

# Experiences with Derivatives Trading at NSE

Ravi Narain<sup>1</sup>

## 1 The Market Environment

The National Stock Exchange (NSE) came into existence with a mandate to bring international standards to the Indian securities market. In its efforts to translate this mandate into reality, NSE started with two significant ideas: create a demutualised exchange where ownership was clearly segregated from trading rights, and introduce a screen based anonymous order matching system on a VSAT telecom platform that would allow investors all over the country equal access to efficient and transparent trading facilities.

The unprecedented expansion in equity trading volumes that followed quickly necessitated corresponding improvements in settlement and risk management facilities. NSE responded with corresponding changes in these areas introduced through a clearing corporation model. Settlement cycles were shortened, daily margins and exposure limits were introduced and a financial counter party guarantee offered. As the absolute volumes of physical delivery rose, it played a start-up role for the depository in an effort to mitigate the risks posed by paper. The state of our market infrastructure as a consequence improved quite dramatically over the relatively brief period of a half decade or so.

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<sup>1</sup>Disclaimer: The views expressed and the approach suggested in this chapter are of the author and not necessarily of his employer.

The two key issues that remained to be addressed, at least in the equities arena, were: introduction of derivatives instruments, and improvements in funds settlement. While the markets even today continue to struggle with inefficient funds settlement facilities, the derivatives story appears to be unfolding well.

The story has not been without its share of hurdles. The legal and regulatory issues, the resistance against allowing the introduction of derivatives, the challenges of building awareness and educating the community about derivatives, active marketing of the product have all required significant efforts in paving the way for a vibrant derivatives market. Some of these issues are discussed below.

## 2 Preparing for Derivatives

### 2.1 The Regulatory Process

The development of a market for derivatives was initially not possible in view of prohibitions in the Securities Contracts (Regulation) Act, 1956 (SCRA). The preamble to the Act itself spoke of prohibiting options. Section 20 of the Act explicitly prohibited all options in securities. Under this Act, by a notification in 1969, Government prohibited all forward trading in securities in order to curb unhealthy and to prevent undesirable transactions. Introduction of trading in derivatives required withdrawal of these prohibitions. The Securities Laws (Amendment) Ordinance promulgated on January 25, 1995 withdrew the prohibitions by repealing section 20 of the SCRA and amending its preamble.

The market for derivatives, however, did not take off as there was no regulatory framework to govern trading of derivatives. The Securities and Exchange Board of India (SEBI) set up a 24-member Committee in November 1996 under the Chairmanship of Dr. L.C. Gupta to develop an appropriate regulatory framework for derivatives trading in India. The Committee submitted its report in March 1998 prescribing necessary pre-conditions for the introduction of derivatives trading in India. It recommended that derivatives should be declared as 'securities' so that the regulatory framework applicable to trading of 'securities' could also govern trading of securities. It also recommended that the 1969 notification should be amended to enable trading in derivatives. SEBI also set up a Group in

June 1998 under the Chairmanship of Prof. J. R. Varma to recommend measures for risk containment in derivatives market in India. This report, which was submitted in October 1998, worked out the operational details of a margining system, a methodology for charging initial margins, broker net worth, deposit requirement and real-time monitoring requirements.

The SCRA was amended in December 1999 to include derivatives within the ambit of 'securities'. Derivatives were formally defined to include: (a) *a security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security, and (b) a contract which derives its value from the prices, or index of prices, or underlying securities.*

Since derivative contracts are generally cash settled, there was an apprehension that these could be classified as wagers. Since wagers were null and void under section 30 of the Indian Contracts Act, 1872, it would have been difficult to enforce derivative contracts. In order to avoid such legal uncertainties, the Act made it clear that notwithstanding anything contained in any other law for the time being in force, derivatives shall be legal and valid only if such contracts are traded on a recognised stock exchange and settled on its clearing house in accordance with rules and bylaws of the exchange. This precluded OTC derivatives. In March 2000, the Government also rescinded the three-decade old notification which prohibited forward trading in securities.

Derivatives trading commenced in India in June 2000 after SEBI granted the final approval to this effect in May 2000. SEBI permitted the derivative segments of two stock exchanges, NSE and the Bombay Stock Exchange (BSE), and their clearing house/corporation to commence trading and settlement in approved derivative contracts. To begin with, SEBI approved trading in index futures contracts based on S&P CNX Nifty Index and BSE-30 (Sensex) Index. This was followed by approval for trading in options based on these two indices and options on individual securities. The trading in index options commenced in June 2001 and those in options on individual securities commenced in July 2001. Futures contracts on individual stock were launched in November 2001. The sequence of events leading to the introduction of trading of derivatives is presented in Table 2.1.

