Emerging Trends of Derivative Trading In India

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The global economic order that emerged after World War II was a system where many less developed countries administered prices and centrally allocated resources. Even the developed economies operated under the Bretton Woods system of fixed exchange rates.

The system of fixed prices came under stress from the 1970s onwards. High inflation and unemployment rates made interest rates more volatile. The Bretton Woods system was dismantled in 1971, freeing exchange rates to fluctuate. Less developed countries like India began opening up their economies and allowing prices to vary with market conditions.

Price fluctuations make it hard for businesses to estimate their future production costs and revenues. Derivative securities provide them a valuable set of tools for managing this risk. The past decade has witnessed an explosive growth in the use of financial derivatives by a wide range of corporate and financial institutions. This growth has run in parallel with the increasing direct reliance of companies on the capital markets as the major source of long term funding. In this respect, derivatives have a vital role to play in enhancing shareholder value by ensuring access to the cheapest source of funds.

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Furthermore, active use of derivative instruments allows the overall business risk profile to be modified, thereby providing the potential to improve earnings quality by offsetting un- desired risks.

The derivatives came into the spotlight along with the rise in uncertainty of post 1970, when US announced an end to the Bretton Woods System of fixed exchange rates leading to introduction of currency derivatives followed by other innovations including stock index futures. Since then, derivatives have quickly spread to an increasing number of developed and developing countries. They are recognized as the best and most cost-efficient way of meeting the felt need for risk hedging in certain types of commercial and financial operations. Countries not providing such globally accepted risk hedging facilities are disadvantaged in today's rapidly integrating global economy. The liberalization and opening up of the Indian economy has precipitated the process of integration of India's financial market with the international financial markets

Evolution of Derivatives Trading In India

All markets face various kinds of risks. This has induced the market participants to search for ways to manage risk. The derivatives are one of the categories of risk management tools. As this consciousness about risk management capacity of derivatives grew, the markets for derivatives developed.

Derivatives markets generally are an integral part of capital markets in developed as well as in emerging market economies. These instruments assist business growth by disseminating effective price signals concerning exchange rates, indices and reference rates or other assets and thereby render both cash and derivatives markets more efficient. These instruments also offer protection from possible adverse market movements and can be used to manage or offset

exposures by hedging or shifting risks particularly during periods of volatility thereby reducing costs. By allowing for the transfer of unwanted risk, derivatives can promote more efficient allocation of capital across the economy, increasing productivity in the economy. Though the commodity features trading has been in existence since 1953 and certain OTC derivatives such as Forward Rate Agreements (FRAs) and Interest Rate Swaps (IRSs) were allowed by RBI through its guidelines in 1999, the trading in "securities" based derivatives on stock exchanges was permitted only in June 2000. The discussion that follows is mainly focused on "securities" based derivatives on stock exchanges.

The legal framework for derivatives trading is a critical part of overall regulatory framework of derivatives markets. This will be clear when it is discussed later on how the regulation and control of derivatives trading and settlement have been prescribed through suitable amendment to the byelaws of the stock exchanges where derivatives' trading was permitted. While the role of state intervention in the functioning of markets is a matter of considerable debate, it is generally agreed that regulation has a very important and critical role to ensure the efficient functioning of markets and avoidance of systemic failures (Sahoo 1997). The purpose of regulation is to promote the efficiency and competition rather than impeding it.

While there is a perceived similarity of regulatory objectives there is no single preferred model for regulation of derivatives markets. The major contributory factors for success or failure of derivatives market are market culture, the underlying market including its depth and liquidity and financial infrastructure including the regulatory framework (Hathaway 1998). Government interventions can impair the efficiency of derivatives market. For example, Governmental price controls or trade agreements aimed at stabilizing prices are such examples of Government intervention, which do not allow derivatives market to flourish. Further since the market integrity and efficiency, financial safety and integrity and customer protection, which are the common regulatory objectives in all jurisdictions, are critical to the success of any

financial market, anyone responsible for operating such a market would have strong incentives independent of external regulation to ensure that these conditions are present in the market place. It is also observed that the successful regulatory system can complement the incentives for self regulation while reducing the incentives and opportunity for behaviour, which threatens the success and integrity of market (International Organisation of Securities Commissions 1996a). Emergence of derivatives market will normally require legislation, which addresses issues regarding legality of derivatives instruments, specifically protecting such contracts from antigambling laws because these involve contracts for differences to be settled by exchange of cash, prescription of appropriate regulations and powers to monitor compliance with regulation and power to enforce regulations.

