIABLE

X is the market returns or index - INDEPENDENT VARIABLE

Variance is the square of standard deviation.

Covariance is a statistic that measures how two variables co-vary, and is given by:

$$Cov(x,y) = [1/(N-1)] \sum_{t=1}^{N} [x_t - \bar{x}][y_t - \bar{y}]$$

Where, N denotes the total number of observations, and $\bar{x}$ and $\bar{y}$ respectively represent the arithmetic averages of x and y.

In order to calculate the beta of a portfolio, multiply the weightage of each stock in the portfolio with its beta value to arrive at the weighted average beta of the portfolio.

Standard Deviation

Standard Deviation is a statistical tool, which measures the variability of returns from the expected value, or volatility. It is denoted by sigma(s). It is calculated using the formula mentioned below:

$$\sigma = \sqrt{[\{1/(N-1)\} \sum (x_i - \bar{x})^2]} \quad over\ i = 1\ to\ N$$

Where, $\bar{x}$ is the sample mean, xi's are the observations (returns), and N is the total number of observations or the sample size.

III - METHODOLOGY OF DATA COLLECTION

The data is collected in the form of primary data and secondary data. The primary data was collected by inside discussion with the concerned authority in the stock exchanges and also observed the trading methods. This is an exploratory study. In addition, secondary data was collected from published reports, annual company reports, library books and from the websites of NSE and various other websites. The data used for the study is of historical or secondary nature. Selection of companies among those listed on the S&P CNX Nifty.

Area of the study- Index futures:

Even after hedging, the value of the selected portfolio is found to have depreciated from Rs.1241160 as on 1st Feb to Rs.1123590 on 28th Feb 07.Though the value of the selected portfolio is found to be increased from1st Feb to 9th Feb, then it is slowly getting reduced. Every investor in the financial area is affected by index fluctuations. Hence risk management using index-based derivatives is of great importance. Also portfolio risk is dominated by the market risk, regardless of the composition of portfolio. Index futures and index options were the first derivatives to be introduced in India. These are basically derivative tools based on stock index. They are considered to be the real risk management tools. Since the derivatives are permitted legally, one can use them to insulate its equity portfolio against the vagaries of the market.

Sample Design/ Portfolio build up:

For the purpose of the study, a portfolio has been built comprising of five shares selected from different industries. Five major industries in today's scenario were identified and a company selected randomly from each industry. The month taken for the study is February.

Selected industries and companies for this study are as follows:

POI'TFOLIO BUILD UP

·AU' OMOBILE	MARUTI
BANKING	ICICI
IT	SATYAM
DRUGS	RANBAXY
STEEL	TATA STEEL

Sample size:

Data regarding share market during the month of February is taken. The value of stock and index are taken. All valid information regarding stock during the month of February is considered.

Tools Used:

After the collection of the relevant data with respect to the period, 1st February 2007 to 28th February 2007, the data was tabulated in a meaningful manner. Calculation of portfolio value and the appreciation or depreciation of portfolio for the above said period was done manually. Profit/loss for the hedge period were calculated and tabulated. Finally the net profit/loss arising out of both hedged and unhedged position was calculated and comparison was done graphically.

IV - ANALYSIS OF PORTFOLIO WITHOUT HEDGING:

An attempt is made in this analysis that whether an investor having a portfolio of his choice, can minimize risk and uncertainty in returns or getting returns or his portfolio appreciation. An investor will always seek to minimize the risk and uncertainty in his investment in the stock market. Suppose an investor makes an investment of Rs.12 lakhs, he chooses portfolio of say 5 different companies representing different industries and decides to divide his total investment of Rs.12 lakhs in to Rs.2.4 lakhs of investment in each company. The investor goes to market and buys shares of each company at the prevailing prices. The number of shares that he buys is determined by the maximum amount of investment, which he plans to invest in each company. Thus the investor makes a portfolio by investing Rs.12 lakhs in 5 companies.