**Table 2.1** Chronology of Events leading to Derivatives Trading

1956	Enactment of the Securities Contracts (Regulation) Act which prohibited all options in securities
1969	Issue of Notification which prohibited forward trading in securities
1995	Promulgation of the Securities Laws (Amendment) Ordinance which withdrew prohibition on options
1996	Setting up of L. C. Gupta Committee to develop regulatory framework for derivatives trading in India
1998	Constitution of J. R. Varma Group to develop measures for risk containment for derivatives
1999	Enactment of the Securities Laws (Amendment) Act which defined derivatives as securities
2000	Withdrawal of 1969 Notification
May 2000	SEBI granted approval to NSE and BSE to commence trading of derivatives
Jun 2000	Trading in index futures commenced
Jun 2001	Trading in index options commenced Ban on all deferral products imposed
Jul 2001	Trading in stock options commenced Rolling settlement introduced for active securities
Nov 2001	Trading in stock futures commenced

## 2.2 Political Economy

Even while efforts were on to address the legal issues, a section of the market community raised its voice against the introduction of derivatives, sensing perhaps a threat to the historical leverage products. Unfortunately, the arguments were by and large pitched on an emotional level rather than aimed at discussing and analysing objectively any substantive issue concerning derivatives. Some of the issues thrown up at that time were: “derivative trading is against our fundamental philosophy/culture”; “it would serve as a tool for foreign investors to capture our market”; “it is risky and may result in large institutional disasters”; “Indian investors are not sophisticated enough to understand derivatives”; “it was banned earlier with a good reason.”

It soon became clear that considerable effort would be required to create awareness and to remove misgivings before derivatives could commence

trading. Given the emotional pitch of some of the issues raised, an in-depth examination of issues by professionals was considered the sensible course of action. The Committees (L. C. Gupta Committee and J. R. Varma Group) set up by SEBI served a very useful purpose in this regard. For example, the L. C. Gupta Committee examined threadbare the various issues which had been raised as part of its efforts to develop a sound regulatory framework. The reports of the Committees were able to publicly communicate the need for derivatives as also the development of a sound regulatory framework. The ability to accommodate diverse views and opinions, and increasingly analyse issues in an empirically rigorous framework instilled considerable confidence in the community.

Eventually, the Securities laws (Amendment) Bill was introduced in Parliament in 1998 to pave the way for derivatives trading. The bill was referred to the Standing Committee on Finance (SCF) for examination. There was an intense debate in and outside the SCF on the desirability and the timing of introduction of trading of derivatives in India. After several rounds of discussions, it held the opinion that the introduction of derivatives, if implemented with proper safeguards and risk containment measures will certainly give a fillip to the sagging market, result in enhanced investment activity and instill greater confidence among the investors/ participants. It recommended the bill for enactment.

### 2.3 Marketing the product

The SCF, while recommending the derivative bill, realised that there was an urgent need to educate investors by creating awareness among them through intensive educational programmes. As the product itself was new and the terminology unfamiliar, it became obvious that education and training would have to form the key component of the strategy to spread derivatives. NSE took up this challenge with a missionary zeal, though the idea that exchanges had to market a product was itself new. Historically, with both limited competition and limited innovation in the industry, customers came to the exchanges and their member brokers, not the other way round. With NSE bringing in serious competition, the industry began to change rapidly and saw the need to reach out to customers.

NSE started the process of training member brokers in derivatives as far back as 1996. The early years saw the program proceed in fits and

starts. The early enthusiasm waned as the community felt that approval for trading was nowhere on the horizon. They were keen to translate the theoretical learning into actual prices and trades which was not possible. However, NSE persevered with its educational efforts, soon extending its program to cover investors, both retail and institutional.

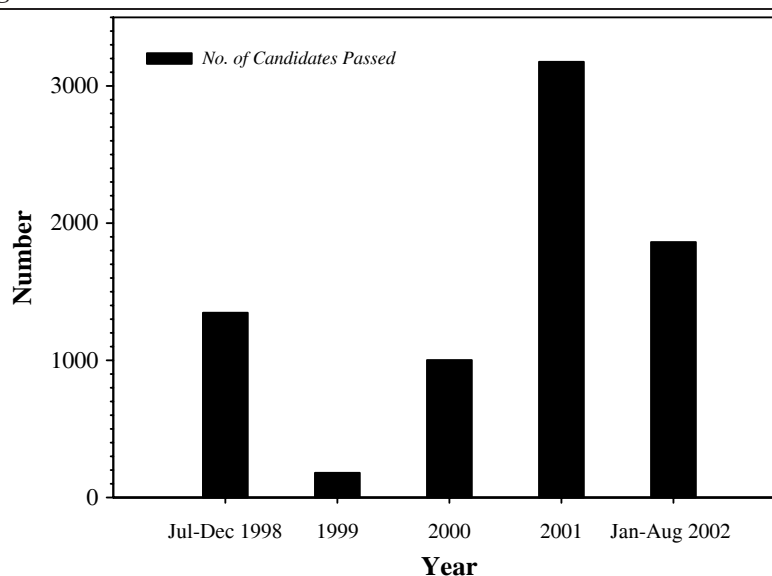
NSE spread its early training programs in Mumbai across the country and was soon conducting one a week on average somewhere around the country. The early program with futures was subsequently extended to cover options. The initial program in English was soon complemented with programs in Hindi, Gujarati and Tamil. A detailed workbook was also prepared and made available to the investor community at large through the exchange's web site. Once trading commenced, naturally the nature and level of interest in the exchange's programmes improved sharply. More realistic numerical examples could be included in the presentations, mispricing and arbitrage opportunities pointed out, etc. The press began to report on prices and volumes and more importantly a few market analysts began to report on their views on market trends and developments. This was supported by the exchange organising workshops for market analysts and the press. NSE also started putting out a monthly 'derivatives update' on its web site to further build and sustain market interest.

