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Research Paper

HEDGING TECHNIQUES IN INDIAN STOCK MARKET AT HDFC SECURITIES LTD

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ABSTRACT

The project titled on "HEDGING STRATEGIES USING STOCK DERIVATIVES WITH REFERENCE TO HDFC SECURITIES LTD". Generally Speaking in India Derivative contracts have not been majorly focused by investors, because of certain myths in the minds of people. Therefore Derivative Investment is not taken largely as on investment option by Individual investors.

Many authors stated that derivative market is the marketplace in which traders come to exchange risks. In worldwide economy with divergent hazard exposures, derivatives permit businesses and traders to defend themselves from rapid price fluctuations and negative events.

The aim of the article is to identify the major risk and hedging strategy in derivative market. In Derivative Contracts as a high risk that are Market risk, Liquidity risk, Credit risk, Counterparty risk, Legal risk and Transaction Risk. Pricing risk and systematic risk is also very important. Derivative investor must analyze the market and make the decisions while trading this will undergoes the uncertainty. Derivatives plays a major role for minimizing the risk involved in the marking an investment in futures contracts by expecting to get good result. The investors should also invest in options contracts which help to reduce the risk by use of hedging strategy. Hedging strategy is used for reducing the risk and maximization of profits. Though the futures contracts are subjected to high level the loss can be reduced to an extent by using the hedging strategy

INTRODUCTION

A derivative is a financial instrument, whose value depends on other, more basic, underlying variables. Derivative is a product/contract which does not have any value on its own i.e. it derives its value from some underlying. The variables underlying could be prices of traded securities and stock, prices of gold or copper, prices of oranges to even the amount of snow that falls on a ski resort. Derivatives have become increasingly important in the field of finance. Options and futures are traded actively on many exchanges. Forward contracts, swaps, and different types of options are regularly traded outside exchanges by financial Institutions, banks and their corporate clients in what are termed as over-the-Counter markets-in other words; there is no single market place or an organized Exchange. The problem is either investing in futures is profitable or in options.

The real motivation to use derivatives is that they are very useful in reallocating Risk either across time or across individuals with different risk bearing Preferences.

Derivative instruments are basically of two types- traded on the floor of an exchange and OTC or over the counter. Trading instruments on the floor of an exchange entails little counter party risks. Banks, Securities firms, companies and investors to hedge risks, to gain access to cheaper money and to make profit, use derivatives. Derivatives are likely to grow even at faster rate in future.

PARTICIPANTS IN THE DERIVATIVES MARKETS HEDGERS

Hedgers face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate this risk.

SPECULATORS

Speculators wish to bet on future movements in the price of an asset. Futures and options contracts can give them an extra leverage; that is, they can increase e both the potential gains and losses in a speculative market.

ARBITRAGEURS

Arbitrageurs are in business to take of a discrepancy between prices in two different markets, if, for, example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting position in the two markets to lock in a profit.

FUTURES

Future contracts are also agreements between two parties in which the buyer agrees to buy an underlying asset from the other party (the seller). The delivery of the asset occurs at a later time, but the price is determined at the time of purchase.

NEED FOR THE STUDY

- To help in transferring risks from risk averse people to risk oriented people
- To help in the discovery of future as well as current prices
- To increase the volume traded in markets because of participation of risk averse people in greater numbers

SCOPE OF THE STUDY

The study is limited to derivatives with reference to five companies selected for the study and the study is restricted to only futures of the selected companies as sample. The companies taken for the study are Bajaj Finance, South Bank, Tata Consultancy Services (TCS), Bharat Heavy Electricals Limited(BHEL), and Jindal Steel. The study cannot be said as totally perfect, any alteration may come. The study has made a humble attempt at evaluation of derivatives market only in the INDIAN context.