Now, the issue before the investor is that whether his portfolio will earn the expected return and his portfolio will appreciate over a period of say one month. If stock prices keep increasing, then his portfolio would certainly increase and the investor would gain by selling the portfolio at the end of the one-month. But the stocks market is highly volatile. So the chances of getting his portfolio appreciated are risky as well as uncertain. If the investor wishes to reduce the risk and uncertainty, hedging in the future market is available to him.

Now the question is whether the investor will be better off or worse off by hedging. Whether the hedging will help the investor to reduce the investment risk in a stock market. In short how effective is the hedging in the reduction of risk involved in the investment.

Let us assume that an investor invests Rs.12 lakhs in five companies in five different industries. He makes an investment of Rs.2lakhs approximately in each company. The details of the created portfolio are given in the **table – I.** The portfolio is assumed to be kept for a period say one month. Now, the issue before the investor is whether his portfolio would appreciate or not. If his portfolio is not likely to appreciate over a period one month, can he minimize the risk and uncertainty by hedging in the future market? If the investor opts for hedging, then after one month, whether the investor will be better off or worse off? That is to know whether the investor will gain more without hedging or with hedging. The beta value (â) for five companies of the portfolio between the period 1st Feb 2007 to 28 Feb 2007 are given in the below **table – II.** It is theoretically understood that higher the beta value, higher will be the risk and vise-versa.

ANALYSIS OF GAIN / LOSS WITHOUT HEDGING:

Based on the daily movement of share price, the value of the portfolio changes from day to day, depending up on the movement of the share prices of these 5 companies, the total value of the portfolio will be changing accordingly. This can be shown in the following **table III.**

Column 6 in the Table 3 shows the value of the portfolio on each day. The value of the portfolio keeps changing according to the movements of share prices of selected 5 companies of the portfolio. Column 7 captures the net gain or loss of the portfolio then compared to the initial day of the purchase of the portfolio of the 19 days of the share price movements from 1st Feb 07 to 28th Feb 07, the value of the portfolio keeps on gaining appreciation till 9th Feb 07 and thereafter the value of the portfolio starts fluctuating. In fact, of the 19 days of the share price movements during the period of keeping the portfolio, viz., one month, the first 7 days the portfolio stands to have gained. There after the value of portfolio incurred a net depreciation. During the last day the investor's portfolio is Rs.10, 62,970.8 leading to a net depreciation of Rs.1, 36,904. Thus, the loss, which is called as risk in equity investment. Suppose, the investor expected this loss, well in advance, the investor would have gone for hedging the portfolio on the very first day of investment using the Nifty future market. Hedging would have minimized the loss or the portfolio might not have been allowed to depreciate. It is in this context, an attempt is made to calculate the value of the portfolio with hedging using one-month future market.

ANALYSIS OF PORTFOLIO WITH HEDGING: table -IV

Portfolio value= 1199875.55

Portfolio beta= 1.06

Value of index that date= 4137.2

Hedge ratio = Portfolio value * Portfolio beta /index

=1199875.55*1.06/4137.2

=307.42

Permitted lot size = 100

No. of S&P CNX Nifty lots to be hedged = 307.42/100 = 3.07 rounded to 3 lots.

The amount to be hedged = 4137.2 *3 *100

= 1241160

Like, the above calculations for the remaining days are also calculated to find out the portfolio value and the amount to be hedged.

On the basis of the above calculation the appreciation / depreciation of portfolio after hedging was prepared in the following **table – V.**

Even after hedging, the value of the selected portfolio is found to have depreciated from Rs.1241160 as on 1st Feb to Rs.1123590 on 28th Feb 07.Though the value of the selected portfolio was found to have increased from1st Feb to 9th Feb, then it is slowly getting reduced.

The above table shows the comparison of appreciation/ depreciation before and after hedging. A loss of Rs.136904.8 has occurred before hedging and a loss of Rs.117570 has occurred after hedging. So the investor could minimize his loss from Rs.136904.8 to Rs.117570, gained a net earning of Rs.19334.75, which is showed in the column no 7 of the above table.

