A Transition in Indian Derivative Markets – A Case Study of Single Stock Futures

Chapter I

Introduction
i. **INTRODUCTION:**

The Indian capital market since early 1990s has undergone more than a decade of reforms on the road to improve transparency in the system, efficiency in information dissemination along with auditing disproportionate trade activities, the end purpose of all these reforms have been to en route the Indian market to such a level where it would fully integrate with the global developed exchanges. In the course country’s capital market saw a major makeover and structural change in the mechanism. Along with the establishment of Securities and Exchange Board of India (SEBI) for providing higher level accountability in the market, new institutions like National Stock Exchange of India Limited (NSE), National Securities Clearing Corporation Limited (NSCCL), National Securities Depository (NSDL) have been the transformation operatives that abetted ordering the system which also tendered surety to investing public voluminously. Likewise, with expedients of latest technology suitable these institutions acted as determinations along with yardstick for others to pursue. As a result several changes taken place in the operations of the secondary markets namely, automated online trading in exchanges, enabling trading terminals of the NSE and Bombay Stock Exchange (BSE) to be available across the country making geographical location of an exchange irrelevant. These micro level structural alterations fetched about depletion in trade expense that supported investors to fasten the contracts faster and cheaper than earlier.

Though the above mentioned changes that taken place during nineties resulted in the development of a resonant secondary market in the Indian stock exchanges, a consistent sequel of stock market crises which made the front pages of newspapers during the same time distorted the markets. For few years it is approximately appeared to be a parallel effort by SEBI on one side to seal all the loopholes while other side destined
sequel of crises occurring often due to incidences of market manipulation in the secondary market. This procession of crises episodes as rightly pointed by Ajay Shah & Susan Thomas (2002) has displayed a shadow over the credibility of SEBI, as these crises highlight the costs to the economy of SEBI efforts from 1995 onwards in adopting a conservative position, i.e. perpetuating weekly settlement and Badla.

ii. Ingress of Derivatives Trading in India:

Though equity based derivatives markets are recent entrants in India, derivatives on commodities exist prior since independence on agricultural products viz. cotton, wheat, etc. and in precious metals like gold, silver etc. Present study settling the attention on derivatives post independence period and during reform period (1991-2003) specific to equity based derivatives. In post independence period, the government revoked the ban on futures imposed after Second World War to curb hoarding and inflation with passage of Forward Contract (Regulation) Act (FCRA) in 1952. The forward and futures contracts were limited only for few commodity items under the FCRA, 1952. Later on, all futures trading were restricted by the government in 1966 to regulate the lobby groups controlling the prices of many framing and necessary commodities. After 1966, many exchanges had run out of business and it led to start of informal trade which imitated future kind product. Also there exists a currency forward market dominated by dollar-rupee contracts for one to twelve month periods. Summing all this, one can say that, equity based derivatives are unknown till 1990’s, and these may also be piercing from the stringent definition of FCRA, 1952 which did not include derivative products in the definition of securities & Sec.20 of the act purposely forbidden all trading in options from the initiation.
Thus, from early seventies till introduction of equity based derivatives instruments, Indian stock exchanges survived on unusual forward trading method that has undesirable characteristics--mixing of cash and futures trading. It became popular in later years by the name “Badla” which accompanied by “long settlement cycles”. Existence of these kinds of products not only created several problems but also there were payment crises from time to time and frequent closure of the stock exchanges. But it was only after 1992 disaster struck (widely known as Harshad Mehta Scam) which shook the stock markets to its very foundations, government delegated powers to SEBI. Although SEBI positioned efforts in the reform period to regularize the markets (banned Badla trading in certain stocks on 13th December 1993, effective from March 1994) crises where occurring frequently (see Ajay Shah & Susan Thomas, 2002). Meanwhile Badla trading got re-introduced on BSE with certain restrictive checks and balances in January 1996.

Herein, one should recall that NSE, an transformation operative from right beginning of its inception were contradictory to Badla and keen on introduction of equity based derivatives requested the approval of same from SEBI on 14th Dec 1995. This also led to appointment of a committee chaired under L.C. Gupta on 18th Nov 1996 to examine the issue in detail to develop appropriate regulatory framework for derivatives trading. The committee submitted its report in March 1998, had recommended the introduction of stock index futures in the first place to be followed by other derivative products viz. index options and stock options (more fine points of the report are discussed in the later sections). Consequential to the recommendations of L.C. Gupta Committee (LCGC), on 16th December 1999, SEBI proposed second amendment to Securities Laws Act, 1995 that lifted prohibition of options trading. This amendment introduced a new section by name “Section 18-A” through which derivatives trading in
exchanges are made legal. Let’s look at the passage of the section in the second amendment of Securities Laws Act that allows derivative trading in India.