At the institutional level, the exchange visited virtually each institutional investor more than once, discussing with them the practical aspects of using derivatives. In sharp contrast to the experience outside our country, the exchange was struck by the relative differences in enthusiasm between the individual investors and the institutional ones in learning about and accepting a new product. The institutions were most resistant to changing their tried and tested ways, even when faced with the obvious advantages of participation in the new products. At the same time, issues relating to back office systems, the absence of clear accounting and tax guidelines, the extent to which they could participate and the approval process etc. proved significant barriers in the case of institutions. Even after two years of derivative trading, institutional participation is quite limited.

The L. C. Gupta Committee recommended that the broker-members, sales persons/dealers in the derivatives market must pass a certification programme considered adequate by SEBI. To safeguard the integrity of the market and protect investors, the SCF recommended that SEBI should endeavour to conduct the certification programme on derivatives trading in

consultation with the stock exchanges. NSE also realized that introduction of derivatives requires corresponding improvements in human skills. It therefore launched a formal certification programme, called the National Certification for Financial Markets (NCFM), a web based on-line objective type test to build a cadre of equipped people who can deal in derivatives with ease and comfort. The training program closely dovetailed with the certification test worked out well, producing a reasonably high rate of success. The exchange also worked closely with colleges and other academic institutions which saw a perceptible rise in the participation of the student community in the NCFM certification and the inclusion of derivatives in the academic curriculum. Figure 2.1 indicates the popularity of NCFM and availability of qualified personnel to deal in derivatives.

**Figure 2.1** Derivative Core Module of



#### 2.4 Strengthening the Underlying Market

The L. C. Gupta Committee felt that the operations of the cash market, on which the derivatives market would be based, needed improvement in many respects. The objective of development of a derivatives market on sound lines would best be achieved by separating the cash market from the

futures market, which would shift the speculative activity from the cash market towards the derivatives market.

While NSE was able to bring down the settlement period from the historical norm of two weeks to a week even in the face of rapidly rising volumes, the discomfort with the account period style of settlement remained. The international norm was clear: rolling settlement cycles which may start with T+5 but would have to rapidly migrate to T+3 or less. The market was quite fearful of such a change, for a large part of its liquidity was dependent on this leverage. But the real problem with the account period settlement cycle was the amalgam of cash and futures prices it was throwing up and the absence of a clean hedge instrument. Market participants were used to hedging their exposures through the cumbersome process of taking opposing positions in some select securities, irrespective of how poor a hedge such positions offered. There was little choice. The market conditions, it appeared, were tailor-made for the introduction of equity derivatives. And yet, the market was to prove to be most resistant to such a change as the experience of the next few years showed.

The push came from the regulator. SEBI decided that select securities (initially numbering 251) would be settled only in the compulsory rolling format on all the exchanges from July 2, 2001. Added to the securities which were already under compulsory rolling settlement, this move brought the total number of securities in rolling settlement to 414 by July 2001. The stocks which were not under compulsory rolling settlement as on July 2, 2001 were brought under compulsory rolling settlement from December 31, 2001. The rolling settlement regime moved to T+3 basis for all listed securities from April 1, 2002. As individual stock derivatives would henceforth provide the hedging facilities earlier made through deferral products, SEBI banned all deferral products from July 2, 2001.

## 2.5 Sequencing of Products

The first piece of paper seeking approval to introduce equity derivatives was moved as far back as in early 1996. The intention was to commence trading with index futures as a more sensible market entry strategy. The new instrument would be easy to understand, it would allow a play on the market as a whole, and if the index was constructed properly, would be an excellent hedge as well. NSE spent considerable time building a

professional index of 50 securities (the “Nifty”) which it considered ideal for this purpose. In fact, it constructed the index with as much an eye on its tradability as on a benchmark for market levels. Thus, liquidity of the individual components of the index became a critical criterion for their inclusion into the index.