CALCULATION & INTERPRETATION AS ON FEBRUARY 2007

Effect of hedging

As on 1-February-07

Portfolio value= 1199875.55

Hedged amount= 1241160

On 1st February, investor shorts index futures for an amount equal to Rs.1241160 anticipating a fall in the market.

As on 28-February-07

Portfolio value= 1062970.8, Hedged amount= 1123590

Result

Loss from the portfolio = 1199875.55-1062970.8

= Rs. 136904.8

TABLE - I : Details of Assumed Portfolio

Selected Industries	Selected Companies	Share Price as on 01/02/07	No. of shares Purchased	Amount of Investment made
AUTOMOBILE	MARUTI	940.25	255	239763.75
BANKING	ICICI	952.55	252	240042.6
IT	SATYAM	473.9	506	239793.4
DRUGS	RANBAXY	411.2	584	240140.8
STEEL	TATA STEEL	457.4	525	240135
			Total Investment	1199875.55

TABLE - II Beta value of Portfolio

Name of the Company	Beta Value (β)
MARUTI	1.17
ICICI	0.89
SATYAM	1.04
RANBAXY	0.79
TATA STEEL	1.41

TABLE – III shows the share value and Portfolio appreciation/ depreciation from 1 Feb 2007 to 28 Feb 2007

Date	Scrip Code	Spot Price	No. of Shares	Value of Investment	Total value of Investment	Profit/ Loss
01/02/07	Maruti	940.25	255	239763.75		
	ICICI	952.55	252	240042.6		
	Satyam	473.9	506	239793.4		
	Ranbaxy	411.2	584	240140.8		
	TATA Steel	457.4	525	240135	1199875.55	-

*Like the above calculation the other dates were also calculated.

TABLE – IV Calculation of Portfolio value, Portfolio Beta value, Hedged amount As on 1 Feb 2007.

Scrip Name	Beta	Price	No. of Shares	Value	Weight-age	Portfolio Beta
MARUTI	1.17	940.25	255	239763.75	0.199	0.23
ICICI BANK	0.89	952.55	252	240042.6	0.200	0.18
SATYAM	1.04	473.9	506	239793.4	0.199	0.21
RANBAXY	0.79	411.2	584	240140.8	0.200	0.16
TATA STEEL	1.41	457.4	525	240135	0.200	0.28
TOTAL				1199875.55		1.06

On this date investor has to buy back the nifty index shorted on 1st February

The loss from the nifty index shorts = 1241160-1123590

= Rs. 117570

Gain in loss = loss from portfolio- loss from the nifty index shorts

= 136904.8-117570 = Rs.19, 334.75

The following **table VI** gives the idea of effect of hedging

Gain in loss = 136904.8-117570

= Rs.19, 334.75

The value of the portfolio without hedging is given in the above table, by looking at the value of appreciation/ depreciation between 1st February 2007 to 28th February 2007, the value of the portfolio got depreciated leading to a loss of Rs.136904.8. By hedging the value of the portfolio, the value is seen to have depreciated leading to a loss of Rs.117570. The point of analysis tells us that if the investor had gone for hedging on 1st February 2007 using nifty future index, the investor could have minimized the loss from Rs.136904.8 to Rs.117570 leading to a saving of loss by Rs.19, 334.75.