As the industry grows, the type and scope of regulation also change. Therefore, regulatory flexibility is critical to the long run success of both regulation and the industry it regulates. It would be interesting to observe the historical evolution of development of derivatives market and then examine what further needs to be done to develop these markets.

REGULATORY FRAMEWORK OF DERIVATIVE MARKET

With the amendment in the definition of 'securities' under SC(R)A (to include derivative contracts in the definition of securities), derivatives trading takes place under the provisions of the Securities Contracts (Regulation) Act, 1956 and the Securities and Exchange Board of India Act, 1992.

Dr. L.C Gupta Committee constituted by SEBI had laid down the regulatory framework for derivative trading in India. SEBI has also framed suggestive bye-law for Derivative Exchanges/Segments and their Clearing Corporation/House which lay's down the provisions for trading and settlement of derivative contracts. The Rules, Bye-laws & Regulations of the Derivative Segment of the Exchanges and their Clearing Corporation/House have to be framed in line with the suggestive Bye-laws. SEBI has also laid the eligibility

conditions for Derivative Exchange/Segment and its Clearing Corporation/House. The eligibility conditions have been framed to ensure that Derivative Exchange/Segment & Clearing Corporation/House provide a transparent trading environment, safety & integrity and provide facilities for redressal of investor grievances. Some of the important eligibility conditions are-

- Derivative trading to take place through an on-line screen based Trading System.
- The Derivatives Exchange/Segment shall have on-line surveillance capability to monitor positions, prices, and volumes on a real time basis so as to deter market manipulation.
- The Derivatives Exchange/ Segment should have arrangements for dissemination of information about trades, quantities and quotes on a real time basis through atleast two information vending networks, which are easily accessible to investors across the country.
- The Derivatives Exchange/Segment should have arbitration and investor grievances redressal mechanism operative from all the four areas / regions of the country.
- The Derivatives Exchange/Segment should have satisfactory system of monitoring investor complaints and preventing irregularities in trading.
- The Derivative Segment of the Exchange would have a separate Investor Protection Fund.
- The Clearing Corporation/House shall perform full novation, i.e., the Clearing Corporation/House shall interpose itself between both legs of every trade, becoming the legal counterparty to both or alternatively should provide an unconditional guarantee for settlement of all trades.
- The Clearing Corporation/House shall have the capacity to monitor the overall position of Members across both derivatives market and the underlying securities market for those Members who are participating in both.
- The level of initial margin on Index Futures Contracts shall be related to the risk of loss on the position. The concept of value-at-risk shall be used

in calculating required level of initial margins. The initial margins should be large enough to cover the one-day loss that can be encountered on the position on 99% of the days.

- The Clearing Corporation/House shall establish facilities for electronic funds transfer (EFT) for swift movement of margin payments.
- In the event of a Member defaulting in meeting its liabilities, the Clearing Corporation/House shall transfer client positions and assets to another solvent Member or close-out all open positions.
- The Clearing Corporation/House should have capabilities to segregate initial margins deposited by Clearing Members for trades on their own account and on account of his client. The Clearing Corporation/House shall hold the clients' margin money in trust for the client purposes only and should not allow its diversion for any other purpose.
- The Clearing Corporation/House shall have a separate Trade Guarantee Fund for the trades executed on Derivative Exchange / Segment.

Presently, SEBI has permitted Derivative Trading on the Derivative Segment of BSE and the F&O Segment of NSE.

REVIEW OF LITERATURE

A derivative security is a financial contract whose value is derived from the value of something else, such as a stock price, a commodity price, an exchange rate, an interest rate, or even an index of prices. Derivatives product can reduce need on the part of firms and banks to hold idle precautionary balance to tide over unexpected adversities, thereby reducing the fraction of funds with these organizations that remain unproductive (Hentchell & Smith, 1997). Financial derivatives are powerful instruments that can facilitate hedging against volatility in exchange rates, interest rates and securities price (Bhaumik1998,). Derivatives are recognized as the best and most cost efficient way of meeting the felt need for risk hedging in certain types of commercial and financial operations.