The L. C. Gupta committee had also recommended a phased introduction of derivative products. To start with, index futures were to be introduced, which would be followed by options on index and later options on stocks. SEBI followed this order which allowed participants to learn gradually about more sophisticated products.

## 2.6 Contract Specification

The contract specification for derivatives traded on NSE are summarised in Table 2.2. The index futures and index options contracts traded on NSE are based on S&P CNX Nifty Index, while stock futures and options are based on individual securities. Presently stock futures and options are available on 31 securities. While the index options are European style, stock options are American style. There are a minimum of five strike prices, two ‘in-the-money’, one ‘at-the-money’ and two ‘out-of-the-money’ for every call and put option. At any point of time there are only three contracts available for trading, with one month, two months and three months to expiry. These contracts expire on the last Thursday of the expiry month and have a maximum of three month expiration cycle. A new contract is introduced on the next trading day following the expiry of the near month contract. All derivatives contracts are presently cash settled.

## 2.7 Risk Management

Market participants realized that a clean canvas offered a sensible opportunity to deviate from past practices and introduce sound principles of risk management through the instrumentality of the L. C. Gupta Committee and the J. R. Varma Group. Several key decisions were taken. First, a concept of clearing members as distinct from trading members was introduced to allow the relatively weaker trading members to effectively participate in this market by outsourcing the risk management of their positions to relatively stronger clearing members. This segregation of trading interests from clearing interests is likely to have fundamental and far reaching con-

**Table 2.2 Contract Specification for F&O Contracts of NSE**

Particulars	Index Futures	Stock Futures	Index Options	Stock Options
Security Description	N FUTIDX NIFTY	N FUTSTK —	N OPTIDX NIFTY	N OPTSTK —
Underlying	S&P CNX Nifty Index	Individual Securities	0	Individual Securities
Style of Option	NA	NA	European	American
Contract Size (minimum value of Rs.2 lakh)	200 or multiples thereof	Multiples of 100, as may be specified by NSE	200 or multiples thereof	Multiples of 100, as may be specified by NSE
Price Steps			Rs.0.05	
Expiration Months			3 near months	
Trading Cycle		A maximum of three month trading cycle - the near month (one), the next month (two) and the far month (three). New contract is introduced on the next trading day following the expiry of near month contract		
Last Trading/Expiration Day		Last Thursday of the expiry month or the preceding trading day, if last Thursday is a trading holiday		
Price Bands	NA			
No. of Strike Prices	NA	NA	Minimum of 5 (two 'in the money', one 'at the money' and two 'out of the money') for every option type (i.e. call and put)	Minimum of 5 (two 'in the money', one 'at the money' and two 'out of the money') for every option type (i.e. call and put)
Strike Price Interval (in Rs.)	NA	NA	20	Between 2.5 and 100 depending on the price of underlying
Settlement	In cash on T+1 basis	In cash on T+1 basis	In cash on T+1 basis	Daily settlement on T+1 basis and final settlement on T+3 basis
Daily Settlement Price	Closing price of futures contract	Closing price of futures contract	Premium Value (net)	Premium Value (net)
Final Settlement Price	Closing value of index on expiry day	Closing value of securities on expiry day	Closing value of index on expiry day	Closing price of security on exercise day or expiry day
Settlement Day			Last trading day	
Margins		Up-front initial margin on daily basis		
NA: Not applicable				

sequences over time for our market. While at present most member brokers are reluctant to part with the clearing and settlement responsibility to third parties, it is not difficult to visualize this happening over time as powerful and high net worth professional clearing members emerge. Second, margins in this market were to be portfolio based on a 99 percent value at risk (VaR) approach. Margins were to be collected for the first time on positions at the client level and settlement guarantee would also be extended to the client level. Equally importantly, margins were to be collected upfront, a remarkable decision given the outstanding issues with funds settlement within the banking system. Third, position limits were introduced at the client level, at the member level and market wide to prevent the possibility of ballooning of open positions which could endanger the safety of the market.

These were all important decisions given the intensely retail nature of our market, and were bound to find reflection in the thinking on risk management in the underlying market once the market realized that these were not difficult to implement and greatly enhanced market safety.

### 3 The Early Experience

#### 3.1 The Kink in the Curve

Derivatives are traded on two exchanges, NSE and BSE. The details of trades on these exchanges since their introduction are presented in Table 2.3 below. The total exchange traded derivatives witnessed a volume of Rs.103, 848 crore during 2001-02 as against Rs.4,018 crore during the preceding year. NSE accounted for the bulk of the total turnover.

