

A Study of Single Stock Future in India and its Current Status Comparing With other Financial Derivatives with Special Reference to Options.

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ABSTRACT: Warren Buffett says, “Derivatives are financial weapons of mass destruction”. Since inception of derivatives in Indian financial market in 2001, there is exponential growth in volume and number of contracts in derivative instruments. This may be due to many factors like financial sector reforms, impact of technology, liberalization policy of the government, trends of globalization; taxation etc. Derivative market provides opportunity for investors to hedge their risk exposure and makes profit; this motivates and attracts many individuals to invest their pooled savings in stock markets which contributes socioeconomic and financial growth of the country. Forwards, futures, options and swaps are derivative market instruments. Among all, single stock futures (SSF) seeks great attention to study in depth because of volume, turnover and number of contracts are more compared to other derivative instruments. In the present scenario, there is a need for in depth study of SSF and its Current status comparing with other Financial Derivatives. This article attempts to discuss history, development, concept, hedging strategy of SSF and its current status comparing with other Financial Derivatives with special reference with options. This article will be scope for further in-depth study on SSF, because of volume; turnover and number of contracts are more compared to other derivative instruments like options, index future, and index option. The relationship between the settlement prices, trading volume, open interest and volatility etc, modeling and forecasting volatility for stock futures contract still remains the muddy water in the context of changing scenario.

Keywords: Single stock future, stock options; turn over, derivative market, risk, hedging.

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I. INTRODUCTION

Biggest milestone in Indian derivative market is introduction of SSF on November 9, 2001. After its inception there is a significant development in stock related derivatives. SSF's shown exponential growth both in terms of number of contracts trades and turnover. Total turnover of SSF has increased from Rs. 51,515 cr in 2001-02 to Rs.1,11,29,587.14 cr in 2016-17, where as in number of contracts SSF has increased from 19,57,856 in 2001-02 to 17,38,60,130 in 2016-17. (Source: <https://www.nseindia.com/>) The most important and practical applications of Single stock future (SSF) is 'Hedging'. In the event of any adverse market movements, hedging is a simple work around to protect your trading positions from making a loss. L.C. Gupta committee was appointed by SEBI to put out its recommendations on developing derivatives markets in India. The committee had said that hedging is the key aspect of derivatives and also it's basic economic purpose, but is this SSF are really used for hedging purpose

or just used for leveraging and speculation? It is still unanswered.

Some research says SSF resembles badla system, which is banned way back in 1993 by SEBI. One might wonder whether the long history of badla trading played a role in determining the popularity of single-stock futures in the Indian derivatives market when compared with other derivatives like options. Present facts like turnover, number of contracts of SSF proves that SSF are more popularized than other derivative instruments like options in Indian derivative market. This article attempts to discuss history, development, concept, hedging strategy of SSF and its current status comparing with other Financial Derivatives with special reference with options. This article will be scope for further in-depth study on SSF, because of volume; turnover and number of contracts are more compared to other derivative instruments like options, index future, and index option. This study is organized four sections. Section- I deal with the concept, definition, features and hedging strategy of SSF. Section -II has been

devoted to discussion of evolution, development and growth of SSF market in India. Section-III discusses the status of SSF market vis-a-vis other derivative instruments like options. Last section-IV specifies summary and concluding remarks.

1. Concept of Single Stock Future (SSF)

In derivative market, a single stock future (SSF) is a type of future contract in which two parties agree to exchange given number of stocks of a company for a price agreed today (future price or strike price) on a specified date (delivery date). Futures contracts are traded on a future exchange. The party agreeing to take delivery of the underlying stock in the future is called 'buyer' and is said to be in long position, and the party agreeing to deliver the stock in the future is called 'seller' and is said to be in short position. The terminology reflects the expectations of the parties; the buyer expects that the stock price will increase, while the seller expects that the stock price will decrease.

Underlying asset of SSF will be its respective individual stock in spot market. The contracts have standardized specifications like market lot, expiry day, and unit of price quotation, tick size and method of settlement. SSFs are usually traded in lots of 100. No transmission of share rights or dividends occurs on purchased of SSF's. SSF's are traded on margin, they offer leverage, and there is no limitation for short selling.

1.1. Features of SSF:

- SSF are traded only in organized exchanges.
- SSF contract required to have standard contract terms.
- SSF exchange has associated with clearing house.
- SSF trading required margin payment and daily settlement.
- SSF positions can be closed easily.
- SSF markets are regulated by regulatory authorities like SEBI.
- The SSF contracts are executed on expiry date.
- The SSF prices are expressed in currency units, with a minimum price movement called a tick size.
- SSF has maturity period of 3 months.
- For present trading 1, 2 and 3 months contracts of SSF are available.
- SSF are settled in cash, final settlement price is closing price of underlying stock in its respective market.