OBJECTIVES OF THE STUDY

- To study about the risk management with the help of derivatives.
- To study about the derivatives with futures contract.
- To get informed with various terminologies in the derivative market.
- To understand payoff patterns of derivatives contracts in real market conditions
- To understand the hedging concepts with respect to future contracts

RESEARCH METHODOLOGY

SELECTION OF THE SCRIPS

The scrip _s is selected on a random basis and from five different sectors. The profitability position of the futures and options is studied. The scripts taken for the study for both futures and options are GMR Infrastructure Ltd, Hindustan Unilever Ltd, Ranbaxy Laboratories Ltd, Reliance Communications Ltd and Tata Motors Ltd.

DATA COLLECTION

The mode of data collection is secondary. The data is collected from the business newspapers and internet.

ANALYSIS

The analysis consist of the tabulation of the data assessing the profitability positions of the futures on hedging ratio holders and sellers, representing the data with graphs and making the interpretation using data.

LIMITATIONS OF THE STUDY

- The study is limited to selected five companies.
- The data is of three months and the analysis is done on weekly basis.
- The data collected is from 02-10-2022 to 28-12-2022, which is the expiry date of the selected samples.

REVIEW OF LITERATURE

DERAVATIVES

Derivative is a product whose value is derived from the value of one or more basic variables, called bases (underlying asset, index, or reference rate), in a contractual manner. The underlying asset can be equity, forex, commodity or any other asset. For example, wheat farmers may wish to sell their harvest at a future date to eliminate the risk of a change in prices by that date. Such a transaction is an example of a derivative. The price of this derivative is driven by the spot price of wheat which is the "underlying".

In the Indian context the Securities Contracts (Regulation) Act, 1956 (SC(R) A) defines "derivative" to include-

1. A security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security.
2. A contract which derives its value from the prices, or index of prices, of underlying securities. Derivatives are securities under the SC(R)A and hence the trading of derivatives is governed by the regulatory framework under the SC(R)

FACTORS DRIVING THE GROWTH OF DERIVATIVES

Over the last three decades, the derivatives market has seen a phenomenal growth. A large variety of derivative contracts have been launched at exchanges across the world. Some of the factors driving the growth of financial derivatives are:

1. Increased volatility in asset prices in financial markets,
2. Increased integration of national financial markets with the international markets,
3. Marked improvement in communication facilities and sharp decline in the costs,
4. Development of more sophisticated risk management tools, providing economic agents a wider choice of risk management strategies, and
5. Innovations in the derivatives markets, which optimally combine the risks and returns over a large number of financial assets leading to higher returns, reduced risk as well as transactions costs as compared to individual financial assets.

DERIVATIVES ARE USEFUL

The key motivation for such key instruments is that they are very useful in reallocating risk either across time or among individuals with different risk bearing preferences.

One kind of passing on of risk is mutual insurance between two parties who face the opposite kind of risk. For e.g., in the context of currency fluctuations exporters face losses if the rupee appreciates and importers face losses if rupee depreciates. By forward contracting in dollar- rupee forward market, they supply insurance to each other and reduce risk. This sort of thing also takes place in speculative position taking the person who thinks the price will go up is long a futures and the person who thinks the prices will go down is short the futures.

INDUSTRY PROFILE

ABOUT STOCK EXCHANGE

A stock exchange, share market or bourse is a corporation or mutual organization which provides facilities for stock brokers and traders, to trade company stocks and other securities. Stock exchanges also provide facilities for the issue and redemption of securities, as well as, other financial instruments and capital events including the payment of income and dividends. The securities traded on a stock exchange include: shares issued by companies, unit trusts and other pooled investment products and bonds. To be able to trade a security on a certain stock exchange, it has to be listed there.

HISTORY OF STOCK EXCHANGE

In 12th century France the courtiers *dechange*were concerned with managing and regulating the debts of agricultural communities on behalf of the banks. As these men also traded in debts, they could be called the first broker.

In the middle of the 13th century, Venetian bankers began to trade in government securities. In 1351, the Venetian Government outlawed spreading rumors intended to lower the price of government funds. There

were people in Pisa, Verona, Genoa and Florence who also began trading in government Securities during the 14th century.