Not surprisingly, the first year of operations saw modest volumes. Average monthly traded value was around Rs.240 crore, approximately Rs.12 crore per day. The period January to March saw better volumes reflecting the higher levels of volatility in the underlying market. However, the kink in the curve came in 2001, an interesting year for derivatives. Three new products, index options, options on individual securities and futures on individual securities were introduced in 2001. At about the same time, SEBI introduced T+5 rolling settlements and banned deferral products. The number of users enabled to participate in derivatives trading also rose as members gradually acquired SEBI approval. By June 2001 volumes

had touched Rs.800 crore and in July, it crossed Rs.2,000 crore. September 2001 saw a huge surge in derivatives volumes globally. India was no exception and saw volumes cross Rs.5,000 crore.

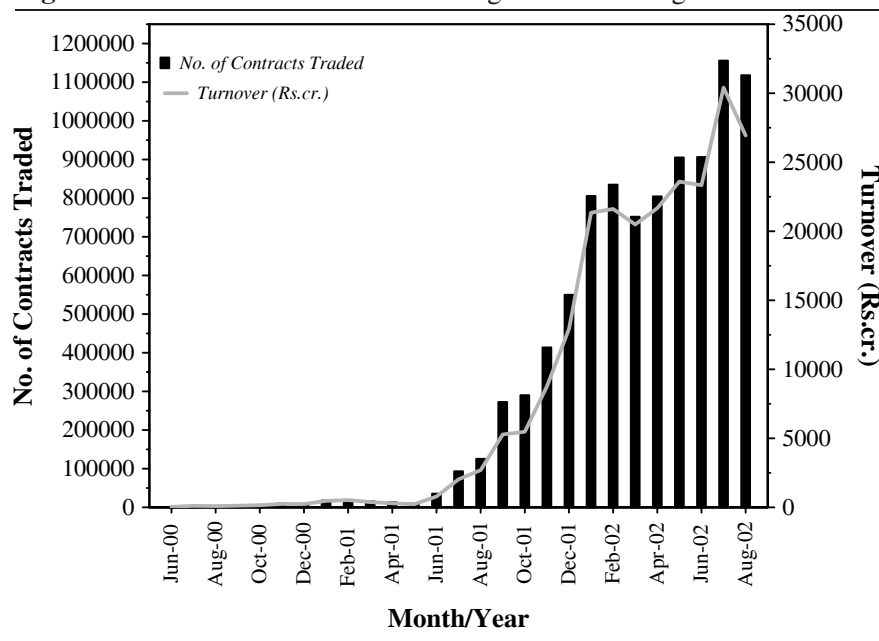
**Table 2.3** Trade Details of Derivatives Market

Month/Year	NSE		BSE		TOTAL	
	No. of Contracts Traded	Turnover (Rs.cr.)	No. of Contracts Traded	Turnover (Rs.cr.)	No. of Contracts Traded	Turnover (Rs.cr.)
Jun '00	1,191	35	2,349	56	3,540	91
Jul '00	3,783	108	6,741	156	10,524	264
Aug '00	3,301	90	5,760	126	9,061	216
Sep '00	4,376	119	3,982	88	8,358	207
Oct '00	6,388	153	6,821	130	13,209	283
Nov '00	9,892	247	9,847	194	19,739	441
Dec '00	9,208	237	7,952	163	17,160	400
Jan '01	17,860	471	12,588	264	30,448	735
Feb '01	19,141	524	14,893	361	34,034	885
Mar '01	15,440	381	5,802	116	21,242	497
<b>2000-01</b>						
<b>(Jun-Mar)</b>	<b>90,580</b>	<b>2,365</b>	<b>76,735</b>	<b>1,653</b>	<b>167,315</b>	<b>4,018</b>
Apr '01	13,274	292	1,617	28	14,891	320
May '01	10,048	230	656	12	10,704	242
Jun '01	35,466	785	2,708	55	38,174	840
Jul '01	93,306	2,031	3,014	55	96,320	2,086
Aug '01	125,589	2,696	33,758	596	159,347	3,292
Sep '01	272,572	5,281	26,253	399	298,825	5,680
Oct '01	290,209	5,477	3,965	56	294,174	5,533
Nov '01	413,809	8,760	6,690	136	420,499	8,896
Dec '01	550,020	12,919	4,143	86	554,163	13,005
Jan '02	805,638	21,348	6,038	146	811,676	21,494
Feb '02	834,984	21,616	14,843	307	849,827	21,923
Mar '02	751,958	20,490	1,922	48	753,880	20,538
<b>2001-02</b>	<b>4,196,873</b>	<b>101,925</b>	<b>105,607</b>	<b>1,923</b>	<b>4,302,480</b>	<b>103,848</b>
Apr '02	804,602	21,674		24		21,698
May '02	905,236	23,600		115		23,715
Jun '02	906,464	23,332		103		23,435
Jul '02	1,155,897	30,407				
Aug '02	1,118,052	26,938				

Stock futures were introduced in November 2001. Given the market's historical preference to think in terms of individual securities even when they intend to take an exposure to the market at large, market volumes jumped. Current volumes are stable at around Rs.1200 crore per day with

fairly liquid contracts in the near month. The Futures and Options (F&O) segment witnessed a record turnover of Rs.2,156 crore on February 28, 2002. The business growth of the F&O segment is presented in Table 2.4 and Figure 2.2.