Countries not providing such globally accepted risk hedging facilities are disadvantaged in today's rapidly integrating global economy (Parmjit Kaur, 2001). Derivatives trading in options reduce risk, as investors are aware of the maximum loss (Mr. Jitendra Pande, 2002. it had to start at one point of time or the other. Just like a plant needs soil, water and minerals to nurture well, for derivatives you need a healthy cash market in place (Alok Churiwala, 2004).

The introduction of derivatives trading will separate leveraged positions from the spot markets and make it easier for exchanges to implement rolling settlement. This should reduce volatility in the existing markets safer (Ashish Kumar Chauhan, 2004). Share futures are most successful in India than anywhere else in the world because they are seen as a substitute for badla. The new system has to better than the old one and not add to risk in the market (Deana Mehta, 2005).

Derivatives may be traded for a variety of reasons. A derivative enables a trader to hedge some preexisting risk by taking positions in derivatives markets that offset potential losses in the underlying or spot market. In India, most derivatives users describe themselves as hedgers (FitchRatings, 2004) and Indian laws generally require that derivatives be used for hedging purposes only. Another motive for derivatives trading is speculation (i.e. taking positions to profit from anticipated price movements). In practice, it may be difficult to distinguish whether a particular trade was for hedging or speculation, and active markets require the participation of both hedgers and speculators.[3]

A third type of trader, called arbitrageurs, profit from discrepancies in the relationship of spot and derivatives prices, and thereby help to keep markets efficient. Jogani and Fernandes (2003) describe India's long history in arbitrage trading, with line operators and traders arbitraging prices between exchanges located in different cities, and between two exchanges in the same city. Their study of Indian equity derivatives markets in 2002 indicates that markets were inefficient at that time. They argue that lack of knowledge; market frictions and regulatory impediments have led to low levels of capital

employed in arbitrage trading in India. However, more recent evidence suggests that the efficiency of Indian equity derivatives markets may have improved (ISMR, 2004).

TRENDS OF DERIVATIVE TRADING

Little more than a decade later and India is poised to claim a place as one of the region's largest markets. India's market capitalization has more than trebled in three years. At about $643bn as of end-August, it compares with about $304.2bn for Singapore, $918.7bn for Australia and $1,242bn for Hong Kong. Only a couple of years back, India had merely two or three companies that were more than a $1bn in terms of market capitalisation. Today we have nearly 100 companies with more than $1bn, and about 10 or 12 with more than $10bn capitalisation each. So the market has suddenly become of a size that it can't be ignored.The chief reason for this rapid growth is the pick-up in the economy.IT WILL be three years tomorrow since the introduction of exchange-traded equity derivatives in India. After eight years of intense debate, the Stock Exchange, Mumbai, known as the Bombay Stock Exchange or BSE, introduced futures contracts with the Sensex as the underlying.

Sensex is the branded equity index of the BSE, Asia's oldest stock exchange with a 128-year history. Analysts and the business media track India's stock market performance by tracking the Sensex. The beginning of index futures trading on June 9, 2000 was perhaps the defining moment for the BSE in the context of equity derivatives. Few events thereafter matched the grand and epochal launch. The BSE currently accounts for about 3 per cent of India's equity derivatives volume. It is quite likely that the BSE does not mind the insignificance of its share. It had resolutely regarded equity derivatives as inapt substitutes for badla, a system of carry-forward trading that defined the BSE's prestige. It had resolutely argued that India was not ready for equity derivatives. Yet, the BSE was the first to launch equity derivatives.

NSE TAKES OVER

Three years hence, the leader is the National Stock Exchange of India (NSE). The NSE began trading futures with the S&P CNX Nifty as the underlying, three days after the launch of Sensex futures. June 12, 2000 was undoubtedly the beginning of a journey for the NSE. It began the race three days late in the context of equity derivatives and 119 years late in the context of equity shares. It has run a two-in-one race and has won on both tracks. More equity shares are traded on the NSE than on the BSE. The NSE accounts for more than 97 per cent of India's equity derivatives volume. Quite clearly, the analysis of India's equity derivatives market is best accomplished by analysing the performance of equity derivatives on the NSE.