Section 18.A.

Contracts in derivatives: Notwithstanding anything contained in any other law for the time being in force, contracts in derivatives shall be legal and valid if such contracts are -

(a) traded on a recognised exchange;

(b) settled on the clearing house of the recognised stock exchange in accordance with the rules and bye-laws of such stock exchange.

As a result of the above definition, all the contracts in derivatives which once prohibited and not legally permitted now through recognised exchanges having clearing house are legal and valid. This not only paved path for equity based derivatives but also for commodity derivatives which are currently traded now in India. However, commodity futures are permitted only in those commodities approved by Forward Markets Commission. There had, however, been a considerable debate on the question of whether derivatives based on equity stocks should be introduced in India or not, as these products are characterized as the tools of speculation. Along with the derivatives introduction debate, there was also a debate on stock futures introduction which will be discussed in the later section.

Finally, SEBI as step towards its efforts intended for global standards provided authorization for index futures on nation’s two benchmark indices in May, 2000. This resulted in commencement of ‘Sensex futures’ trading by BSE on June 9, 2000 and ‘Nifty futures’ trading on June 12, 2000 by NSE. This ingress was followed by ‘index options’ in June 2001 and ‘stock options’ in 2nd July 2001. Futures on individual stocks
which are widely known as Single Stock Futures\textsuperscript{1} (SSFs hereafter) were introduced on 9\textsuperscript{th} November 2001. At this point it is important to mention that it was only after the SSFs introduction in India, re-introduction of SSFs took place in USA and some other developed markets. In the ingress, last but not least, ‘interest rate derivatives’ were launched on 24\textsuperscript{th} June 2003 which failed to gather volumes and continue to have nil volumes. Despite the fact that there are five derivative products as mentioned above in the Indian markets, it is the volume of trading in SSFs segment that took drive very rapidly and exceeded trading volume of cash segment with in no time is current study of interest.

\textbf{iii. DEBATE OVER DERIVATIVES INTRODUCTION:}

As mentioned earlier there was a debate over these derivative products introduction in India. Debate on non-introduction of these derivatives can be classified into two arguments. One non-introduction argument was raised by strong broker associations which concerned their right and fear that these products will replace Badla. Since, Badla was a mix of the cash and the future settlements grown natively, it offered an evasion means through long settlements for large brokers tend to be active market players. Seeing its popularity, which served as a channel for employment of unaccounted assets of businessmen, speculators deployed their funds in a profitable way. Another argument of non-introduction comes from several stakeholders in the financial system viz. banks and financial institution which put forth the argument of speculative nature of these products which lead to instances of market crashes in the past which cannot be ignored are discussed in next chapter. Introduction argument was from the regulator i.e. SEBI, NSE, and other newly sophisticated financial institutions enthusiasm in view of fact that

\textsuperscript{1} Throughout this study ‘stock futures’, ‘futures on individual stocks’, ‘individual stock futures’ which are synonymous words are referred as ‘Single Stock Futures (SSFs)’.
India must accommodate the internationally established and proficient type of derivatives trading as these instruments would enable the investors to hedge their risks against market fluctuations. Let’s move to LCGC report and where it stands in this debate.

SEBI that accepted the recommendations of LCGC report on May 11, 1998 broad meeting, released the contents of the report in June 1998. To sum up report in one sentence, it says that there should be phased introduction of derivatives trading in India beginning with ‘stock index futures’. However, in details report mentions that from its conducted market survey with various bodies concerned directly and indirectly with stocks trading viz. brokers, banks, financial institutions, mutual fund institutions, foreign institutional investors etc., it observed that there are limited products in the market for hedging and at hand need extensive derivatives products counting to equity, interest rate and currency derivatives products. Based on its study and observations, committee proposes the ‘stock index futures’ as the most preferred product followed by ‘stock index options’. And options on individual stocks were the third in the order of preference. Lets looks at the words from committee report on SSFs, “Individual stock futures, was favored much less. It is pertinent to note that the U.S.A. does not permit individual stock futures. Only one or two countries in the world are known to have futures on individual stocks. Stock Index Futures are internationally the most popular forms of equity derivative.” In addition, it also mentions that 3 month Futures as the most preferred product and in terms of the category of Options, American Options were preferred over European Options.