1.2. Single stock future pricing:

Theoretical price of a SSF contract is calculated as follows.

Single stock future Price = Spot Price + Cost of Carry*

However, the actual price of futures contract very much depends upon the demand and supply of the underlying stock. Generally, the spot prices are lesser than the future prices of the underlying stocks.

Example:

Spot Price of SBI = 252, Interest Rate = 8% p.a.
Futures Price of 1 month contract = $252 + (252 \times 0.08 \times 30 / 365) = 252 + 1.656 = 253.656$

1.3 Participants in Single stock Market

1. Hedgers: The main objective of SSF is hedging; hedging is process of reducing or managing risk of adverse price movement in spot market, by taking opposite position in derivative market

Majority of the participants in single stock market belongs to this category.

2. Speculators: Speculators trade SSF mainly for leverage purpose, they bet on the future movements of SSF, they can face both extremes of gain or loss in speculative trading.

3. Arbitrageurs: Arbitrageurs take advantage of a difference between prices of more or less the same assets or competing assets in different markets. If, for example, they see the futures price of an asset getting out of line with the cash price, they will take opposite positions in the two markets to lock in a profit.

1.4. Applications/uses of Single Stock Future

1. Risk management: One of the most important services provided by the SSF is to control, avoid, shift and manage efficiently different types of risk through various strategies like hedging, arbitrage, spreading etc. SSF assist the holders to shift or modify suitable the risk characteristics of the portfolios.

2. Price discovery: The important application of SSF is the price discovery which means revealing information about future cash market prices through the future market.

3. Liquidity and reduce transaction cost: As we see SSF trading is one of the derivatives trading no immediate full amount of the transaction is required since it is based on margin trading. As a result, large number of traders, speculators, arbitrageurs operates in such markets. So, SSF trading enhances liquidity and reduces transaction cost in the markets of underlying stock.

*Cost of carry is the interest cost of a similar position in cash market and carried to maturity of the futures contract less any dividend expected till the expiry of the contract.

4. Speculation and arbitrage: SSF can be used to acquire risk, rather than to hedge against risk. Thus, some individuals and institutions will

enter into a SSF contract to speculate on the value of the underlying asset, betting that the party seeking insurance will be wrong about the future value of the underlying asset. Speculators look to buy an asset in the future at a low price according to a SSF contract when the future market price is high, or to sell an asset in the future at a high price according to derivative contract when the future market price is low. Individual and institutions may also look for arbitrage opportunities, as when the current buying price of an asset falls below the price specified in a futures contract to sell the asset.

5. Hedging : Hedge or mitigate risk in the underlying, by entering into a SSF contract whose value moves in the opposite direction to their underlying position and cancels part or all of it out. Hedging also occurs when an individual or institution buys an asset and sells it using a future contract. They have access to the asset for a specified amount of time, and can then sell it in the future at a specified price according to the futures contract of course; this allows them the benefit of holding the asset.

6. Price stabilization function: SSF helps to keep a stabilizing influence on spot prices by reducing the short term fluctuations. In other words, SSF reduce both peak and depths and lends to price stabilization effect in the cash market for underlying asset.

7. Gearing of value: Special care and attention about SSF provide leverage (or gearing), such that a small movement in the underlying value can cause a large difference in the value of the derivative.

8. Encourage competition : The SSF trading encourage the competitive trading in the market, different risk taking preference at market operators like speculators, hedgers, traders, arbitrageurs etc. resulting in increase in trading volume in the country. They also attract young investors, professionals and other experts who will act as catalysts to the growth of financial market.

1.5. Hedging strategy by using Single Stock Future:

A standout amongst the most useful uses of Futures is 'Hedging'. In case of any unfavorable market movements, hedging is a straight forward method to protect your open positions from making the P&L will vary and position will no longer be perfectly hedged.

loss. Assuming that, after buying 250 shares of SBI at Rs.252/- per share, investment worth's to be Rs.63000/-. Now it's a 'Long' on SBI in the spot market. After entering in this position, investor realizes the quarterly results are expected soon. Investor is worried SBI may announce a not so favorable set of numbers, as a result of which the stock price may decline considerably.

To avoid making a loss in the spot market investor decides to hedge the position.