The NSE has rewritten many rules and upset many traditions. It has demonstrated: An extraordinarily keen understanding and appreciation of the dynamics of the equity market; an aggressive appetite for purposeful surveillance and proactive efforts aimed at smothering manipulation, and a religious devotion to the elimination of settlement risk. It has been very successful in all these three components; it is the leader in trading single-stock derivatives. The overwhelming success of single-stock futures and options in India is the result of the NSE's single-minded pursuit of excellence in governance, marked by its willingness to serve the needs of the market without being hindered by assumptions and prejudices.

Stock Derivatives Surge Though index futures and index options were listed ahead of stock options and stock futures, stock futures have raced ahead of all other contracts. Stock futures accounted for over 60 per cent of the NSE's and, therefore, India's total derivatives activity by number of contracts and turnover in May 2003. Stock options accounted for about 22 per cent of total derivatives activity by number of contracts and about 24 per cent of turnover.

Stock derivatives have equity shares of companies, say, Reliance and Satyam Computer Services, as the underlying. The Securities and Exchange Board of India (SEBI) approved 31 stocks on which call and put options could be listed by the BSE and NSE in July 2001. The same set of 31 stocks applied

to the listing of stock futures by the BSE and NSE in November 2001. In January 2003, SEBI expanded the approved list by 31 more stocks. Stock derivatives dominate the marketplace, and some may regard this as going against the run of play.

Index Options/Futures Languish By contrast, index futures have an equity index, say, the S&P CNX Nifty or the Sensex, as the underlying. S&P CNX Nifty futures accounted for about 14.5 per cent of activity by number of contracts and about 12 per cent by turnover in May 2003. S&P CNX Nifty options accounted for about 4 per cent of activity by number of contracts and 3 per cent by turnover in May 2003.

The data pertinent to May 2003 may include the leading indicators of the relative steady-state turnover of equity derivative contracts in the future. The marketplace has had more than a year of `seasoning' after the launch of important contract types, and after the regulatory approval for the participation of institutional investors, especially the foreign institutional investors (FIIs). FIIs came into India with a reputation for significant experience in trading equity derivatives, especially options.

Prudent and Practical Approach The Chicago Board Options Exchange (CBOE) in the US was the first in the world to trade stock options. The CBOE listed call options on 16 underlying stocks on April 26, 1973. Puts were listed on June 3, 1977. The Indian markets have seen the listing of both calls and puts simultaneously. This is in line with a more prudent and practical approach to listing stock futures adopted by SEBI and the Indian markets.

Mr G. V. Ramakrishna, Mr C. B. Bhave, Mr M. K. Khanna and Mr V. Sankar laid the intellectual foundation for stock futures in January 1993. Mr Ramakrishna was chairman of SEBI and Mr Bhave was a senior executive director of SEBI then. Mr Khanna was the executive director of the Vadodara Stock Exchange, and Mr Sankar, a securities broker. The domination of the marketplace by stock derivatives ten years on is not against the run of play!

Foot-Stick, Opt-Stick India is single-stock country. The BSE knew that, but did not know enough about equity derivatives. It chose to remain steadfastly wedded to badla. The NSE knows that India is single-stock country, but chose to learn and implement all that it could about single-stock derivatives.

NSE's descriptor for stock futures is FUTSTK and the descriptor for stock options is OPTSTK. FUTSTK and OPTSTK together accounted for more than 80 per cent of derivatives activity (by number of contracts and turnover) in May 2003. The stunning and unheralded success of single-stock derivatives in India can be described as the FUTSTK-OPTSTK effect (pronounced foot-stick, opt-stick), or a successful assault on tradition, expected form, and run of play by those fleet of foot and soaked in optimism.

Leading the Revolution Professor Gary Hamel, the author of *Leading the Revolution*, says that effective business concept innovation leaves competitors in a gut-wrenching quandary. If a competitor abandons its tried-and-tested business model, it risks sacrificing its core business for a second-place finish in a game it did not invent; with rules it did not understand. If the competitor does not embrace the new model, it forfeits the future. Damned if it does, and damned if it does not, says Professor Hamel. If a competitor can be pushed into such a situation, then it is poof that business concept innovation has worked admirably well.

