9 Derivatives Market

The emergence of the market for derivative products, most notably forwards, futures and options, can be traced back to the willingness of risk-averse economic agents to guard themselves against uncertainties arising out of fluctuations in asset prices. By their very nature, the financial markets are marked by a very high degree of volatility. Through the use of derivative products, it is possible to partially or fully transfer price risks by locking-in asset prices. As instruments of risk management, derivative products generally do not influence the fluctuations in the underlying asset prices. However, by locking-in asset prices, derivative products minimise the impact of fluctuations in asset prices on the profitability and cash flow situation of risk-averse investors.

Derivative products initially emerged as hedging devices against fluctuations in commodity prices and commodity-linked derivatives remained the sole form of such products for almost three hundred years. The financial derivatives came into spotlight in post-1970 period due to growing instability in the financial markets. However, since their emergence, these products have become very popular and by 1990s, they accounted for about two-thirds of total transactions in derivative products. In recent years, the market for financial derivatives has grown tremendously both in terms of variety of instruments available, their complexity and also turnover. In the class of equity derivatives, futures and options on stock indices have gained more popularity than on individual stocks, especially among institutional investors, who are major users of index-linked derivatives. Even small investors find these useful due to high correlation of the popular indices with various portfolios and ease of use. The lower costs associated with index derivatives vis-à-vis derivative products based on individual securities is another reason for their growing use.

The following factors have generally been identified as the major driving force behind growth of financial derivatives:

1. Increased volatility in asset prices in financial markets.
2. Increased integration of national financial markets with the international markets.
3. Marked improvement in communication facilities and sharp decline in their costs.
4. Development of more sophisticated risk management tools, providing economic agents a wider choice of risk management strategies.
5. Innovations in the derivatives markets, which optimally combine the risks and returns over a large number of financial assets, leading to higher returns, reduced risk as well as transaction costs as compared to individual financial assets.

Participants and Functions

Three broad categories of participants - hedgers, speculators, and arbitrageurs – trade in the derivatives market. *Hedgers* face risk associated with the price of an asset. They use futures or options markets to reduce or eliminate this risk. *Speculators* wish to bet on future movements in the price of an asset. Futures and options contracts can give them an extra leverage; that is, they can increase both the potential gains and potential losses in a speculative venture. *Arbitrageurs* are in business to take advantage of a discrepancy between prices in two different markets. If, for

example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

The derivative market performs a number of economic functions. First, prices in an organised derivatives market reflect the perception of market participants about the future and lead the prices of underlying to the perceived future level. The prices of derivatives converge with the prices of the underlying at the expiration of derivative contract. Thus derivatives help in discovery of future as well as current prices. Second, the derivatives market helps to transfer risks from those who have them but may not like them to those who have appetite for them. Third, derivatives, due to their inherent nature, are linked to the underlying cash markets. With the introduction of derivatives, the underlying market witnesses higher trading volumes because of participation by more players who would not otherwise participate for lack of an arrangement to transfer risk. Fourth, speculative trades shift to a more controlled environment of derivatives market. In the absence of an organised derivatives market, speculators trade in the underlying cash markets. Margining, monitoring and surveillance of the activities of various participants become extremely difficult in these kind of mixed markets. Fifth, an important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright, creative, well-educated people with an entrepreneurial attitude. They often energise others to create new businesses, new products and new employment opportunities, the benefit of which are immense. Sixth, derivatives markets help increase savings and investment in the long run. Transfer of risk enables market participants to expand their volume of activity.

Global Derivatives Markets

The derivatives markets have grown manifold in the last two decades. According to Bank for International Settlements (BIS), the approximate size of global derivatives market was US $ 101.7 trillion as at end-December 1999 (Table 9-1). The total estimated notional amount of outstanding over-the-counter (OTC) contracts stood at US $ 88.2 trillion as at end-December 1999, an increase of 9.8% over end-December 1998. The growth of the OTC market was, however, concentrated in the interest rate derivatives

Table 9-1: Global Derivatives Markets

(US $ billion)

	Notional amounts outstanding as at year-end						
	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
OTC Instruments	**8,475**	**11,303**	**17,713**	**25,453**	**29,035**	**80,317**	**88,201**
of which:							
A. Interest Rate Swaps and Options	7,575	10,388	16,515	23,894	27,211	44,259	53,316
B. Currency Swaps and Options	900	915	1,197	1,560	1,824	5,948	4,751
C. Other Instruments *	-	-	-	-	-	30,110	30,134
Exchange-traded Instruments	**7,776**	**8,898**	**9,283**	**10,018**	**12,403**	**13,932**	**13,522**
of which:							
A. Interest Rate Futures and Options	7,323	8,431	8,618	9,257	11,221	12,643	11,669
B. Currency Futures and Options	110	96	154	171	161	81	59
C. Stock Market Index Futures and Options	343	371	511	591	1,021	1,208	1,793
TOTAL	**16,250**	**20,201**	**26,996**	**35,471**	**41,438**	**94,249**	**101,723**

* Includes FRAs, foreign exchange forwards and swaps, equity and commodity instruments.

Source: Bank for International Settlements.

segment. The foreign exchange derivative contracts suffered during 1999 due to introduction of Euro, which adversely affected the stock of euro-denominated foreign exchange instruments. The global OTC derivatives markets were marked by decreased market depth, diminished liquidity, and increased volatility of spreads. The amount outstanding in organised exchange markets declined modestly from US $ 13.9 trillion as at end-December 1998 to US $ 13.5 trillion as at end-December 1999.

The turnover data are available only for exchange-traded derivative contracts. As can observed from Table 9-2, the turnover in derivative contracts traded on exchanges declined by 10.2% during 1999 to US$ 350 trillion as compared to US$ 390 trillion in 1998. The introduction of the Euro and concerns about liquidity ahead of the transition to the new millennium had contributed to the reduction in activity in 1999. While interest rate futures and options accounted for nearly 90% of total turnover during 1999, the popularity of stock market index futures and options grew modestly during the year. Accordingly to BIS, after declining in 1999, turnover in exchange-traded derivative markets recovered strongly in the first half of 2000. Derivatives exchanges continued to explore new business areas, such as trading and clearing of cash market securities and OTC contracts.