This was only possible because these were independent city states ruled by a council of influential citizens, not by a Duke. The Dutch later started joint stock companies, which let shareholders invest in business ventures and get a share of their profits - or losses. In 1602, the Dutch East India Company issued the first shares on the Amsterdam Stock Exchange. It was the first company to issue stocks and bonds. In 1688, the trading of stocks began on a stock exchange in London. Importance of stock market:

FUNCTION AND PURPOSE

The stock market is one of the most important sources for companies to raise money. This allows businesses to go public, or raise additional capital for expansion. The liquidity that an exchange provides affords investors the ability to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as real estate.

History has shown that the price of shares and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and, in general, on the smooth operation of financial system functions. Financial stability is the raison d'être of central banks.

COMPANY PROFILE

HDFC SECURITIES

About Us:-

We are one of the foremost stock broking companies in India, and a lesser of HDFC Bank- a prominent private sector bank. As a stock broking company, we have done 18 years of processes, allocation a various customer base of retail and official depositors. There are numerous causes why you should opt for our services, and here are a few of them:-

Your Interest Is Our Priority:-

Your financial requests and aims are our significance. We make simpler investing for you, and offer a 360-degree view of financial planning opportunities that apt your future goals.

One-Stop Shop For Your Investments:-

We provide a set of products and services across different asset modules, such as equity, gold, debt and real estate. Be it stocks, derivatives, mutual funds, fixed deposits, NCDs, insurance, bonds, currency derivatives, we have a article that suits each of your security needs.

Multiple Platforms And Seamless Trading:-

You have the option to trade with us through several stages, namely online, mobile, telephone or through any of our branches. These platforms make your swapping knowledge enormously suitable and continuous. You can even place an order for an IPO/NCD online via your trading account, or with the help of our Customer Care executives.

There is no essential to issue cheques. Our 4-in-1 Benefit account agrees you to effortlessly move funds and securities within savings, demat and trading accounts. Our web portal is based on state-of-the art Web 2.0 technology, which empowers a simple trading capability on both the exchanges - BSE and NSE.

Our mobile trading application is companionable with all smart phones, such as Android and iPhone. Once you start mobile trading on your smart phone, you can place orders in equitiesand derivatives, and receive stock quotes on the move. You can even generate a Several Personalized Market watch and track stocks and other asset classes such as gold, bonds etc. in the method in which you need.

Timely and Relevant Information:-

We provide exact news and opinions that influence your funds. Our opinions are supported by extensive research. We have faith in authorizing you with perfect and balanced research, to help you make knowledgeable investment decisions.

Tracking Your Portfolio:-

Capitalizing money is not sufficient. You have to observe your securities to safeguard your funds help you build a strong financial portfolio. You can custom our portfolio tracker to monitor your entire financial portfolio which includes several asset classes. You can also make a watch list of stocks and register for SMS alerts, which will help you track the markets closely and make suitable investment decisions.