In order to hedge the position in spot, one has to enter a counter position in the futures market. Since the position in the spot is 'long', we have to 'short' in the futures market.

Here are the short futures trade details –

Short Futures @ 253/-

Lot size = 250

Contract Value = Rs.63250/-

Now, on one hand we are long on SBI (in spot market) and on the other hand we are short on SBI (in futures price), although at different prices. However the variation in price is not of concern as directionally we are 'neutral'.

After initiating this trade, at different price points for SBI, see what will be the overall impact on the positions.

Arbitrary Price	Long Spot P&L	Short Futures P&L	Net P&L
240	240 - 252 = -12	253 - 240 = +13	-12 + 13 = +1
255	255 - 252 = +3	253 - 255 = -2	+3 - 2 = +1
260	260 - 252 = +8	253 - 260 = -7	+8 - 7 = +1

The point is to be observed here is – irrespective of price movement (whether it increases or decreases) the position will neither make money nor lose money. It is as if the overall position is frozen. In fact the position becomes independent to the market, i.e. When a position is hedged it stays 'neutral' to the overall market condition. Stock's futures contract is used to hedge the position. But to use the stocks futures position, it is compulsorily one must have the same number of shares as that of the lot size. If they vary,

2. Evolution, development and growth of Single Stock future in derivative market in India

Table 1: A chronology of SSF in India

Sl. No	Date	Activity
1	25/05/2000	Permission granted by SEBI to NSE & BSE for trading Index future
2	09/06/2000	Equity derivatives introduced at BSE
3	12/06/2000	Commencement of derivatives trading at NSE

4	01/11/2001	Stock futures launched at BSE
5	09/11/2001	Trading of single stock future at NSE (on 233 stocks)

Source: compiled from BSE & NSE

1 Growth of SSF market in India

Single stock future market in India has recorded exponential growth and it is expected to continue in coming years. Introduced in 2001, SSF in derivative market shown remarkable growth in terms of volumes and numbers of traded contracts. After its inception there is a significant development in stock related derivatives. SSF's shown exponential growth

both in terms of number of contracts trades and turnover. Total turnover of SSF has increased from Rs. 51,515 cr in 2001-02 to Rs.1,11,29,587.14 cr in 2016-17, where as in number of contracts SSF has increased from 19,57,856 in 2001-02 to 17,38,60,130 in 2016-17. (Source: <https://www.nseindia.com/>)

Table 2: Number of contracts traded and turnover of SSF in NSE

Year	No. of contracts traded	Turnover (Rs cr)	Year	No. of contracts traded	Turnover (Rs cr)
2001-02	1957856	51515	2009-10	145591240	5195246.64
2002-03	10676843	286533	2010-11	186041459	5495756.7
2003-04	32368842	1305939	2011-12	158344617	4074670.73
2004-05	47043066	1484056	2012-13	147711691	4223872.02
2005-06	80905493	2791697	2013-14	170414186	4949281.72
2006-07	104955401	3830967	2014-15	237604741	8291766.27
2007-08	203587952	7548563.23	2015-16	234243967	7828606
2008-09	221577980	3479642.12	2016-17	173860130	11129587.14

Source: (https://www.nseindia.com/products/content/derivatives/equities/historical_fo_bussinessgrowth.htm)