Exchange-traded vs. OTC Derivatives Markets

The OTC derivatives markets have witnessed rather sharp growth over the last few years, which has accompanied the modernisation of commercial and investment banking and globalisation of financial activities. The recent developments in information technology have contributed to a great extent to these developments. While both exchange-traded and OTC derivative contracts offer many benefits, the former have rigid structures compared with the latter. It has been widely discussed that the highly leveraged institutions and their OTC derivative positions were the main cause of turbulence in financial markets in 1998. These episodes of turbulence revealed the risks posed to market stability originating in features of OTC derivative instruments and markets.

The OTC derivatives markets have the following features, compared to exchange-traded derivatives:

1. The management of counter-party (credit) risk is decentralised and located within individual institutions;
2. There are no formal centralised limits on individual positions, leverage, or margining;
3. There are no formal rules for risk and burden-sharing;

Table 9-2: Turnover in Derivative Contracts Traded on Exchanges

(US $ trillion)

	1993	1994	1995	1996	1997	1998	1999
Interest Rate Futures	177.3	271.9	266.4	253.6	274.8	296.6	263.8
Interest Rate Options	32.8	46.7	43.3	41.0	48.6	55.8	45.6
Currency Futures	2.8	3.3	3.2	2.6	2.7	2.5	2.6
Currency Options	1.4	1.4	1.3	1.3	0.9	0.5	0.3
Stock Market Index Futures	7.1	9.4	10.6	12.9	16.4	19.6	21.7
Stock Market Index Options	6.3	8.0	9.3	10.2	13.1	14.7	16.1
TOTAL	**227.7**	**340.7**	**334.1**	**321.6**	**356.5**	**389.7**	**350.1**

Source: Bank for International Settlements.

4. There are no formal rules or mechanisms for ensuring market stability and integrity, and for safeguarding the collective interests of market participants; and

5. The OTC contracts are generally not regulated by both a regulatory authority and the exchange's self-regulatory organisation, although they are affected indirectly by national legal systems, banking supervision and market surveillance.

Some of the features of OTC derivatives markets embody risks to financial market stability. The following features of OTC derivatives markets can give rise to instability in institutions, markets, and the international financial system: (i) the dynamic nature of gross credit exposures; (ii) information asymmetries; (iii) the effects of OTC derivative activities on available aggregate credit; (iv) the high concentration of OTC derivative activities in major institutions; and (v) the central role of OTC derivatives markets in the global financial system. Instability arises when shocks, such as counter-party credit events and sharp movements in asset prices that underlie derivative contracts, occur which significantly alter the perceptions of current and potential future credit exposures. When asset prices change rapidly, the size and configuration of counter-party exposures can become unsustainably large and provoke a rapid unwinding of positions.

There has been some progress in addressing these risks and perceptions. However, the progress has been limited in implementing reforms in risk management, including counter-party, liquidity and operational risks, and OTC derivatives markets continue to pose a threat to international financial stability. The problem is more acute as heavy reliance on OTC derivatives creates the possibility of systemic financial events, which fall outside the more formal clearing house structures. Moreover, those who provide OTC derivative products, hedge their risks through the use of exchange traded derivatives. In view of the inherent risks associated with OTC derivatives, and their dependence on exchange traded derivatives, India law considers them illegal.

Developments in India

Legislative Developments

In the last few years, there has been substantial improvement in the functioning of the securities market. Requirements of adequate capitalisation for market intermediaries, margining and establishment of clearing corporations have reduced market and credit risks. Systemic improvements have been effected by introduction of screen-based trading system and electronic transfer and maintenance of ownership records of securities. However, there are inadequate advanced risk management tools. In order to provide such tools and to deepen and strengthen cash market, a need was felt for trading of derivatives like futures and options.

But it was not possible in view of prohibitions in the SC(R)A. Its preamble stated that the Act was to prevent undesirable transactions in securities by regulating business of dealing therein, by prohibiting options and by providing for certain other matters connected therewith. Section 20 of the Act explicitly prohibited all options in securities. Section 16 of the Act empowered Central Government to prohibit by notification any type of transaction in any security. In exercise of this power, Government by its notification in 1969 prohibited all forward trading in securities. Introduction of trading in derivatives required withdrawal of these prohibitions. The Securities Laws (Amendment) Ordinance, 1995, promulgated on January 25, 1995, withdrew the prohibition by repealing section 20 of the SC(R)A and amending its preamble.

The market for derivatives, however, did not take off, as there was no regulatory framework to govern trading of derivatives. SEBI set up a 24-member Committee under the Chairmanship of Dr. L. C. Gupta on November 18, 1996 to

develop appropriate regulatory framework for derivatives trading in India. The Committee submitted its report on March 17, 1998 recommending, among others, that the derivatives may be declared as 'securities' under section 2(h)(iia) of the SC(R)A, so that the regulatory framework applicable to trading of 'securities' could govern trading of derivatives also. (The recommendations of L. C. Gupta Committee are presented in Box IX-1.) Section 2(h) of the SC(R)A which defines 'securities' to include shares, scrips, stocks, bonds, debentures, debenture stock, or

Box IX-1
Major Recommendations of L. C. Gupta Committee

- The Committee strongly favours the introduction of financial derivatives to facilitate hedging in a most cost-efficient way against market risk.
- There is a need for equity derivatives, interest rate derivative and currency derivatives.
- There should be phased introduction of derivatives product. To start with, index futures will be introduced, which will be followed by options on index and later options on stocks.
- Regulatory framework for derivatives trading envisaged two-level regulation i.e. exchange-level and SEBI-level, with considerable emphasis on self-regulatory competence of derivative exchanges under the overall supervision and guidance of SEBI.
- The derivative trading should take place on a separate segment of the existing stock exchanges with an independent governing council where the number of trading members will be limited to 40% of the total number. The Chairman of the governing council will not be permitted to trade on any of the stock exchanges.
- The settlement of derivatives will be through an independent clearing corporation/clearing house which will become counter party for all trades or alternatively guarantee the settlement of all trades. The clearing corporation will have adequate risk containment measures and will collect margins through EFT.
- The derivative exchange will have on-line trading and surveillance systems. It will disseminate trade and price information on real time basis through two information vending networks. It should inspect 100% of members every year.
- There will be complete segregation of client money at the level of trading /clearing member and even at the level of clearing corporation.
- The trading and clearing member will have stringent eligibility conditions. At least two persons should have passed the certification programme approved by SEBI.
- The clearing members should deposit minimum Rs. 50 lakh with the clearing corporation and should have a net worth of Rs. 3 crore.
- Removal of the regulatory prohibition on the use of derivatives by mutual funds while making the trustees responsible to restrict the use of derivatives by mutual funds only to hedging and portfolio balancing and not for speculation.
- The operations of the cash market, on which the derivatives market will be based, needed improvement in many respects.
- Creation of Derivatives Cell, a Derivatives Advisory Committee, and Economic Research Wing by SEBI.
- Declaration of derivatives as securities under section 2(h)(iia) of the SC(R)A and suitable amendment in the notification issued by the Central Government in June 1969 under section 16 of the SC(R)A.