The FUTSTK-OPTSTK effect unleashed by the NSE has left the BSE in a quandary. The BSE understood stocks, the utility value of ownership, and the time value of money when a stock is in contango, the time value of money when a stock is in normal backwardation, and the reflexivity of demand and supply. It had significant experience with equity options, even if they had lacked legality. It knew how futures would work, and how they could capture the utility value of ownership, the time value of money when a stock is in contango or in normal backwardation, and the reflexivity of demand and supply. However, it failed to lead the revolution. It chose to remain wedded to

badla. The BSE shifted the focus to the suitability of equity derivatives as substitutes for badla. It did not recognize that derivatives and carry-forward trading are not substitutes for one another. It is not surprising that the BSE has lost its pre-eminence in equities after a glorious run for more than a century.

Customers and Processes No business should get wedded to its products. Businesses should fasten themselves to customers and then use every process under the sun to satisfy customers. This is exactly what the NSE has accomplished. It had no customers to start with; it had no products that could hold its innovative spirit back. The NSE knew it was established with an important purpose. It faced a powerful set of incentives. It then assiduously went about re-engineering every sub-system of the trading, clearing and settlement system.

Its success in establishing an electronic, online trading system drew many customers from the BSE. The NSE began to know more about `the customers'. Then it used every opportunity to deepen its knowledge about their needs, desires, preferences and practices. It captured all the data it could. It used this knowledge to search for new opportunities to serve `its customers'. It soon realised that badla and equity derivatives could really co-exist and this helped it walk away with the derivatives market almost entirely (see accompanying piece).

Derivative Segments at NSE & BSE

Within a year of the NSE's opening in November 1994, it had overtaken the Bombay Stock Exchange, and today claims to account for about 70 per cent of India's cash equity trading and nearly all its equity derivatives trade. Since then, the BSE has followed with its own reforms. It was incorporated last year and is expected to become a listed company by May 2007.The improved transparency at the stock exchanges has been matched by corporate governance reforms at the company level. The regulator, the Securities Exchange Board of

India, has pushed through rules covering disclosure, the appointment of independent directors and other issues.

Derivative trading started in India with the launch of index futures in June 2000 followed by index option in 2001. In June 2003, interest rate futures were launched on the Indian securities markets. The derivatives market has grown substantially since then in terms of both number of contracts and total turnover. However, the growth has been concentrated on the index and stock futures. The volume in the future market has grown so significantly that the turnover in the derivatives market has far outpaced the turnover in the cash segment since early 2004.

Exhibit: 1 Turnover in the Derivative Segments at NSE & BSE

Month/Year	Index Future	Stock Future	Interest Rate Future	Index Option	Stock Option	Total	(Rs Crore) Open Interest At The End Of The Period
1	2	3	4	5	6	7	8
BSE							
June'00 to March'01	1673	-	-	-	-	1673	-
2001-02	1276	452	-	83.8	114	1922	-
2002-03	1811	644	-	1.4	21	2478	7
2003-04	6572	5771	-	0.0	332	12074	1
2004-05	13600	213	-	2297.2	3	16112	0

2005-06	5	.48	-	3.20	.09	8.77	0
NSE							
June'00 to March'01	2365	-	-	-	-	2365	-
2001-02	21482	51516	-	3765	25163	101925	2150
2002-03	43951	286532	-	9248	100134	439865	2194
2003-04	554462	1205949	20	52823	217212	2130649	7188
2004-05	772174	1484067	0	121954	168958	2547053	210652
2005-06	1513791	2791721	0	338469	180270	4824251	38469

Source: NSE & BSE

Exhibit: 2 Trends in Derivative Market

Year	**No.of Contracts**	**Turnover (Rs.Crore)**
June 2000 to march 2001	90580	2365
2001-02	4196873	101925
2002-03	16767852	439865
2003-04	56886776	2130649
2004-05	77017185	2547053
2005-06	156300630	4824251

Source: SEBI Bulletin, Apr2006

Presently, NSE dominates the derivatives market in India with its share of over 99 % in the turnover as well as the number of contracts. The trading volume in the derivatives segment in BSE has been declining over the years and has recorded almost nil volumes since May 2005. The total turnover of derivatives in NSE rose by 89.4 % to Rs.4824251 Cr in 2005-2006 from Rs.2547053 in 2004-05.In fact; the NSE turnover was a miniscule Rs.2365 Cr in 2000-01 when the derivative products were introduced. There has been an exponential rise in the turnover of NSE derivatives segment since 2001-2002. The total number of contracts has also rises by more than 105 % in 2005-06 over the previous year (exhibit: 1&2).