Figure 1: Number of SSF contracts traded in NSE from 2001-02 to 2016-17

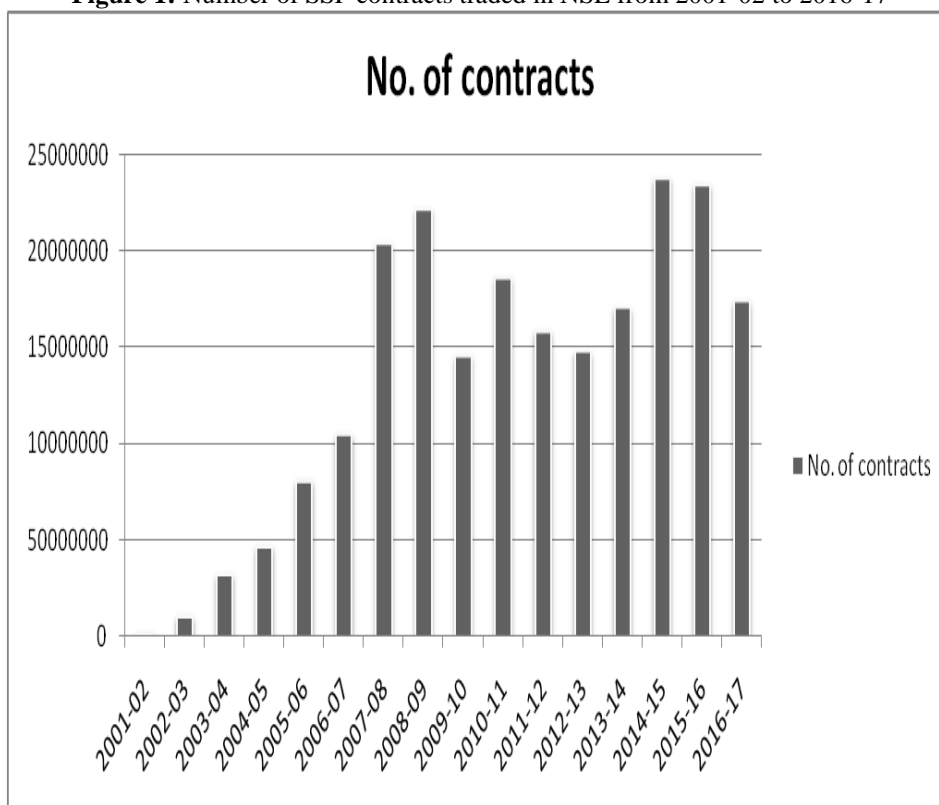
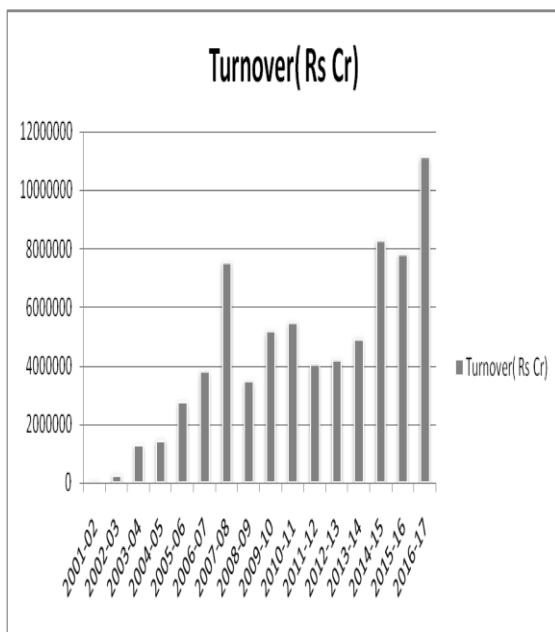


Figure 2: Total turnover of SSF in NSE from 2001-02 to 2016-17



Source:

(https://www.nseindia.com/products/content/derivatives/equities/historical_fo_bussineessgrowth.htm)

II. STATUS OF SSF MARKET V/S OPTION MARKET IN NSE

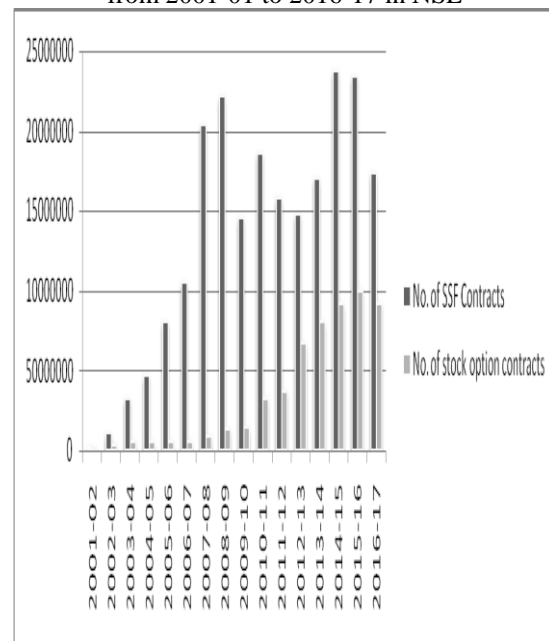
Single stock futures are most popular over options in term of volume and number of contract traded in NSE, below figure 3 & 4 witness this.