other marketable securities of a like nature in or of any incorporated company or other body corporate, government securities, etc., empowers Central Government to declare "such other" instruments as 'securities'. Government, however, did not declare derivatives to be 'securities', it rather amended the SC(R)A to explicitly define securities to include derivatives, probably because its power to declare any instrument as 'securities' was limited by the words "such other".

The Securities Contracts (Regulation) Amendment Bill, 1998 was introduced in the Lok Sabha on July 4, 1998 proposing to expand the definition of 'securities' to include derivatives within its ambit so that trading in derivatives could be introduced and regulated under the SC(R)A. The Bill was referred to the Standing Committee on Finance (SCF) on July 10, 1998 for examination and report thereon. The committee submitted its report on March 17, 1999. The committee was of 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. The committee after having examined the Bill and being convinced of the needs and objectives of the Bill approved the same for enactment by Parliament with certain modifications.

The SCF recommended following measures to safeguard the integrity of the market and protect investors:

a. Dr. L. C. Gupta committee appointed by SEBI has drawn out detailed guidelines pertaining to the regulatory framework on derivatives prescribing necessary preconditions which should be adopted before the introduction of derivatives.

b. There is an urgent need to educate Indian investors by creating investment awareness among them by conducting intensive educational programmes, so that they are able to understand their risk profiles in a better way.

c. The steps should be taken to strengthen the cash market so that they become strong and efficient.

d. It is incumbent on the regulatory authorities to ensure a strong surveillance / vigilance and enforcement machinery.

e. SEBI should in consultation with the stock exchanges endeavour to conduct the certification programme on derivatives trading with a view to educate the investors and market players.

f. There is a need to protect particularly the small investors by preventing them from venturing into options and futures market, who may be lured by sheer speculative gains. Threshold limit of the derivatives transactions should be pegged not below Rs. 2 lakh.

g. There is an urgent need to prescribe pronounced accounting standards in the case of investors/dealers and also back office standards for intermediaries with a view to reducing the possibility of concealing the loss and perpetrating the frauds by companies/intermediaries to a minimum. Institute of Chartered Accountants of India, in consultation with the stock exchanges, should formulate suitable accounting standard and SEBI should prescribe the same before trading in derivatives is commenced.

The Bill, however, lapsed following the dissolution of 12th Lok Sabha. A fresh Bill, the Securities Laws (Amendment) Bill, 1999 was introduced in the Lok Sabha on October 28, 1999, incorporating the amendments proposed in the Securities Contracts Regulation (Amendment) Bill, 1998 as well as the modifications suggested by the SCF. This Bill was converted into an Act on December 16, 1999.

The Act inserted clause (aa) in section 2 to define derivatives 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, of underlying securities. It has also inserted sub-clause (ia) in section 2(h) to include derivatives within the ambit of securities. Since derivative contracts are generally cash settled, these may be classified as wagers being null and void under section 30 of the Indian Contracts Act 1872, and it may be difficult to enforce derivative contracts. In order to avoid such legal uncertainties, a new section 18A has been inserted to provide that 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 traded on a recognised stock exchange and settled on its clearing house in accordance with rules and bye-laws of such stock exchange. This means that the Act prohibits OTC derivatives. Section 23 has been amended to provide that anybody who enters into a contract in contravention of Section 18A shall be punishable.

The provisions in the SC(R)A and the regulatory framework developed thereunder govern trading in securities. The amendments of the SC(R)A to include derivatives within the ambit of 'securities' in the SC(R)A made trading in derivatives possible within the framework of that Act.

Group on Risk Management

SEBI constituted a group in June 1998 under the Chairmanship of one of its members, Prof. J. R. Varma, to recommend measures for risk containment in the derivatives market in India. The group submitted its report in October 1998, covering the operational details of the margining system, methodology for charging initial margins, broker networth, deposit (liquid assets) requirement and real-time monitoring requirements, including intra-day violations etc. to be followed by all exchanges/clearing corporations, which allow stock index futures trading. The main recommendations of the Group were accepted by SEBI in March 1999. The recommendations of the group are given in Box IX-2.

Forward Trading in Securities

By a notification issued on March 1, 2000, the Government lifted the three-decade old prohibition on forward trading in securities by rescinding 1969 notification. This prohibition was imposed by Government in exercise of its powers under section 16 of the SC(R)A by a notification issued on June 27, 1969 in order to curb certain unhealthy trends, which had developed in the securities markets at that time and to prevent undesirable speculation. In the changed financial environment, the relevance of this prohibition had vastly reduced. Through appropriate amendments in the byelaws of the exchanges, carry-forward transactions in the securities were permitted. Similarly, periodic amendments to the aforesaid notification were made to permit repo transactions in government securities by authorised intermediaries. Even though the notification of 1969 was in force, exceptions had been carved out in course of time as market needs changed and some form of forward trading (carry forward/ ready forward) was prevalent. The repeal of the June 1969 notification was desirable as a measure of market reform to make way for the introduction of derivatives trading. The L. C. Gupta Committee had also recommended in its report that this notification be amended to enable trading in futures and options.

Regulatory Amendments

The regulations for Mutual Funds were amended to allow them to trade in derivatives. Regulations were also amended to provide for application and conditions for registration, payment of fees by trading and clearing members of derivative segment or clearing house.

Currently, FII's do not pay any margins in the cash market and bring in funds only for transactions in equities. In derivatives trading, however, all investors, including FIIs, have to bring in up-front margins. The High Level Committee on Capital Markets favoured FII's to bring in funds in advance to meet their margin requirements for trading in equity derivatives.