In 2005-06, the turnover in the derivatives segment of NSE is about 307% of the cash market turnover, from being 0.2% of the cash market turnover in 2000-01, the derivatives market turnover has risen significantly from Rs.413Cr in 2001-02 to Rs.19375Cr in 2005-06. There has been an increase of 93% in the average daily turnover in 2005-06 compared to Rs10067Cr in 2004.

Exhibit: 3 Turnovers in Derivatives Instruments *(Rs.Crore)*

Year	**Index Future**	**Stock Future**	**Index Option**	**Stock Option**
June 2000 to march 2001	2365	-	-	-
2001-02	21482	51516	3766	25163
2002-03	43951	286532	9248	100134
2003-04	554462	1305949	52823	217212
2004-05	772174	1484067	121954	168858
2005-06	1513791	2791721	338469	180270

Source: SEBI Bulletin, Apr2006

The product wise share in the turnover of the derivative segment shows that futures are more popular than the options in India. Further investor's interest in individual stock based products is higher than the product based on indices. The options segment call options have more share than the put options. At present, stock futures dominate the derivatives market in India with 58% of the total turnover in 2005-06; followed by Index futures (31%), index option (7%), and stock options (4%)(exhibit:3).

In fact, NSE is the leader in the global derivatives market in the single stock futures. Of the options, stock options, constituted 25% of the total turnover in 2000-01 which declines to 4% in 2005-06. Index options have

progressively increased their share over the years. The share of the index options in total turnover has risen from 3.7% in the initial years to 7.1% in 2005-06. The proportion of index futures has also increased considerably from 21% in 2000-01 to 31% (exhibit: 1).

The perception of the investors on the market movements and direction of the market can be gauged by the put-call ratio. A put-call ratio of more than 100 shows the investors perception of a bearish market and a put call ratio of less than 100 shows the perception of investors of a bullish trend in the market. The put-call ratio of index options rose from 54% in 2000-02 to 102% in 2005-06. However, in the case of stock options, put-call ratio was lower. The put-call ratio of stock options, declined from 35% in 2000-01 to 26% in 2005-06.

Open interest represents the notional value of outstanding contracts that are held by the market participants. It is also a measure of how much interest is there in a particular option of future. It can be argued that increasing open interest means that fresh or additional funds may flow into the market, while declining open interest means there may be liquidation. The open interest at the end of each financial year has risen significantly in terms of number of contracts and notional turnover. At the end of March 2006, the open interest for current financial year was Rs38469Cr, indicating a rise of 82.7% overRs21052Cr as at the end of 2004-05. In fact the value of open interest has risen substantially since 2004-05 reflecting increased interesting the derivative products with fresh funds flowing into the derivative market.

In the derivative segment in India, the contracts are being settled through cash. Physical settlement has not yet been introduced in the Indian derivative market (exhibit: 4 & 5). During 2005-06 so far, settlement of futures and options in NSE F&O segment accounted for Rs.26183 Crore & Rs.2338 Crore, respectively.

A few studies have been undertaken to ascertain the impact of derivative trading on the equity market in India. These studies have mainly

concentrated on the NSE as derivative market shrank over time in BSE. According to a RBI study (Bandibadekar & Ghosh, 2003), volatility in both BSE sensex & S&P CNX Nifty has declined during the period after introduction of index future. Other studies concluded that the introduction of derivatives product did not have any significant impact on market volatility in India. Although, conclusive evidence is yet to emerge. India has made a mark on the derivatives market within a very short period.

Exhibit: 4 Settlement Statistics in Derivative Segment of BSE

Month/ Year	Index/ Stock Future		Index / stock Options		Rs. Crore Total
	MTM Settlement	Final Settlement	Premium Settlement	Exercise Settlement	
June 2000-march 2001	50.5	1.1	-	-	51.7
2001-02	25.8	1.5	5.1	2.6	35.1
2002-03	12.2	0.6	0.3	0.2	13.1
2003-04	53.3	1.0	8.2	0.2	62.8
2004-05	19.1	0.90	146.5	2.7	169.3
2005-06	0.003	0.002	0.001	0.002	0.008