**Figure 2.2** Business Growth on F&O Segment as on August 2002



### 3.2 Distribution of Turnover

Though stock futures were introduced in November 2001 and these contracts are available only on 31 securities, it accounted for about 50 percent of total turnover in F&O Segment for the year 2001-02. The product-wise distribution of turnover in F&O segment for the year 2001-02 is presented in Figure 2.3.

Table 2.4 Business Growth of F&amp;O Market Segment

Month/ Year	Index Futures		Stock Futures		Index Options				Stock Options				Total		Average Daily Turnover (Rs.cr.)
	No. of Contracts Traded	Turnover (Rs.cr.)	No. of Contracts Traded	Turnover (Rs.cr.)	Call Contracts Traded	No. of Notional (Rs.cr.)	Put Contracts Traded	Turnover (Rs.cr.)	Call Contracts Traded	No. of Notional (Rs.cr.)	Put Contracts Traded	Turnover (Rs.cr.)	No. of Contracts Traded	Turnover (Rs.cr.)	
Jun '00	1,191	35	-	-	-	-	-	-	-	-	-	-	1,191	35	2
Jul '00	3,783	108	-	-	-	-	-	-	-	-	-	-	3,783	108	5
Aug '00	3,301	90	-	-	-	-	-	-	-	-	-	-	3,301	90	4
Sep '00	4,376	119	-	-	-	-	-	-	-	-	-	-	4,376	119	6
Oct '00	6,388	153	-	-	-	-	-	-	-	-	-	-	6,388	153	7
Nov '00	9,892	247	-	-	-	-	-	-	-	-	-	-	9,892	247	11
Dec '00	9,208	237	-	-	-	-	-	-	-	-	-	-	9,208	237	12
1-Jan	17,860	471	-	-	-	-	-	-	-	-	-	-	17,860	471	21
1-Feb	19,141	524	-	-	-	-	-	-	-	-	-	-	19,141	524	26
1-Mar	15,440	381	-	-	-	-	-	-	-	-	-	-	15,440	381	18
Jun '00 to Mar '01	90,580	2,365	-	-	-	-	-	-	-	-	-	-	90,580	2,365	12
1-Apr	13,274	292	-	-	-	-	-	-	-	-	-	-	13,274	292	15
1-May	10,048	230	-	-	-	-	-	-	-	-	-	-	10,048	230	10
1-Jun	26,805	590	-	-	5,232	119	3,429	77	-	-	-	-	35,466	785	37
1-Jul	60,644	1,309	-	-	8,613	191	6,221	135	13,082	290	4,746	106	93,306	2,031	92
1-Aug	60,979	1,305	-	-	7,598	165	5,533	119	38,971	844	12,508	263	125,589	2,696	128
1-Sep	154,298	2,857	-	-	12,188	243	8,262	169	64,344	1,322	33,480	690	272,572	5,281	264
1-Oct	131,467	2,485	-	-	16,787	326	12,324	233	85,844	1,632	43,787	801	290,209	5,477	261
1-Nov	121,697	2,484	125,946	2,811	14,994	310	7,189	145	112,499	2,372	31,484	638	413,809	8,760	438
1-Dec	109,303	2,339	309,755	7,515	12,890	287	5,513	118	84,134	1,986	28,425	674	550,020	12,919	680

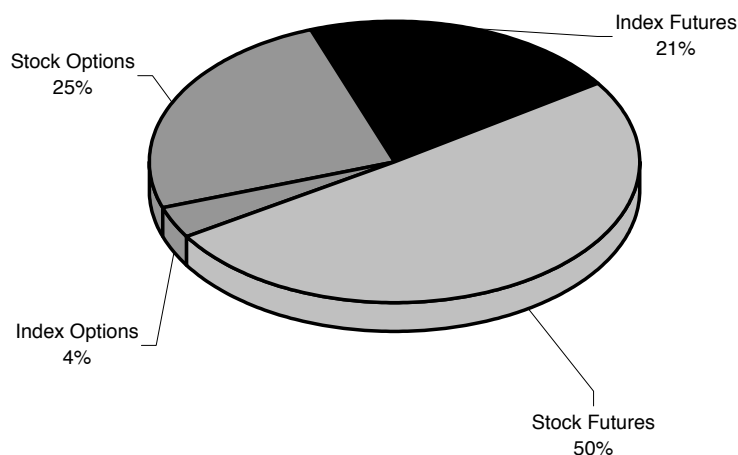
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**Table 2.4 Business Growth of F&O Market Segment**