Box IX-2
Major recommendations of the Varma Group

The main recommendations of Varma Group are as follows:

(a) Risk Containment

The group has enumerated the risk containment issues that assume importance in the Indian context while setting up an index futures market. Some of the major observations of the Committee are as follows:

Estimation of Volatility

(i) Volatility in Indian market is quite high as compared to developed markets.

(ii) The volatility in Indian market is not constant and is varying over time.

(iii) The statistics on the volatility of the index futures markets do not exist (as these markets are yet to be introduced) and therefore, in the initial period, reliance has to be made on the volatility in the underlying securities market.

(iv) The LCGC has prescribed that no cross margining would be permitted and separate margins would be charged on the position in the futures market and the underlying securities market. In the absence of cross margining, index arbitrage would be costly and therefore possibly inefficient.

Calendar Spreads

In developed markets, calendar spreads are essentially a play on interest rates with negligible stock market exposure. As such margins for calendar spreads are very low. However, in India, the calendar basis risk could be high because of the absence of efficient index arbitrage and the lack of channels for the flow of funds from the organised money market into the index futures market.

Trader Net Worth

Even an accurate 99% "value at risk" model would give rise to end of day mark to market losses exceeding the margin approximately once every six months. Trader networth provides an additional level of safety to the market and works as a deterrent to the incidence of defaults. A member with high networth would try harder to avoid defaults as his own networth would be at stake. The definition of networth needs to be made precise having regard to prevailing accounting practices and laws.

Margin Collection and Enforcement

Apart from the correct calculation of margin, the actual collection of margin is also of equal importance. Since initial margins can be deposited in the form of bank guarantee and securities, the risk containment issues in regard to these need to be tackled.

Clearing Corporation

The clearing corporation provides novation and becomes the counter party for each trade. In the circumstances, the credibility of the clearing corporation assumes importance and issues of governance and transparency need to be addressed.

Position Limits

It may be necessary to prescribe position limits for the market as a whole and for the individual clearing member/trading member/client.

(b) Margining System

SEBI should authorise the use of a particular VaR estimation methodology, but should not mandate a specific minimum margin level. The group approved a particular risk estimation methodology and recommended its use by the derivatives exchange and the clearing corporation to start index futures trading. This methodology works out margins based on volatility estimates. However, for the first six months of trading (until the futures market stabilises with a reasonable level of trading), the initial margin shall not be less than 5%.

Initial Methodology

The group recommended the following margin fixation methodology as initial methodology:

(i) The exponential moving average method would be used to obtain the volatility estimate every day. The estimate at the end of day t, σ_t is estimated using the previous volatility estimate σ_{t-1} (as at the end of day t-1),and the return r_t observed in the futures market during day t.

$$(\sigma_t)^2 = 1\ (\sigma_{t-1})^2 + (1 - \lambda)\ (r_t)^2$$

where λ is a parameter which determines how rapidly volatility estimates change.

(ii) A value of 0.94 would be used for λ.

(iii) The margins for 99% VaR would be based on three sigma limits.

(iv) For statistical reasons, return is defined as the logarithmic return

$$r_t = \ln(I_t/I_{t-1})$$

where I_t is the index futures price at time t.

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Box IX-2
Major recommendations of the Varma Group

(v) Given this statistical definition, the plus/minus three sigma limits for a 99% VaR would specify the maximum/minimum likely logarithmic returns. To convert these into percentage margins, the logarithmic returns would have to be converted into percentage price changes by reversing the logarithmic transformation. Therefore the percentage margin on short positions would be equal to $100(\exp(3\sigma_t)-1)$ and the percentage margin on long positions would be equal to $100(1-\exp(-3\sigma_t))$. This implies slightly larger margins on short positions than on long positions, but the difference is not significant except during periods of high volatility where the difference merely reflects the fact that the downside is limited (prices can at most fall to zero) while the upside is unlimited. The derivatives exchange/clearing corporation may, if it so chooses, simply apply the higher margin on both the buy and sell side.

(vi) To use the formula in (a) above on the first day of index futures trading would require a value of σ_{t-1}, the estimated volatility at the end of the day preceding the first day of index futures trading. This would be obtained as follows: (i) Calculate the standard deviation of returns in the cash index during the last one year, (ii) Set the volatility estimate at the beginning of that year equal to this average value, (iii) Move forward through the year, one day at a time, using the formula in (a) above to get the estimated volatility at the end of that day using cash index prices instead of index future prices, (iv) The estimated volatility by this method at the end of the day preceding the first day of index futures trading would be the value of σ_{t-1} to be used in formula in (a) above at the end of the first day of futures trading. Thereafter each day's estimate σ_t become the σ_{t-1} for the next day.

(vii) As a transitional measure, for the first six months of trading (until the futures market stabilises with a reasonable level of trading), a parallel estimation of volatility would be done using the cash index prices instead of the index futures prices and the higher of the two volatility measures would be used to set margins.

In the initial period, margins for futures market would be set using volatility derived from the cash market as discussed in (f) above. This involves an assumption that the volatility of the Nifty or Sensex futures would be identical to the volatility of the same index in the cash market. However, the volatility in the futures market could be higher because of "noise trader risk". The group was of the view that this was not a serious problem because of the use of the exponential moving average method to estimate volatility. This method is more sensitive to recent data. The weightage attached to volatility figures derived from the cash market declines rapidly as data from the futures markets itself becomes available. Therefore if futures markets do turn out to be more volatile, the margins would adjust upwards very quickly. Moreover, the transitional measures suggested earlier provide a further degree of protection.

Periodic Reporting

The derivatives exchange and clearing corporation should be required to submit periodic reports (quarterly or half-yearly) to SEBI regarding the functioning of the risk estimation methodology highlighting the specific instances where price moves have been beyond the estimated 99% VaR limits.

Continuous Refining

The derivatives exchange and clearing corporation should be encouraged to refine this methodology continuously on the basis of further experience. Any proposal for changes in the methodology should be filed with SEBI and released to the public for comments along with detailed comparative backtesting results of the proposed methodology and the current methodology. The proposal shall specify the date from which the new methodology will become effective and this effective date shall not be less than three months after the date of filing with SEBI. At any time up to two weeks before the effective date, SEBI may instruct the derivatives exchange and clearing corporation not to implement the change, or the derivatives exchange and clearing corporation may on its own decide not to implement the change.