DATA ANALYSIS AND INTERPRETATION

CALCULATION OF FUTURES STANDARD DEVIATION OF BAJAJ FINANCE

Date	Expiry	Settle price	Returns	Average	Difference	D^2
03-Oct-22	28-Dec-22	1895.65	-0.290138	-1.75385	1.46371225	2.142453
04-Oct-22	28-Dec-22	1890.15	0.1745893	-1.75385	1.92843932	3.718878
05-Oct-22	28-Dec-22	1893.45	3.0605508	-1.75385	4.81440085	23.17846
06-Oct-22	28-Dec-22	2251.4	0.8686072	-1.75385	2.62245715	6.877282
09-Oct-22	28-Dec-22	2268.35	0.4750171	-1.75385	2.22886715	4.967849
10-Oct-22	28-Dec-22	2277.7	-1.415786	-1.75385	0.33806399	0.114287
11-Oct-22	28-Dec-22	2249.7	1.5233113	-1.75385	3.27716128	10.73979
12-Oct-22	28-Dec-22	2279.4	-0.022734	-1.75385	1.73111584	2.996762
13-Oct-22	28-Dec-22	2278.95	-3.623133	-1.75385	-1.8692835	3.494221
16-Oct-22	28-Dec-22	2207.25	-0.870363	-1.75385	0.88348691	0.780549
17-Oct-22	28-Dec-22	1890.65	0.0528922	-1.75385	1.80674186	3.264316
18-Oct-22	28-Dec-22	1891.65	-0.874898	-1.75385	0.87895242	0.772557
22-Oct-22	28-Dec-22	1875.1	-1.072243	-1.75385	0.68220717	0.464997
23-Oct-22	28-Dec-22	1855	-0.444744	-1.75385	1.30910606	1.713759
24-Oct-22	28-Dec-22	1846.75	-5.566536	-1.75385	-3.8126858	14.53657
25-Oct-22	28-Dec-22	1743.95	1.3245793	-1.75385	3.07842926	9.476727
26-Oct-22	28-Dec-22	1767.05	3.7746527	-1.75385	5.52850267	30.56434
27-Oct-22	28-Dec-22	1833.75	-0.449898	-1.75385	1.30395225	1.700291
30-Oct-22	28-Dec-22	1825.5	-0.29307	-1.75385	1.46077961	2.133877
31-Oct-22	28-Dec-22	1822.15	0.313161	-1.75385	2.067011	4.272534
01-Nov-22	28-Dec-22	1825.85	-0.005477	-1.75385	1.7483731	3.056808
02-Nov-22	28-Dec-22	1825.75	1.4049021	-1.75385	3.1587521	9.977715
03-Nov-22	28-Dec-22	1851.4	-0.85881	-1.75385	0.89504045	0.801097
06-Nov-22	28-Dec-22	1835.5	-0.901662	-1.75385	0.85218833	0.726225
07-Nov-22	28-Dec-22	1818.95	-1.247973	-1.75385	0.50587727	0.255912
08-Nov-22	28-Dec-22	1796.25	-1.361169	-1.75385	0.3926809	0.154228
09-Nov-22	28-Dec-22	1771.8	-0.42612	-1.75385	1.32772967	1.762866
10-Nov-22	28-Dec-22	1764.25	-1.054272	-1.75385	0.69957765	0.489409