Month/ Year	Index Futures		Stock Futures		Index Options			Stock Options			Total		Average Daily Turnover (Rs.cr.)		
	No. of Contracts Traded	Turnover (Rs.cr.)	No. of Contracts Traded	Turnover (Rs.cr.)	Call Contracts Traded	No. of Notional Contracts Traded	Put Contracts Traded	Call Contracts Traded	No. of Notional Contracts Traded	Put Contracts Traded	No. of Contracts Traded	Turnover (Rs.cr.)			
2-Jan	122,182	2,660	489,793	13,261	11,285	253	3,933	85	133,947	3,836	44,498	1,253	805,638	21,348	928
2-Feb	120,662	2,747	528,947	13,939	13,941	323	4,749	107	133,630	3,635	33,055	864	834,984	21,616	1,081
2-Mar	94,229	2,185	503,415	13,989	10,446	249	4,773	111	101,708	2,863	37,387	1,094	751,958	20,490	1,078
2001-02	1,025,588	21,482	1,957,856	51,516	113,974	2,466	61,926	1,300	768,159	18,780	269,370	6,383	4,196,873	101,925	413
2-Apr	73,635	1,656	552,727	15,065	11,183	260	5,389	122	121,225	3,400	40,443	1,170	804,602	21,674	985
2-May	94,312	2,022	605,284	15,981	13,070	294	7,719	169	126,867	3,490	57,984	1,643	905,236	23,600	1,073
2-Jun	99,514	2,123	616,461	16,178	10,272	223	7,805	166	123,493	3,325	48,919	1,317	906,464	23,332	1,167
2-Jul	122,663	2,513	789,290	21,205	16,637	350	7,688	162	154,089	4,341	65,530	1,837	1,155,897	30,407	1,322
2-Aug	152,375	2,978	726,310	17,881	15,967	318	10,124	200	147,646	3,837	65,630	1,725	1,118,052	26,938	1,283

Note: 1. Notional Turnover = (Strike Price + Premium) \* Quantity.

2. Index Futures, Index Options, Stock Options and Stock Futures were introduced in June 2000, June 2001, July 2001 and November 2001, respectively.

**Figure 2.3** Product-wise distribution of Turnover, 2001-02

It is evident that the near month contracts are more popular than the not-so-near month contracts; futures are more popular than options; contracts on securities are more popular than those on indices; and call options are more popular than put options. The F&O Segment provides a nationwide market. The city-wise distribution of turnover of the F&O segment is presented in Table 2.5.

**Table 2.5** City-wise Distribution of Turnover of F&O Segment of NSE 2001-02

Sl. No.	Location	Share in Turnover (%)	
		2000-01	2001-02
1	Mumbai	68.33	49.08
2	Delhi/Ghaziabad	20.79	24.28
3	Calcutta/Howrah	2.46	12.6
4	Cochin/Ernakulam/Parur/Kalamerry/Alwaye	1.32	2.44
5	Ahmedabad	0.93	2.25
6	Chennai	3.02	2.01
7	Hyderabad/Secunderabad/Kukatpally	0.12	1.54
8	Others	3.03	5.8
Total		100	100

The geographical dispersion mirrors the pattern visible for the underlying market with its predominant focus on the metro cities. During the year 2001-02, Mumbai contributed nearly 50 percent of total turnover. The

contributions from Delhi and Kolkata were 24.3 percent and 12.6 percent respectively.

It is a matter of some satisfaction that the daily business volumes are quite well dispersed with the top 25 percent of the members accounting for around 40 percent of the business. At the end of August, 2002, 532 members were operating in the F&O segment of NSE. Top 100 members accounted for 75 percent of total turnover during August 2002. The contribution of top "N" members to turnover of F&O segment of NSE during August 2002 is presented in Table 2.6.

**Table 2.6** Share of Top 'N' Trading Members for August 2002

Top 'N' Members	Percentage
5	13.56
10	23.05
25	40.8
50	57.18
100	75.29

It is fascinating to see the Nifty products already occupying the second or the third slot amongst all of the underlying. This bodes well for the future of index products. At the same time, the exchange recognizes that a fairly large number of retail investors who do not have an outlook for a particular company but simply wish to acquire a market exposure, still do so through a single security rather than through the obvious choice of an index. This suggests the need for the exchange to continue with its investor focused programme to further highlight the advantages of using an index product. It also suggests the need to introduce sectoral indices for those investors who wish a sector specific exposure and are today automatically led to the most popular security in that sector. The preference retail investors have shown for products on individual securities is to some extent understandable. A typical retail investor generally owns a sector specific or stock specific portfolio. While the correlation of Nifty to any diversified portfolio is quite high, the investor still finds it convenient to relate his portfolio to the derivative on the specific underlying. This trend gets accentuated in the absence of derivative products on sector specific indices.