Daily Changes in Margins

The group recommends that the volatility estimated at the end of the day's trading would be used in calculating margin calls at the end of the same day. This implies that during the course of trading, market participants would not know the exact margin that would apply to their position. It was agreed therefore that the volatility estimation and margin fixation methodology would be clearly made known to all market participants so that they can compute what the margin would be for any given closing level of the index. It was also agreed that the trading software would itself provide this information on a real time basis on the trading workstation screen.

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Box IX-2
Major recommendations of the Varma Group

Margining for Calendar Spreads

A calendar spread is a position wherein the position of a member in one contract (one maturity) is hedged by an offsetting (opposite) position in another contract (different maturity) for the same underlying asset. The calendar spreads can be either long spread or short spread depending on the side of the position (long / short) of the far month (maximum expiry month of the two contract which is involved in the spread) contract involved in the Calendar Spread. These spread positions will be valued at the price of the far month contract.

JRVG has recommended levy of margins on the calendar spreads at a flat rate of 0.5% for each month of difference between the contracts involved in the spread combination subject to a minimum of 1% and maximum of 3%. The margining of calendar spreads should be reviewed at the end of six months of index futures trading.

A calendar spread should be treated as a naked position in the far month contract as the near month contract approaches expiry. This change should be affected in gradual steps over the last few days of trading of the near month contract. Specifically, during the last five days of trading of the near month contract, the following percentages of a calendar spread shall be treated as a naked position in the far month contract: 100% on day of expiry, 80% one day before expiry, 60% two days before expiry, 40% three days before expiry, 20% four days before expiry. The balance of the spread shall continue to be treated as a spread. This phasing in will apply both to margining and to the computation of exposure limits.

Margin Collection and Enforcement

The group recommends that the clearing corporation should lay down operational guidelines on collection of margin and standard guidelines for back office accounting at the clearing member and trading member level to facilitate the detection of non-compliance at each level.

Transparency and Disclosure

The group recommends that the clearing corporation/ clearing house shall be required to disclose the details of incidences of failures in collection of margin and / or the settlement dues at least on a quarterly basis. Failure for this purpose means a shortfall for three consecutive trading days of 50% or more of the liquid net worth of the member.

(c) Broker Net Worth

Even an accurate 99% "value at risk" model would give rise to end of day mark to market losses exceeding the margin approximately once every six months. Obviously, the futures market should not be subject to a payments crisis every six months, and this means that there must be a second level of defence in the form of the broker's net worth. The group is of the view that that given the reality of the Indian situation, liquid net worth is a far more meaningful defence against market risk than book net worth.

Liquid Net worth means:

(i) total liquid assets deposited with the exchange/ clearing corporation towards initial margin and capital adequacy, less

(ii) initial margin applicable to the total gross open positions at any given point of time of all trades cleared through the clearing member.

The group recommends that the clearing member's liquid net worth must satisfy the following Conditions 1 and 2 on a real time basis:

(i) Condition 1: Liquid Net Worth shall not be less than Rs 50 lakh at any point of time.

(ii) Condition 2: The mark to market value of gross open positions at any point of time of all trades cleared through the clearing member shall not exceed $33^{1/3}$ times the members' liquid networth.

Liquid Assets

Liquid assets for the purpose of initial margin as well as liquid networth includes cash, fixed deposits, bank guarantees, treasury bills, government securities or dematerialised securities (with suitable haircuts) pledged in favour of the exchange/clearing corporation.

- Bank Guarantees

The group recommends:

a) The Board of Directors or other equivalent organ of the clearing corporation shall lay down exposure limits either in rupee terms or as percentage of the trade guarantee fund that can be exposed to a single bank directly or indirectly. The total exposure would include guarantees provided by the bank for itself or for others as well as debt or equity securities of the bank which have been deposited by members as liquid assets for margins or net worth requirement.

b) Not more than 5% of the trade guarantee fund or 1% of the total liquid assets deposited with the

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Box IX-2
Major recommendations of the Varma Group

clearing house whichever is lower shall be exposed to any single bank which is not rated P1 (or P1+) or equivalent by a RBI recognised credit rating agency and not more than 50% of the trade guarantee fund or 10% of the total liquid assets deposited with the clearing house whichever is lower shall be exposed to all such banks put together.

c) The exposure limits and any changes thereto shall be promptly communicated to SEBI. The clearing corporation shall also periodically disclose to SEBI its actual exposure to various banks.

- Securities

The group recommends that the Board of Directors or other equivalent organ of the clearing corporation shall approve the list of acceptable securities, the hair-cuts applicable to various classes of securities, and the method of periodic revaluation (marking-to-market). The clearing corporation is free to adopt more stringent conditions than those described below. These policies shall be promptly disclosed to SEBI.

a) The marking to market of securities shall be carried out at least weekly for all securities.

b) Debt securities shall be acceptable only if they are investment grade. Haircuts shall be at least 10% with weekly mark to market.

c) The total exposure of the clearing corporation to the debt or equity securities of any company shall not exceed 75% of the trade guarantee fund or 15% of the total liquid assets of the clearing corporation/house whichever is lower. Exposure for this purpose means the mark to market value of the securities less the applicable haircuts.

d) Equity securities shall be in dematerialised form. The acceptable securities shall be the top 100 securities by market capitalisation out of the top 200 securities by market capitalisation and also by trading value. This list shall be updated on the basis of the average market capitalisation over the previous six months. When a security is dropped from the list of acceptable securities, existing deposits of that security will continue to be counted for liquid assets for a period of one month. Haircuts on equity shall be at least 15% with weekly mark to market. The clearing corporation may charge a higher haircut on concentrated portfolios of equity securities deposited by a member.

e) All securities deposited for liquid assets shall be pledged in favour of the clearing corporation.

- Minimum cash requirement

At least 50% of the total liquid assets shall be in the form of cash equivalents viz. cash, bank guarantee, fixed deposits, T-bills and dated government securities.

(d) Position Limits

The group considered the issue of position limits at the customer level, trading member level, clearing member level, and market level.

Customer Level

Instead of recommending position limits at the client level, the group recommends a self-disclosure requirement similar to that in the take-over regulations :

(i) Any person or persons acting in concert who together own 15% or more of the open interest shall be required to report this fact to the exchange and failure to do so shall attract a penalty as laid down by the exchange/clearing corporation/ SEBI.