13-Nov-22	28-Dec-22	1745.65	1.3576605	-1.75385	3.11151047	9.681497
14-Nov-22	28-Dec-22	1769.35	-1.986605	-1.75385	-0.2327553	0.054175
15-Nov-22	28-Dec-22	1734.2	2.3872679	-1.75385	4.1411179	17.14886
16-Nov-22	28-Dec-22	1775.6	1.5684839	-1.75385	3.32233389	11.0379
17-Nov-22	28-Dec-22	1803.45	0.7568826	-1.75385	2.51073264	6.303778
22-Nov-22	28-Dec-22	1817.1	0.2028826	-1.75385	1.97673262	3.907472
21-Nov-22	28-Dec-22	1821.15	-1.754386	-1.75385	-0.000536	2.87E-07
22-Nov-22	28-Dec-22	1789.2	-0.681869	-1.75385	1.07228101	1.149143
23-Nov-22	28-Dec-22	1777	1.2211593	-1.75385	2.97500926	8.85068
24-Nov-22	28-Dec-22	1798.7	-0.658809	-1.75385	1.09504086	1.229114
27-Nov-22	28-Dec-22	1786.85	-0.45611	-1.75385	1.29774009	1.684129
28-Nov-22	28-Dec-22	1778.7	-0.699949	-1.75385	1.0539006	1.110706
29-Nov-22	28-Dec-22	1766.25	-1.52022	-1.75385	0.23368015	0.054606
30-Nov-22	28-Dec-22	1739.4	-1.339542	-1.75385	0.41430763	0.171651
01-Dec-22	28-Dec-22	1716.1	-1.780229	-1.75385	-0.0263493	0.000694
04-Dec-22	28-Dec-22	1685.55	1.8302631	-1.75385	3.58411312	12.84587
05-Dec-22	28-Dec-22	1716.4	-2.030412	-1.75385	-0.2765625	0.076487
06-Dec-22	28-Dec-22	1681.55	0.225982	-1.75385	1.97983228	3.922735
07-Dec-22	28-Dec-22	1685.35	1.3350343	-1.75385	3.08888427	9.541226
08-Dec-22	28-Dec-22	1707.85	0.4947741	-1.75385	2.24862413	5.05631
11-Dec-22	28-Dec-22	1716.3	-0.824448	-1.75385	0.92940226	0.863788
12-Dec-22	28-Dec-22	1702.15	-1.606791	-1.75385	0.14705859	0.021626
13-Dec-22	28-Dec-22	1674.8	0.8926439	-1.75385	2.6464939	7.00393
14-Dec-22	28-Dec-22	1689.75	2.4145584	-1.75385	4.16840837	17.37563
15-Dec-22	28-Dec-22	1730.55	1.5515299	-1.75385	3.30537986	10.92554
18-Dec-22	28-Dec-22	1757.4	0.2276932	-1.75385	1.96154318	3.847652
22-Dec-22	28-Dec-22	1761.05	0.5706823	-1.75385	2.32453226	5.40345
22-Dec-22	28-Dec-22	1771.1	-0.925978	-1.75385	0.82787179	0.685372
21-Dec-22	28-Dec-22	1754.7	1.6641021	-1.75385	3.41795213	11.6824
22-Dec-22	28-Dec-22	1783.9	0.3447503	-1.75385	2.09860027	4.404123
26-Dec-22	28-Dec-22	1790.05	-1.078182	-1.75385	0.67566783	0.456527
27-Dec-22	28-Dec-22	1770.75	-0.880983	-1.75385	0.87286737	0.761897
28-Dec-22	28-Dec-22	1755.15	-100	-1.75385	-98.24615	9652.306
			-1.753845			**9954.667**

Standard deviation = $\sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$

σ = 12.880

FINDINGS

- Bajaj finance has a highest Settle price 2279.4 and highest spot price2253.15.
- It has Futures standard deviation 12.8806 and Stock standard deviation12.8918
- Correlation coefficient between these two is 0.9990 and its Hedging ratio is0.9998
- South Bank has a highest Settle price 33.05 and highest spot price32.85.
- It has Futures standard deviation 12.9759 and Stock standard deviation12.9859
- Correlation coefficient between these two is 0.9991 and its Hedging ratio is0.9998
- TCS has a highest Settle price 2772.6 and highest spot price2758.95.
- It has Futures standard deviation 12.8534 and Stock standard deviation12.8594
- Correlation coefficient between these two is 0.9994 and its Hedging ratio is0.9999

SUGGEESTIONS

- The study reveals the effectiveness of risk reduction using hedging strategies. It has found out that risk cannot be avoided. But can only be minimized. It has been found that, all the strategies applied on historical data of the period of the study were able to reduce the loss that rose from price risk substantially.
- A knowledge need to be spread concerning the risk and return of the derivative market from RBI and SEBI for retail investors.
- If an investor wants to hedge with portfolios, it must consist of scrip_s from different industries, since they are convenient and represent true nature of the securities market as a whole.

CONCLUSION

Derivative market is an innovation to cash market. Approximately its daily turnover reaches to the equal stage of cash market. The average daily turnover of the NSE derivative segment is presently the available scrip _s in futures and options segment. In cash market the profit/loss of the investor depends on the market price of the underlying asset. The investors may incur huge profits or he may incur huge losses. But in derivatives segment the investor enjoys huge profits with limited downside. In cash market the investor has to pay the total money, but in derivatives the investor has to pay premium or margins, which are some percentage of total money. Derivatives are mostly used for hedging purpose. In the derivatives segment the profit/loss of the option holder/option writer is purely depended on the fluctuations of the underlying asset

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