Source: BSE

Exhibit: 5 Settlement Statistics in Derivative Segment of NSE

Month/ Year	Index/ Stock Future		Index / stock Options		Rs. Crore Total
	MTM Settlement	Final Settlement	Premium Settlement	Exercise Settlement	
June 2000-march 2001	84.1	1.9	-	-	86.0
2001-02	505.2	21.9	164.8	93.9	785.9
2002-03	1737.9	45.9	31.2	195.9	2310.9

2003-04	10822.1	138.9	858.9	476.1	12296.1
2004-05	13024.2	227.5	941.1	455.9	14648.6
2005-06	25585.5	597.5	1520.6	817.8	28521.8

Source: NSE

Exhibit: 6 Turnovers in the Cash & F&O Segments in NSE

Year	**Cash Segment (Rs Crore)**	**Derivative Segment (Rs Crore)**	**Derivative turnover as % of Cash Turnover**
1	**2**	**3**	**4**
2000-01	1339510	2365	0.2
2001-02	513167	101925	19.9
2002-03	617989	439865	71.2
2003-04	1099534	2130649	193.8
2004-05	1140072	2547053	223.4
2005-06	1569558	4824251	307.4

Source: SEBI Bulletin various issues

The turnover as well as the number of contracts in the derivative segment increased substantially in March 2006 over the previous month. However, the open interest continued to rise significantly in respect of the number of contracts and the notional turnover.

The aggregate turnover rose by 49% to Rs7, 34,849cr in March 2006 from Rs.4, 92,672cr in Feb 2006. Of the total turnover the share of single stock futures was Rs.473251cr constituting about 58.6%. The turnover of single stock futures more than doubled to Rs4, 73,251cr in March compared to Rs.2, 88,715cr in Feb. 2006. The lowest rate was noticed in case of index futures, which rose by 23% in March 2006. The turnover in calls on stock on stock options rose by 50% during the month to Rs18574 Cr in March 2006. The put call ratio of index options was 113% in March 2006. A put call ratio of over 100% shows investors perception of a bearish market. The total number and value of outstanding contracts increased significantly in Feb 2006 over the previous month. The value of open interest rose by 11.8 % to Rs.38469 Cr in March 2006 from Rs.34400 Cr in Feb 2006(exhibit: 6 & 7).

Exhibit: 7 Trends in Derivatives Market in NSE

Index	**2004-05**	**2005-06**	**Feb'06**	**March'06**	**Variation % Col.5& 4**	**Variation % Col.3 &4**
1	**2**	**3**	**4**	**5**	**6**	**7**
Turnover (Rs. Crore)						
(i) Index future	772174	1513791	156359	192035	22.8	96.0
(ii) Stock Futures	148067	2791721	288715	473251	63.9	88.1

(iii) Stock Option						
Put	36792	36518	2918	3890	33.3	-0.7
Call	132066	143752	12350	18576	50.4	8.8
(iv) Index Option						
Put	52581	169837	16805	24690	46.9	223.0
Call	69373	168372	15526	22407	44.3	143.1
Total	**2547053**	**4824251**	**492672**	**734849**	**49.2**	**89.4**
No. of Contracts						
(i) Index future	21635449	58537886	5186835	5952206	14.8	170.6
(ii) Stock Futures	47043066	79586852	7443178	10844400	45.7	69.2
(iii) Stock Option						
Put	1098133	1074780	75740	92657	22.3	-2.1
Call	3946979	4165996	326233	444604	36.3	5.5
(iv) Index Option						
Put	1422911	6521649	559682	772372	38.0	358.3
Call	1870647	6413467	506714	683979	35.0	242.8
Total	**77017185**	**156300630**	**14098382**	**18790218**	**33.3**	**102.9**
C. Open Interest						
No. Of Contract	92646	1028003	1023343	1028003	0.5	73.5
Notional Turnover (Rs. Crore)	21052	38469	34400	38469	11.8	82.7

Source: SEBI Bulletin Apr'06

Derivatives and futures markets are now used by the largest and most sophisticated financial institutions in the world-domestic and international banks, public and private pension funds, investment companies, mutual funds,

hedge funds, energy providers, asset and liability managers, mortgage companies, swap dealers, and insurance companies. Financial entities that face foreign exchange, energy, agricultural, or environmental exposure use our markets to hedge or manage their price risk. Financial intermediaries that have exposure in equities use our markets to hedge or to benchmark their investment performance.