(ii) This requirement may not be monitored by the exchange on a real time basis, but if during any investigation or otherwise, any violation is proved, penalties can be levied.

(iii) This would not mean a ban on large open positions but only a disclosure requirement.

Trading Member Level

(i) There shall be a position limit at the trading member level of 15% of the open interest or Rs. 100 crore whichever is higher.

(ii) This is to be reviewed after six months of index futures trading. *Clearing Member Level*

No separate position limit should be imposed at this level on aggregate trades cleared by a member. However, the clearing member shall ensure that his own positions and the positions of members clearing through him are within the limits specified.

Market Level

(i) No limits should be imposed at this stage on the total market wide open interest (as a percentage of the underlying market capitalisation).

Contd...

Box IX-2
Major recommendations of the Varma Group

(ii) This should be reviewed at the end of six months of index futures trading to determine whether position limits are required at this level to guard against situations where a very large open interest leads to attempts to manipulate the underlying market.

The group recommends that at the end of six months of futures trading, SEBI should review the risk containment measures with specific reference to the following :

(i) Removal of the transitional provisions.

(ii) Review of the margins for calendar spreads.

(iii) Review of position limits.

(iv) Cross margining between cash and futures markets.

(e) Risk Containment in Cash Market

The group recognises that it is easier to introduce stringent risk containment measures in the derivatives market which are being set up from scratch. However, it does not make sense to have laxer risk containment measures in the cash market than in the derivatives market. The group recommends that the basic ideas enshrined in this report be extended to the cash market. In particular:

(i) the margins in the cash market should be based on a 99% VaR. As an interim measure, the margins could be twice that in the index futures market since individual securities are roughly twice as volatile as the index. Exposure limits could also be commensurately lower than in the derivatives market.

(ii) the recommendations on the computation of liquid net worth and the up front margins could be readily applied to the cash market.

Approval for Derivatives Trading

SEBI granted final approval to the Derivative Segment of the NSE and BSE and their clearing house/corporation for commencement of trading and settlement in SEBI-approved derivative contracts, which included only Index Futures contracts to begin with. The approval was granted for trading in futures contracts based on S&P CNX Nifty Index and on BSE-30 (Sensex) Index. Trading and settlement in derivative contracts would be in accordance with the rules, byelaws, and regulations of the respective exchanges and their clearing house/corporation duly approved by SEBI and notified in the official gazette.

New Derivative Products

A meeting of the Technical Group set up by SEBI for introducing new derivative products, held on August 4, 2000, laid down the broad framework for risk management of index options. It was decided to use a portfolio-based margining approach, which takes an integrated view of the risks involved in the positions of each individual client in various index futures and index options contracts. To cover the risk arising out of change in the value of index as well as index volatility, margining system would have the ability to compute the worst case loss under various scenarios of index and volatility changes and charge margins accordingly. Position limits mandated for future market would also apply to index options. Any short positions on options would be subject to stringent margining. Options on index would have maximum maturity of three months with minimum of three strikes (in the money, near the money and out of the money).

Derivatives Market at NSE

The derivatives trading on the Exchange commenced with S&P CNX Nifty Index futures on June 12, 2000. The futures contract on NSE is based on S&P CNX Nifty Index. Currently, it has a maximum of 3-month expiration cycle. Three contracts are available for trading, with 1 month, 2 months and 3 months expiry. A new contract is introduced on the next trading day following the expiry of the near month contract. Various conditions like, Good-till-Day, Good-till-Cancelled, Good-till-Date, Immediate or Cancel,

Stop loss, etc. can be built into an order. The salient features of S&P Index Futures Contract are presented in Table 9-3.

The trade details of the index futures market of NSE from June to September 2000 are presented in Table 9-4. The movement of Nifty as compared to various Nifty futures since June 2000 is presented in Chart 9-1.

Trading Mechanism

The Futures and Options trading system of NSE, called NEAT-F&O trading system, provides a fully automated screen-based trading for S&P CNX Nifty futures on a nationwide basis and an online monitoring and surveillance mechanism. It supports an order driven market and provides complete transparency of trading operations. It is similar to that of trading of equities in the CM segment.

The NEAT-F&O trading system is accessed by two types of users. The *Trading Members (TM)* have access to functions such as, order entry, order matching, order and trade management. The *Clearing Members (CM)* use the trader workstation for the purpose of monitoring the trading member(s) for whom they clear the trades. Additionally, they can enter and set limits to positions, which a trading member can take.

Charges

The maximum brokerage chargeable by a trading member in relation to trades effected in the contracts admitted to dealing on the derivatives segment of the Exchange is fixed at 2.5% of the contract value, exclusive of statutory levies.

The transaction charges payable by each trading member on the trades executed by him on the derivatives segment are fixed at Rs. 2 per lakh of turnover (0.002%) (each side) or Rs. 1 lakh annually, whichever is higher. However, these charges have been waived upto end of 2000.

The trading members contribute to Investor Protection Fund of derivatives segment at the rate of Rs.10 per crore of turnover (0.0001%) (each side).

Table 9-3: Contract Specification for S&P CNX Nifty Index Futures

Item	Specification
Security Description	N FUTIDX NIFTY
Underlying Unit	S&P CNX Nifty Index.
Contract Size	200 or multiples therof
Price Steps	Rs. 0.05
Price Bands	Not applicable.
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/Expiry Day	The last Thursday of the month or the preceding trading day, if last Thursday is a holiday.
Settlement	In cash on T+1 basis.
Final Settlement Price	Index closing price on the last trading day.[1]
Daily Settlement Price	Closing of futures contract.
Settlement Day	Last trading day.
Trading Hours	9.55 am to 3:30 pm.
Margins	Upfront initial margin on daily basis.

[1] On the last day, the futures closing price for each Nifty index futures contract is computed by taking the weighted average price for the last half an hour's trade.