One question that is posed often relates to the reasons why the bulk of the derivatives business gravitated to NSE. Some suggest the answer lies with the Nifty being a more tradeable index, others suggest the better "look

and feel” of the F&O screen supplied by NSE. But above all, perhaps the real reason for differential in market share must lie with the fact that the team at NSE worked tirelessly for nearly four years educating and training the community of members and investors in the use of derivatives. By the time the products were launched, the community had come to associate them with NSE. The branding worked. At the same time there was a perception in the market that other exchanges did not fully believe in these products and hoped for the return of the earlier deferral products. The market share outcome to some extent reflected these beliefs.

## 4 Some issues that Remain

Derivatives have been around for about two years. While trading volumes have picked up substantially during 2001-02 with the introduction of stock futures, the full potential is yet to be realised. A few issues impacting on volumes are discussed in this section.

### 4.1 Institutional Participation

Institutional investors have by and large remained out of the market so far, though some of them such as FIIs and MFs, have been permitted to participate. The absence of clarity on tax and accounting treatment, and incomplete internal approval processes continue to be cited as key reasons for their absence from this rapidly growing market. Recent discussions, however, suggest that some of the foreign institutions have completed their due diligence process and may now enter the market in a significant way. Efforts to bring in domestic institutional investors into the market, however, continue to pose a challenge for the exchange. Over time, as institutions with diversified portfolios increase their participation in this market, the business volumes in index products should gain relative to single stock products.

### 4.2 Taxability of Income

The Income-tax Act does not have any specific provision regarding taxability of income from derivatives. In the absence of such a provision, it is apprehended that the derivative contracts, particularly the index futures/options which are essentially cash-settled, may be construed as spec-

ulative transactions. Therefore, the losses, if any, will not be eligible for set off against other incomes of the assessee. Since derivatives are essentially hedging instruments used by investors to hedge against the potential loss, these must not be considered speculative transaction. They must, however, be taxed as normal business income.

### 4.3 Cross Margining

Cross-margining takes into account a member/client's combined position across products/market segments. This would imply that a member's margin with an exchange for one market can be used against the margin requirements of another market. Cross-margining thus results in a far more efficient use of a member's capital for trading in related products and in more than one market.

A clearing corporation can easily compute and levy a single net margin amount based upon offsetting positions in different products/markets/exchanges. In fact, the L. C. Gupta Committee which had suggested the regulatory framework for derivatives, had recommended that cross margining (between spot and derivatives market) should eventually be allowed, as this would optimally use resources. A SEBI constituted advisory committee on derivatives under the chairmanship of Prof. J R Varma is currently looking into cross margining.

### 4.4 Contract Value

In order to prevent small investors from venturing into derivative contracts, the minimum contract size for all derivatives was fixed at Rs.2 lakh. It has, however, been the experience that it is the retail players who have been dominating the derivatives market. The minimum limit of Rs.2 lakh is perceived to be keeping a large number of such investors out of this market. While the cash investment on this lot size is fairly modest, nevertheless the average retail investor appears to face a psychological barrier in committing to an open position of this magnitude. The market believes that reduction in the minimum lot size combined with an increase in the number of securities eligible for futures and options will see the aggregate volumes in derivatives easily exceed those in the cash market. Further, normally the contract size is determined in terms of 100 or 200 units or multiples thereof subject to a minimum value of Rs.2 lakh. In case the contract size

is determined at 100 units with a value of Rs.2 lakh and the price of the underlying doubles, the contract size becomes 100 units with a value of Rs.4 lakh. Thus the upward movement in price after contract multiples were set increases the contract size and further discourages retail participation.

#### 4.5 Physical Settlement

Currently, the derivative products are all cash settled. The issue of physical settlement for single stock derivatives needs resolution. While physical settlement will certainly help arbitrageurs and hedgers, it may also leave open the possibility of a short squeeze. An effective mechanism to lend/borrow stocks would certainly go a long way in mitigating this danger. The J R Varma advisory committee on derivatives is also examining this issue.

#### 4.6 Further Products

Derivatives trading in India has so far been introduced in a fairly limited range of products. Index futures and options are available on only two indices, viz. S&P CNX Nifty and BSE Sensex. Options and futures on individual stocks are available only on select 31 securities. However, conceptually, there is no limit to the range of derivative products as can be seen from the international experience. After the market gains more familiarity with derivative products, the logical next step would be to consider introducing new derivative products based on various other instruments available in financial markets. The index futures/options could be extended to other popular indices, such as the Nifty Junior and Defty. Stock futures/options could be extended to all active securities. The possibility of introducing derivatives with the exchange rate, interest rate and gold as the underlying could be explored.

### 5 Looking Ahead

Clearly, the nascent derivatives market is heading in the right direction. In terms of the number of contracts in single stock derivatives, it is probably the largest market globally. It is no longer a market that can be ignored by any serious participant. With institutional participation set to increase and a broader product rollout inevitable, the market can only widen and deepen further.