Table 3: Comparison of number of SSF contracts trades with options contract traded from 2001-01 to 2016-17 in NSE

Year	No. of SSF Contracts	No. of stock option contracts
2001-02	1957856	1037529
2002-03	10676843	3523062
2003-04	32368842	5583071
2004-05	47043066	5045112
2005-06	80905493	5240776
2006-07	104955401	5283310
2007-08	203587952	9460631
2008-09	221577980	13295970
2009-10	145591240	14016270
2010-11	186041459	32508393
2011-12	158344617	36494371
2012-13	147711691	66778193
2013-14	170414186	80174431
2014-15	237604741	91479209
2015-16	234243967	100299174
2016-17	173860130	92106012

Source: Compiled from NSE

Figure 3: Comparison of number of SSF contracts trades with options contract traded from 2001-01 to 2016-17 in NSE



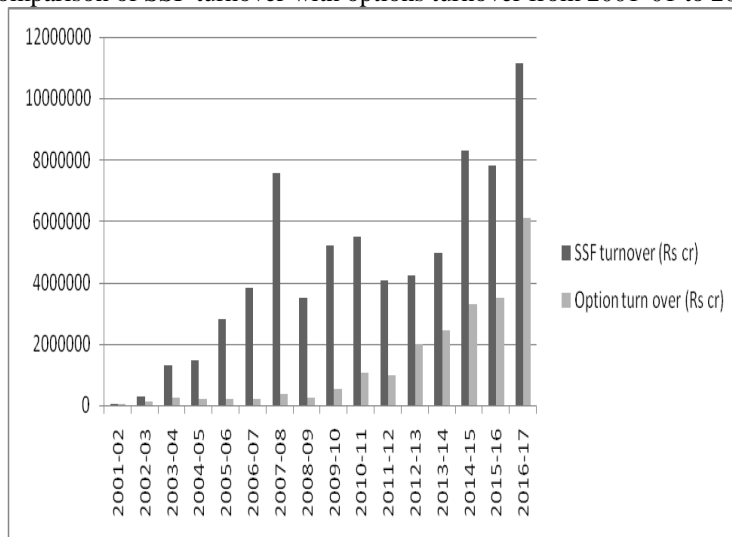
Source:

(https://www.nseindia.com/products/content/derivatives/equities/historical_fo_bussineessgrowth.htm)

Table 4: Comparison of SSF turnover with options turnover from 2001-01 to 2016-17 in NSE

Year	SSF turnover (Rs cr)	Option turn over (Rs cr)
2001-02	51515	25163
2002-03	286533	100131
2003-04	1305939	217207
2004-05	1484056	168836
2005-06	2791697	180253
2006-07	3830967	193795
2007-08	7548563.23	359136.55
2008-09	3479642.12	229226.81
2009-10	5195246.64	506065.18
2010-11	5495756.7	1030344.21
2011-12	4074670.73	977031.13
2012-13	4223872.02	2000427.29
2013-14	4949281.72	2409488.61
2014-15	8291766.27	3282552.18
2015-16	7828606	3488173.75
2016-17	11129587.14	6107485.87

Figure 4: Comparison of SSF turnover with options turnover from 2001-01 to 2016-17 in NSE



Source: (https://www.nseindia.com/products/content/derivatives/equities/historical_fo_bussinessgrowth.htm)

Figure 5: Comparison of total SSF contracts traded with total options contracts trades from 2001-01 to 2016-17 in NSE

Total number of SSF contracts traded from 2001-02 to 2016-17	Total number of options contracts traded from 2001-02 to 2016-17
2156885464	562325514

Figure 6: Comparison of total SSF turnover with total options turnover from 2001-01 to 2016-17 in NSE

Comparison of total turnover between SSF and options (Rs Cr)	
Total turnover of SSF from 2001-02 to 2016-17	Total turnover of options from 2001-02 to 2016-17
71967699.57	21275316.58

III. SUMMARY AND CONCLUSION

Single stock future earned significant place among derivative instruments. Since its inception, SSF has shown exponential growth. SSF is the most popular in terms of turnover and number of contracts traded especially compared with stock options. Section III of this article clearly proves how SSF surpasses the stock options in terms of number of contracts traded and turnover. Using stock option, one can hedge his position against adverse movement by paying a relatively small sum called option premium, an investor can protect himself from large losses in cash/spot market. Even though stock options are better choice for hedging purpose, but SSF are most preferred in NSE derivative market. Figure 5 & 6 shows that SSF's turnover and number of contracts traded is 3 times of options. SSF are preferred over options may be because of simplicity in its character; it is easily accessible by retail investor and provides leveraging mechanism to investors for speculation purpose.

Diplomatically if we see the facts in above article, many questions can be raised such as: Is

really SSF serving purpose of hedging for which it is introduced? Growth in SSF popularity over stock options is it a healthy growth? Is SSF really resembles badla mechanism which was banned? Hence, there is scope of depth study on SSF.

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