Table 9-4: Trade Details of Nifty Futures Market- June to September 2000

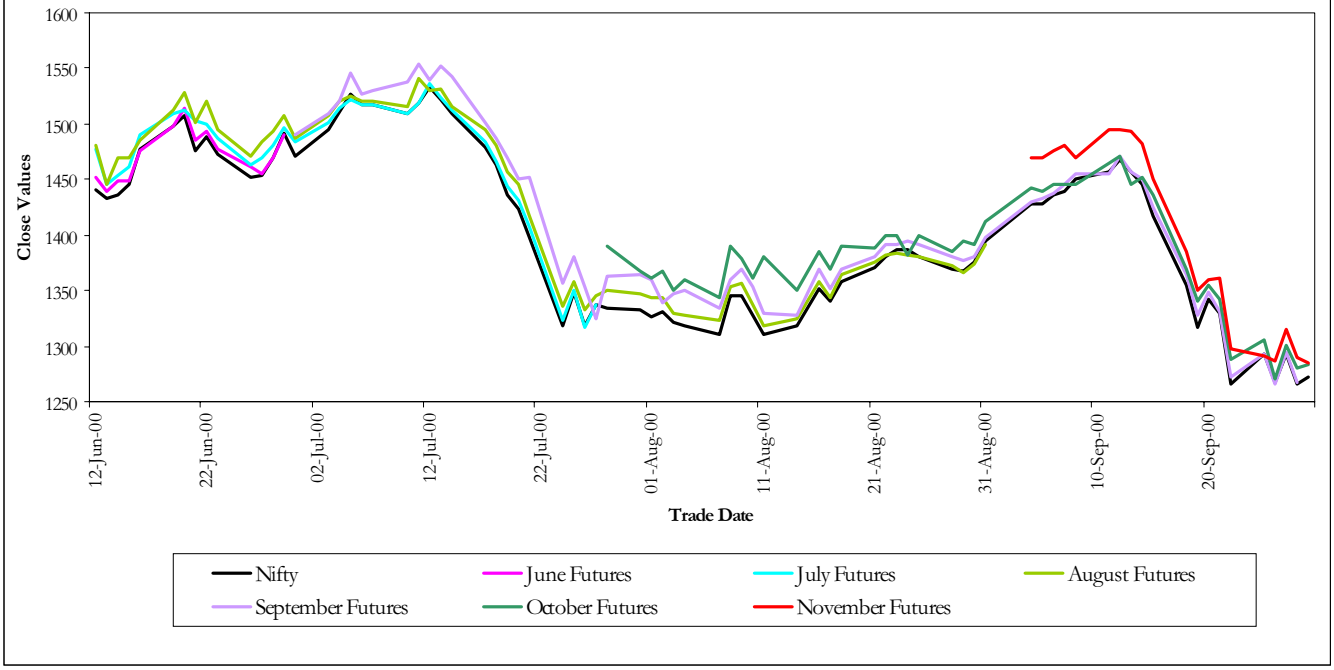
Month/Details	Contract Expiring on						
	29-Jun-00	27-Jul-00	31-Aug-00	28-Sep-00	25-Oct-00	30-Nov-00	28-Dec-00
June 2000							
Close Value *	1490.35	1484.55	1486.40	1490.00	-	-	
Turnover (Rs. crore)	24.42	9.37	1.44	0.03	-	-	
Open Interest * (No. of Contracts)	36	87	15	1	-	-	
July 2000							
Close Value *	-	1336.80	1347.70	1365.00	1390.00	-	
Turnover (Rs. crore)	-	77.97	26.82	3.66	0.03	-	
Open Interest * (No. of Contracts)	-	111	237	34	0	-	
August 2000							
Close Value *	-	-	1392.35	1398.10	1412.00	-	
Turnover (Rs. crore)	-	-	67.47	20.61	1.77		
Open Interest * (No. of Contracts)	-	-	94	174	16	-	
September 2000							
Close Value *	-	-	-	1267.05	1282.80	1285.50	1290.00
Turnover (Rs. crore)	-	-	-	80.68	31.70	6.50	0.03
Open Interest * (No. of Contracts)	-	-	-	256	455	51	1

* As at end of the month or date of expiry of the contract..

Basket Trading Facility in Derivatives Segment

In order to provide a facility for easy arbitrage between futures and cash markets, NSE introduced basket-trading facility. This enables generation of portfolio offline order files in the derivatives trading system and its execution in the cash segment. A trading member can buy or sell a portfolio through a single order, once he determines its size. The system automatically works out the quantity of each security to be bought or sold in proportion to their weights in the portfolio.

Chart 9-1: Movement of Nifty vs. Nifty Futures: June to September 2000



Clearing and Settlement

NSCCL undertakes clearing and settlement of all deals executed on the NSE's derivatives segment. It acts as legal counterparty to all deals on the derivative segment and guarantees settlement.

Types of Clearing Members

In the derivatives segment, NSCCL has admitted Clearing Members (CMs) distinct from Trading Members (TMs). Primarily, a CM undertakes clearing for all his TMs, performs actual settlement and undertakes risk management. There are two types of clearing members:

- Trading Member Clearing Member (TM-CM) – A CM who is also a TM. TM-CM may clear and settle his own proprietary trades and clients' trades as well as clear and settle for other TMs.
- Professional Clearing Member (PCM) – A CM who is not a TM. Typically banks or custodians could become a PCM and clear and settle for TMs.

This is in line with the 2-tier membership structure stipulated by SEBI to enable wider participation in the derivatives segment. All trades on the Derivatives segment are cleared through a CM of NSCCL.

Settlement Mechanism

Nifty index futures contracts are cash settled, i.e., through exchange of cash differences in value. Settlement is done on a daily basis by marking to market all open positions on the basis of the daily settlement price. Members are required to pay the mark to market losses by T+1 day and the same is, in turn, paid to the members who have made a profit. The contracts are finally settled on expiry of the Nifty index futures contract, when NSCCL marks the open positions of a CM to the closing price of the underlying index and resulting profit/ loss is settled in cash.

Risk Management System

The salient features of risk containment measures on the derivatives segment are:

- Only a member on the CM segment can take membership on the Derivatives segment. A member is required to comply with the following capital adequacy norms:

(in Rs. lakh)

Requirement	Existing Members of CM Segment		New Members	
	TM	TM-CM	TM	TM-CM
Net Worth	100	300	100	300
Interest Free Security Deposit	8	33*	25	50
Collateral Security Deposit	-	25	-	25

* Additional deposits of Rs. 10 lakh for each TM for which CM takes clearing.