In accordance, while approving the recommendations of L.C. Gupta Committee and for an effective implementation of the same, SEBI setup a committee on “Risk
Containment Measures in the Indian Stock Index Futures” under the chairmanship of J. R. Verma in June, 1998. Later, amendments in Securities Act and introduction of index futures followed. But the concern relating to the economic desirability of these securities and their impact on the underlying markets has continued to presume importance, especially after transition in the direction of SSFs.

a. STOCK FUTURES INTRODUCTION:

In continuation with earlier debate on derivative introduction and as noted from L.C. Gupta committee report, SSFs were the least preferred and not popular form of equity derivatives. Before knowing what made this derivative product introduction, let’s look at the words of R. H. Patil (2006), former Managing Director & CEO of NSE, Chairman of CCIL “The original plan of bringing futures to the country in place of Badla was to introduce index futures, index options and stock options. The SEBI committee that went into the whole issue of equity based futures was not in favour of futures in individual stocks which are, however, currently being traded on the NSE. In fact, all over the world the widely accepted futures products are the index futures, index options and stock options. In most of the countries, wherever equity futures are traded the individual stock futures either do not find any place or even if they are grudgingly allowed, not much trade takes place in them. Most of the market players either do not find individual stock futures to be useful products or they consider them…and very rightly so…as highly risky products.”

So, from the above, it is clear that even in the minds of regulator and NSE there was no thought of stock futures introduction which were widely criticised in the past for their speculative nature. This is true in fact as opposite to ‘stock options’ these ‘stock futures’ carry unlimited threat with them, i.e. stock option risk is restricted to the extent
of the margin money paid for it, where it is not same with the case of stock futures. Since, the sum of margin is very minimal, chances of speculators becoming cartel and manipulating futures prices which in turn affect stock prices are very high. Then what made a transition in equity based derivative markets as a result SSFs are introduced? Though index futures were introduced on two benchmark indices in June 2000, Badla still existed at BSE, on one side an absolute efforts by the NSE to broaden the idea of futures, on other side BSE was neither intense on futures nor concerned in it, this is also one of the reasons for low volumes in BSE for derivatives from the beginning. It was only after March 2001 crash assisted by Badla, regulator went ahead for strong decision of banning Badla and introduction of compulsory rolling settlements. Contemporaneously in order to address the grievances of broker’s community to provide a mechanism to hedge their risks, index options have been started on June 2001, followed by stock options in July 2001. With these the basic equity derivative products thought by regulator seems to be complete, but from market perspective, neither index options nor stock options are failure due to lack of volumes. Failure of options may be for several reasons but these made path easy for transition in equity based derivatives i.e. SSFs started on 9th Nov, 2001 but the apprehension involving their impact on the underlying markets has sustained to deduce importance on the economy. Again let’s looks at the words of R.H. Patil (2006) about their introduction; “Despite the obvious risks that individual stock futures pose to the safety and integrity of the capital market of the country, they have been introduced in a hurry in our country. In my opinion it was not a wise thing for us to have introduced individual stock futures. All those who had mourned the death of badla are very happy that a similar product is now available for them to play their games.” With the above backdrop, objectives of the present study follow.
iv. OBJECTIVES OF THE STUDY:

From the above, one can articulate that Indian markets were disturbed by unsolicited feature, a mix of cash and futures trading--subsistence of the Badla scheme accompanied with process of long settlement cycles. Memorize till early 1990’s the major stock exchange BSE has bookkeeping interval of fortnight plus settlement period of another 15 days. Also memorize the sequel of crises happened during the reform period. But subsequent to market crisis of March 2001, a series of reforms have been implemented which include the abolition of Badla, the taking up of rolling settlement followed by the introduction of SSFs. As a result, at this juncture one ought to look at the latest circumstances in support of an empirical assessment of this transition. That is, need to know what nature of influence these SSFs in fact exhibit on the financial markets is of interest to everybody, since rare investigations present for any economy. Wisdom of such empirical examination assumes importance in view of the fact that several economies retain successful markets in commodity futures, currency futures, index futures, and bond futures; SSFs are far behind compared to other derivative products. Certainly, a small number of countries posse SSFs that too have on few preferred or chosen stocks. However, to date such existence of SSFs trading is negligible due to volumes. Straight away contrast to all other, the present Indian situation is unusual due to spurt in the volumes. See figure 1 & 2 which exhibits present scenario of the growth of SSFs at NSE\(^2\). Currently the average daily trading volume of the SSFs in NSE is on an average more than twice the trading volume of the cash market. Also out of daily total trading volume of all the F&O products at NSE, SSFs alone accounts for more than 50 per cent. See figure 3 where these SSFs positioned themselves over a period of time.

