

Factors detrimental to the growth of Stock options for hedging and investing

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Introduction

The Indian options market is touted as a very large, liquid options market. The reality however is that the Indian options market is extremely skewed with a vast majority of the liquidity and volumes only in NIFTY options. The single stock options market remains without depth and liquidity and has not grown as would be expected from a mature market.

Stock options are a very important tool for both investment and portfolio hedging and are actively used by investors and market participants globally. Access to stock options enables investors to mitigate stock specific risk as opposed to simply broad market systematic risk by the use of Index options.

The lack of growth of stock options in India can be partially attributed to certain regulatory factors. This paper discusses these factor and offers suggestions on change.

Section 1:

Margining of options in India

Dr. L.C Gupta Committee had recommended that the level of initial margin required on a position should be related to the risk of loss on the position. The concept of value-at-risk should be used in calculating required level of initial margins. The recommendations of the Dr. L.C Gupta Committee have been a guiding principle for SEBI in prescribing the margin computation & collection methodology to the Exchanges. The margining methodology specified is consistent with the margining system used in developed financial & commodity derivative markets worldwide.

A portfolio based margining approach which takes an integrated view of the risk involved in the portfolio of each individual client comprising of his positions in all Derivative Contracts i.e. Index Futures, Index Option, Stock Options and Single Stock Futures, has been prescribed.

The worst scenario loss are required to be computed for a portfolio of a client and is calculated by valuing the portfolio under 16 scenarios of probable changes in the value and the volatility of the Index/ Individual Stocks. The options and futures positions in a client's portfolio are required to be valued by predicting the price and the volatility of the underlying over a specified horizon so that 99% of times the price and volatility so predicted does not exceed the maximum and minimum price or volatility scenario. In this manner initial margin of 99% VaR is achieved. The specified horizon is dependent on the time of collection of mark to market margin by the exchange.

The probable change in the price of the underlying over the specified horizon i.e. 'price scan range', in the case of Index futures and Index option contracts are based on three standard deviation (3σ) where ' σ ' is the volatility estimate of the Index. In case of option and futures on individual stocks the price scan range is based on three and a half standard deviation (3.5σ) where ' σ ' is the daily volatility estimate of individual stock.

We highly endorse the portfolio risk approach to calculating margin requirements and laud the regulators and exchanges for introducing the SPAN margining methodology in India

In addition, for Index Futures and Stock futures it is specified that a minimum margin of 5% and 7.5% would be charged. This means if for stock futures the 3.5σ value falls below 7.5% then a minimum of 7.5% should be charged. This could be achieved by adjusting the price scan range.

In a portfolio of futures and options, the non-linear nature of options make short option positions most risky. Especially, short deep out of the money options, which are highly susceptible to, changes in prices of the underlying. Therefore a short option minimum charge has been specified. The short option minimum charge is 3% and 7.5 % of the notional value of all short Index option and stock option contracts respectively.

In the above guidelines, while the SPAN margin method captures the portfolio risk, the Short option minimum charge specified, essentially renders the SPAN calculations redundant in a vast majority of cases. This is due to the fact that the short option minimum levels have been set extremely high.

Let us carefully examine the short option minimum levels from several angles:

- The minimum margin for Stock futures is 7.5% - which, as mentioned above, sets a minimum 3.5σ value, which makes sense. However if **every** short option position is also set at 7.5%, ***then essentially every short option position is being treated as if it were a futures contract – regardless of how out of the money or in the money the option is.*** The purpose of the short option minimum, as clearly stated above, is to set some margin value for deep out of the money options. By setting the short options minimum so high, it equates deep out of the options as having the same risk as deep in the money options. This completely makes the SPAN methodology redundant and thus is not following the original Dr. L.C Gupta Committee recommendation that margining should be done based on risk of loss on the position by actually valuing the positions under various scenarios.
- The short options minimum is inconsistent with Future margin requirements, thus leading to incorrect overall portfolio margin, This, once again contradicts the Dr. L.C Gupta Committee recommendation in which it is clearly stated that an integrated view of entire risk of a portfolio of futures and options should be used.
- Hedged positions and options strategies are being penalized and charged far greater margin than the risk of the position. This is best illustrated by a few examples:
 - o *Covered call position:* Assume a long futures position against which an investor has sold a slightly out of the money call option. The long

futures position alone requires 7.5% margin. However due to the short option minimum, the futures plus option combined position requires 15% margin. This is in spite the fact that the covered call position is no more risky than a simple futures position – in fact it has slightly less risk. This would be seen clearly from any scenario. Yet the margin required is double.

- *A Bull or Bear Spread.* Assume a simple Bear spread on a stock like INFY, e.g. Investor Sells 3200 Call and Buys 3300 Call.

The absolute maximum risk of this position is Rs 100 , or approx. 3%. Under no scenario can the investor lose more than 3%. This is exactly what the SPAN risk simulations would show. Yet the investor has to put up 7.5% margin for this position.