TABLE - V Movement of Profit & Loss before and after Hedging

Date	Total PF Amount	Profit/ Loss	Future Index	Hedged Amount	Hedged appreciation/ depreciation	Total appreciation/ depreciation
1 Feb07	1199875.55	-	4137.2	1241160	-	-
2 Feb07	1211782.2	11906.65	4183.5	1255050	13890	1983.35
5 Feb07	1221046.35	21170.8	4215.35	1264605	23445	2274.2
6 Feb07	1221928.9	22053.35	4195.9	1258770	17610	-44610
7 Feb07	1227187.65	27312.1	4224.25	1267275	26115	-1197.1
8 Feb07	1231940.8	32065.25	4223.4	1267020	25860	-6005.25
9 Feb07	1244270.6	11395.05	4187.4	1256220	15060	3664.95
12Feb07	1182398.2	-17477.35	4058.3	1217490	-23670	-6192.65
13Feb07	1168024.85	-31850.7	4044.55	1213365	-27795	4055.7
14Feb07	1157052.2	-42823.35	4047.1	1214130	-27030	15793.35
15Feb07	1174434.2	-25441.35	4146.2	1243860	2700	-22741.4
19Feb07	1185468.35	-14407.2	4164.55	1249365	8205	-6202.2
20Feb07	1177924.6	-21950.95	4106.95	1232085	-9075	12875.95
21Feb07	1169511.55	-30364	4096.2	1228860	-12300	18064
22Feb07	1148379.4	-51496.15	4040	1212000	-29160	22336.15
23Feb07	1126262.35	-73613.2	3938.95	1181685	-59475	14138.2
26Feb07	1136042.8	-63832.75	3942	1182600	-58560	5272.75
27Feb07	1125678.05	-74197.5	3893.9	1168170	-72990	1207.5
28Feb07	1062970.8	-136904.8	3745.3	1123590	-117570	19334.75

TABLE – VI Effect of Hedging

	WITH OUT HEDGING	WITH HEDGING
Value of the portfolio as on 1st Feb 2007	1199875.55	1241160
Value of the portfolio as on 28th Feb 2007	1062970.8	1123590
Net loss/gain	-136904.8	-117570

To avoid the loss or minimize the loss, the investor should be wise enough to predict the down word trends of share prices. But also; an investor may not be wise always! There are many unforeseen and unexpected features that may affect the sentiments of the market.

V - FINDINGS:

The perception of the investor plays a vital role in the risk reduction. The investor can reduce his risk by using index futures. No strategy can assure zero risk. Future strategies can reduce the risk in to minimum level. 100% hedging is impossible because of lot size. It will lead to over or under hedging. The time period while applying the strategies has an important role in determining the effectiveness. Aggressive risk management is made available through the use of effective hedging. The study found that hedging provides a safe position on the underlying asset. The loss gets shined to the counter party. The hedging provides a positive and safe position to the hedger. Sometimes the market may perform against the expectation and this can trigger losses. So the hedger should be careful while implementing his strategy. Hedging helps to minimize the risk. The hedging helps the investor to reduce his loss from Rs.136904.8 to Rs.117570 leading to a net gain of Rs.19334.75

SUGGESTIONS:

On the basis of the analysis done and findings reached the following suggestions are given to existing and prospective investors: -

1. If one wants to hedge with portfolio, the portfolio must consist of scrip's from different sectors and here index futures are a better tool for hedging, since they are convenient and represent the true nature of the security market as a whole. The advantage is that the risk within the portfolio can be minimized completely and the portfolio will only be affected by the market risk.
2. Hedging is actually a tool to reduce the losses that may arise from the market risk. Its primary objective is to lessen minimization, not profit maximization. The profit from futures or shares will be offset from the losses of

the shares and futures as the case may be. In this case, however it was possible to come up with a huge profit only because of the fluctuations in the Nifty value during the initial period.

3. The hedger will have to be a strategic thinker and also one who thinks positively. He should be able to comprehend market trends and fluctuations. Otherwise the strategies adopted by him will earn him only losses.

VI - CONCLUSION:

This study focusing on financial futures, tries to throw some light on derivative market in general and hedging characteristics of derivatives in particular. Sufficient care has been taken so as to provide real market situations and arrive at a conclusion in a fool proof manner. But still some aspects, which existed in the real market, could not be taken care due to some technical problems. Adequate effort has been taken to minimize any discrepancy caused by such problems on findings. This study helps to give a general idea about derivative market especially in futures.

The investor who has invested in stock market always seeks to reduce his risk and to enhance his profit. The study can be concluded in the way that-

The investor should have basic knowledge about the factors, which have impact on the stock market. This will make him to perceive the movements of the market in a better way.

A wise use of index futures will reduce the risk and sometimes it will generate profit also. The application of each of the strategy should be based on the needs of the investor and the amount of risk he is ready to take. When the market moves as against the perception of the investor, he can reduce his expenses by taking appropriate measures.

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