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\(^2\) From the commencement of equity based derivatives in India, out of total trading volumes in the futures and options for India, NSE accounts for 99 per cent of them. Refer various Indian Securities Market - A Review (ISMR) published yearly by NSE.
Figure 1: Growth of Single Stock Futures


Figure 2: Notional Value\(^3\) of Stock Futures (USD Millions) across markets in the world


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\(^3\) Notional value is the value of a derivative’s underlying assets at the spot price. That is, the number of units of an asset underlying the contract, multiplied by the spot price of the asset. To compare across markets, it can used as a good measure.
With all the above point of views the following questions are central to the present analysis in order to explain the transition outcomes interconnected to market efficiency after the introduction of SSFs in Indian capital market:

- Is there any conversion in the underlying spot volume after SSFs introduction? Since, the volume effect is not only important for investors but also for regulators, one need to find out what was the influence of SSFs introduction on spot volume. As stocks with high volumes are very liquid, volumes affect the liquidity of the stocks. And the following possibilities may arise which affect the liquidity in the market; because of low margins, in general SSFs give better hedging opportunities, here arises the odds of investors going only for the stocks where SSFs are available, this in turn decreases the liquidity in the market. Also because of low margins SSFs direct speculators to trade more which not only influence the spot prices but also hazardous i.e. as whole a shrink in market liquidity coursing inefficiency. Thus, first objective of the present study aims at liquidity after SSFs introduction i.e. whether the trading volume of the spot market decreased (shifted to futures grounding insecurity to the market) or increased (building market towards effective track)?

- Is there any change in the underlying spot volatility after SSFs introduction? As observed from the words of R. H. Patil (2006), these SSFs carry high risk with them i.e. risk of high variability in prices (volatility) which are not hard with low margins. Consequently, what happened to the underlying market i.e. spot volatility is the present study’s second objective? Since, due to lower margins, it is anticipated that speculators with motive of increasing leverage positions will set off recurrent purchases at different prices rooting added explosive nature to
the existing prices. However, an alternate opinion is that these instrument besides acting as tools for hedging, supply an extra course of information transmission which causes recurrent and rapid dispensation of information in the market which is synonymous to efficient market.

- Also study aims at cross checking whether the effects of futures introduction are same across the similar stocks i.e. to look at industry/sector specific after SSFs commencement.

This study resting on few aspects after transition in Indian derivative markets is an earlier attempt in Indian context holds several policy implications for regulators, researchers, policy makers, and investors. In addition, India market being an emerging market, where as rare existing research available is of developed markets, assessment and evaluation may throw more proficiency.

**Figure 3: Stock Futures vs. other derivative products**

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<tr>
<th>Year</th>
<th>NSE Turn Over in Futures &amp; Options (Rs. mn.)</th>
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<tr>
<td>2001-02</td>
<td>Stock Options  Index Options   Index Futures Stock Futures</td>
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<tr>
<td>2002-03</td>
<td>Stock Options  Index Options   Index Futures Stock Futures</td>
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<td>2003-04</td>
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<td>2004-05</td>
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Though there exist five equity based derivative products in futures and options segment of the NSE, the fifth one' interest rate derivative' is not included here because its volume are nil over the examined period except in its launch year 2003-04.
v. STRUCTURE OF THE STUDY:

This study which examines defined objectives as above is structured in the following way. Next chapter ‘Review of Literature’ discusses the theoretical debate and summarizes the pertinent observed literature concerning equity based derivatives focusing on the relationship between spot markets. As large literature exists for the index futures compared to SSFs, an attempt has been made even to understand their effects to assess the relationship between spot market and SSFs. Chapter 3 ‘Liquidity of Single Stock Futures’ exposes the methodology, data employed, results pertaining to the liquidity aspect of the SSFs introduction. Chapter 4 ‘Volatility of Single Stock Futures’ presents the methodology, data employed used in this study along with the discussion of empirical results. Chapter 5 ‘Conclusions and Scope for Further Research’ summarizes the empirical analysis, results and finally presents the concluding remarks with limitations of the study and further research prospects followed by references and appendices.