Now consider the Bull spread version – investor Buys 3200 Call and Sells 3300 Call for net cost of Rs 25. Under no scenario can the investor lose more than the net premium of Rs 25, which is 0.80%. This is exactly what the SPAN risk simulations would show. Yet the investor has to put up 7.5% margin for this position.

- *A Conversion trade:* A conversion is a fully riskless position E.g. Buy Stock Future, Sell Calls and Buy Puts (of same strike). The position has no market risk whatsoever. This will clearly be seen in the risk simulation of SPAN. Yet the holder of such a position has to put up a whopping 15% margin!

As is clear, the investor and trader is getting highly penalized by the short option minimum and in all cases the short option minimum effectively overrides and renders the SPAN margin totally redundant. In all these cases, the SPAN risk scenarios would correctly identify the risk, but the short option minimum completely overrides it.

- Dr. L.C Gupta Committee states that the margining methodology specified is consistent with the margining system used in developed financial & commodity derivative markets worldwide. However the setting of such a high short option minimum actually makes this statement untrue, as the in a vast majority of positions, the risk based margin calculations are being tossed aside. This can also be seen from comparing the short option minimum from other exchanges around the world where SPAN margin system is being used:

Exchange	Product	SOM (in %)*
NYSE Liffe	Equity options	0.20%
ICE Futures	Commodity futures options	1.00%
CME Gold	Gold futures options	0.04%
CME Energy	Energy futures options	0.06%
HKEX HIS	HIS Index options	1.20%
ASX	Equity options	0.02%
TAIFEX Equities	Equity options	0.02%
TAIFEX GOLD	Gold futures options	0.02%
OCC*	US Equity Options	0.75%

**Note: in all of the exchanges the SOM is a fixed value per contract. The percentage is calculated using an average price for the stock or commodity. The OCC uses TIMS, not SPAN, but it is similar in approach*

As is clear, in all implementation of portfolio risk based margining globally, the SOM is a relatively small number, keeping in line with the purpose of it providing a small minimum margin for deep out of the money options.

The excessive Short option minimum is thus a huge impediment to the increased use of options by investors. The margin requirement can easily exceed the actual risk and in some cases exceed the worst case possible risk of a portfolio. The only beneficiaries of such a large SOM are the exchanges as they are able to charge excessive margins even for little actual portfolio risk. This has been a huge source of cash flow for the exchange at the expense and detriment of the investor.

Recommendation

Our recommendation for the Short option minimum is as follows:

- Reduce the SOM to 1% for indices and 2% for stock options. While still high, this will at least bring it in line.
- The current Dr. L.C Gupta Committee recommendation states: *“In addition, for Index Futures and Stock futures it is specified that a minimum margin of 5% and 7.5% would be charged. This means if for stock futures the 3.5 σ value falls below 7.5% then a minimum of 7.5% should be charged. This could be achieved by adjusting the price scan range”*

We recommend that this be revised to: For Index Futures AND OPTIONS, the minimum price scan range should be 5%, thus if the 3.5 σ value falls below 5%, then 5% should be used. For Stock Futures AND OPTIONS, the minimum price scan range should be 7.5%, thus if the 3.5 σ value falls below 7.5%, then 7.5% should be used.

This will make the calculation of risk consistent for futures and options. We believe that the original intent of the committee was to set the minimum price scans for options to 5%/7.5% respectively in order to capture the risk of deep out of the money options, as opposed to setting those as the margin rate based on notional

Section 2:

Securities Transaction Tax

The Securities Transaction Tax (STT) for purchasers of options who exercise the option, stands at 0.125%

Options are essentially an “insurance contract”. Their primary use is to mitigate risk. Thus buying of options is an important facet of managing risk for investors and portfolio managers. They should be encouraged to buy options for managing risk.

However imposing such a high STT on the exercise of an option by the purchaser, actually has the opposite effect – it discourages investors from buying options and encourages only selling of options.

Greater buying of options reduces the risk in the market and helps to stabilize the market and reduce volatility – as investors and portfolio managers can use options to reduce their exposure to market moves. Thus it is important that those desirous of using options for risk management are not discouraged from doing so – yet the high STT is doing just that.

In addition, the high exercise STT results in excess market volatility and distortion of market prices near expiration date, as holders of options are forced to either sell then out or roll them in order not to incur the large STT cost if they exercise. This results in unnecessary market movement that adds to the instability of the markets.

In conclusion, the current high level of exercise STT results in:

- Discouraging investors from buying options, which results in fewer hedged positions and thus potentially higher overall volatility of the market
- Excess and unnecessary trading and market volatility near expiration date

Lowering the STT will have the following effect:

- Significant increase in the use of options for managing risk and hedging
- Reduction in both specific and systematic risk in the market

- Reduction in volatility near expiration and a far smoother market at expiration time.

Recommendation

Our recommendation is the exercise STT of 0.125% for holders of long options be reduced significantly. This will help to spur growth in the options markets. The loss in tax income by the government will be offset by the increase in volumes. Thus there will be a net positive impact

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