Financial institutions that have interest rate exposure from lending and borrowing activities, or their dealing in over-the-counter interest rate instruments, swaps and structured derivatives products, or their proprietary trading activities use our markets to hedge or arbitrage their exposure in money market swaps or to convert their interest rate exposure from a fixed rate to a floating rate or vice versa. And it's a huge business. In 2005, for example, CME alone facilitated the trading and clearing have more than one billion contracts representing an underlying notional value of nearly $640 trillion.

INTERNATIONAL COMPARISON

In international scenario, India ranked nine in the overall turnover in the month of Feb. 2006 (exhibit:8). India is the global leader in the single stock futures both in terms of number of contracts traded (Volumes) & notional turnover for the month of Feb. 2006. The relative position and the turnover in Feb. 2006 is given in the above table.

Exhibit: 8 India's Position in World Derivative Trade

Product	**Rank**	**Number of contracts traded in Feb'06 (in lakh)**	**Notional turnover (US$ million) in Feb'06**
Single stock future	1	74.43	65283
Index future	12	51.87	35355
Stock options	10	4.01	3452
Index options	10	10.66	7311
Total turnover	9	140.98	111401

Source: World Federation of Stock Exchanges

NSE has been making huge strides by moving upwards in the global ranking. NSEIL ranked first in single stock future category in the year 2005. NSE has been ranked 14 in the global futures and options volume in 2005 against its rank 0f 17th in the previous year. In the top 40 Future exchanges of the world, NSE stands at the 7th position in 2005 as against 10th in the year 2004 (exhibit: 9).

Exhibit: 9 NSE Position in World Derivative Trade

Rank		Instrument	Volume		%
2005	2004		2005	2004	Change
14	17	Global future and option volume	131651691	75093629	75.3
7	10	Future Exchange (volume figures do not include option on futures)	116286968	67406562	72.5

Source: Future industry, March/ April 2005.

Asia was the world's fastest growing region for derivatives trading. The National Stock Exchange of India doubled its 2005 mid-year volume, recording 101 million traded contracts since the beginning of 2006. The National Stock Exchange of India, the world's most active market for single stock futures, continued to see very rapid growth in this area. Total trading of single stock futures at NSE reached 14.6 million contracts in January and February, up 67.2% from the year ago period. South Africa's JSE took a big jump, with volume in its single stock futures rising 255.3% to 7.1 million. One Chicago took a huge leap forward as well, with volume up a stunning 406.3% to 1.2 million.

Out of the top 20 exchanges ranked by volume, 16 reported double-digit rates of growth, an impressively broad number. The National Stock Exchange of India grew the most rapidly. Volume at NSE during the first four months of 2006 was more than double the year-ago figures, mainly because of heavy trading in equity derivatives. Following NSE among the fastest growing exchanges were the Philadelphia Stock Exchange and Taiwan Futures Exchange. Euro next liffe, one of the few with a declining rate of growth, slipped below the Chicago Board of Trade in the rankings, though the decline was a function of changes in contract size in its options products.

CONCLUSION

The equity derivatives business is booming. Volume is at an all-time high. Users are flocking to the market. New trading strategies are taking off, and highly structured products are more popular than ever. As one might expect, most equity derivatives shops are having a great year.

In a relatively short period, barely more than a decade, Indian derivatives have burst on to the international scene. They offer an interesting array of trading opportunities. Unfortunately it is still awkward for international entities to gain access to Indian financial derivates and impossible for them to gain access to physical commodity products. Recently, the FMC has indicated its willingness to allow international futures brokers to broker only domestically originated transactions in India. While we on the outside may be impatient to be invited to participate, the Indian authorities have many considerations to balance. During the past spring and summer, commodity prices in India rose very dramatically, and many people including Congress Party leader, Sonia Gandhi, pointed fingers at the futures exchanges. It appears as though reason has ruled, the messengers have not been shot and commodity futures will continue to operate unfettered, though the regulator, the FMC, will end up being strengthened, which is a good thing, but this incident reminds us that politics in India is never far away from the action.

The world's derivatives exchanges experienced an above average burst in trading activity in the first two months of 2006. Global futures and options volume reached 1.9 billion contracts, up 34.3% over the same period last year. Just as remarkable was the breadth of the trend. Trading volume grew by double-digit rates in every category tracked by the FIA, and only two exchanges out of the top 20 reported a decline in volume.

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