- NSCCL charges an upfront initial margin for all the open positions of a CM upto client level. It follows value-at-risk (VaR) based margining as stipulated by SEBI's J.R.Varma Committee. The initial margin percentage for Nifty index futures contract will vary daily depending upon the volatility of the Nifty index futures contract. NSCCL computes the initial margin percentage for each Nifty index futures contract on a daily basis and informs the CMs. The CM in turn collects the initial margin from the TMs and their respective clients.
- NSCCL's on-line position monitoring system monitors a CM's open positions on a real-time basis. Limits are set for each CM based on his base capital and additional capital deposited with NSCCL. The on-line position monitoring system generates alerts whenever a CM reaches a position limit set up by NSCCL. NSCCL monitors the CMs and TMs for mark to market value violation and for contract-wise position limit violation.

- CMs are provided a trading terminal for the purpose of monitoring the open positions of all the TMs clearing and settling through them. A CM may set exposure limits for a TM clearing and settling through him. NSCCL assists the CM to monitor the intra-day exposure limits set up by a CM and whenever a TM exceeds the limits, it withdraws the trading facility provided to such TM.
- A separate Settlement Guarantee Fund for this segment has been created out of the capital deposited by the members with NSCCL.

Derivatives Market at BSE

Derivatives trading at BSE commenced with BSE Sensex futures on June 9, 2000. The salient features of BSE Sensex Futures contract are presented in Table 9-5. The trade details of the index futures market of BSE from June to September are presented in Table 9-6.

Derivatives Volumes

It is generally observed that the volumes in the derivatives market are roughly five times the volumes in the cash market. However, as may be seen from Tables 9-4 and 9-6, Indian derivatives market is witnessing low volumes. This is on account of non-participation by institutions who are comfortable with derivatives. They are awaiting certain clarifications pertaining to margins, guidelines or standards for accounting and taxation, and internal approvals. Retail participation would improve with better understanding and comfort with the product. With greater participation the volumes are expected to take off.

Nifty futures at SGX-DT

With commencement of trading in derivatives of securities in India, foreign bourses have evinced interest to introduce trading in derivatives based on Indian indices. Under an agreement, Singapore Exchange Derivatives Trading Limited (SGX-DT) has been granted a license to trade futures and options contracts based on the S&P CNX Nifty Index.

SGX-DT launched the SGX S&P CNX Nifty Index futures contract on September 25, 2000. The contract is based on the S&P CNX Nifty Index, which is owned by IISL, a subsidiary of NSE. The SGX S&P CNX Nifty Index futures is traded in US $, with a contract size equivalent to US $ 20 multiplied by the S&P CNX Nifty Index. Based on the closing index value of 1358.05 on August 18, 2000, the size of each futures contract is about US $ 27,161 (approximately 5 times that of the contract traded in NSE). The contract is cash settled and is traded on the Exchange's electronic trading platform (SGX ETS) from Monday to Friday. The trading of Nifty futures in SGX will enable international market participants gain exposure to the Indian stock market in a highly cost-effective manner. With the growing number of global investors getting exposure to the Indian market place, especially in stocks related to technology, internet and pharmaceuticals, the contract will help participants to effectively trade as well as hedge their portfolios.

Forward Rate Agreements/Interest Rate Swaps

With a view to further deepening the money market as also enable banks, primary dealers (PDs) and all-India financial institutions to hedge interest rate risks and ensure orderly development of derivatives market, the Reserve Bank issued guidelines on Interest Rate Swaps (IRS) and Forward Rate Agreements (FRAs) in July 1999. Participants undertaking FRAs/IRS were required to ensure that appropriate infrastructure, risk management and internal control systems, whereby a clear functional separation of trading, settlement, monitoring, control and accounting activities is provided, are in place before they undertake such activities. The Mid-term Review

Table 9-5: Contract Specification for Sensex Index Futures

Item	Specification
Security Symbol	BSX
Underlying Unit	BSE Sensitive Index
Contract Size	50 or multiples therof
Tick Size	0.1
Minimum Price Fluctuation	Rs. 5
Price Bands	Not applicable.
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/Expiry Day	Last Thursday of the month or the preceding trading day, if last Thursday is a holiday.
Settlement	In cash on T+1 basis.
Final Settlement Price	Index closing price on the last trading day.[1]
Daily Settlement Price	Weighted average price of trades during the day.
Settlement Day	Last trading day.
Trading Hours	Same as in cash market.
Margins	Upfront initial margin on daily basis.

[1] On the last day, the futures closing price for each BSE Sensex futures contract is calculated based on 120 price points of the cash Sensex values during last half an hour of trading. The highest and lowest 20 points are ignored and the closing price is computed as an average of remaining 80 price points.

Table 9-6: Trade Details of BSE Sensex Futures Market- June to September 2000

Month/Details	Contract Expiring on						
	29-Jun-00	27-Jul-00	31-Aug-00	28-Sep-00	25-Oct-00	30-Nov-00	28-Dec-00
June 2000							
Close Value *	4801.40	4760.10	4811.30	No trading	-	-	-
Turnover (Rs.crore)	46.27	8.97	0.87	0.00	-	-	-
Open Interest * (No. of Contracts)	37	136	12	0	-	-	-
July 2000							
Close Value *	-	4266.50	4285.50	4300.00	No trading	-	-
Turnover (Rs.crore)	-	126.29	25.66	3.85	0.00	-	-
Open Interest * (No. of Contracts)	-	205	464	142	0	-	-
August 2000							
Close Value *	-	-	4471.20	4499.60	4519.60	-	-
Turnover (Rs.crore)	-	-	86.16	38.03	1.48	-	-
Open Interest * (No. of Contracts)	-	-	466	438	20	-	-
September 2000							
Close Value *	-	-	-	4068.10	4121.30	4149.80	No trading
Turnover (Rs.crore)	-	-	-	67.72	25.02	3.18	0.00
Open Interest * (No. of Contracts)	-	-	-	152	375	97	0

* As at end of the month or date of expiry of the contract.

of Monetary and Credit Policy for 1999-2000 announced the decision to permit MFs, in addition to corporates, to undertake FRAs/IRS with banks, PDs and financial institutions for hedging their balance sheet risks. The outstanding notional principal of FRAs/IRSs contracts amounted to Rs.4,243 crore as on March 10, 2000, which rose to Rs. 5,831 crore as on June 30, 2000. The tenor of deals generally ranged up to one year and majority of the contracts used MIBOR as the

benchmark rate. The activity in this segment of the market has, however, been limited on account of lack of benchmark rates for longer maturities and large spreads in bid-offer rates. Further, the majority of the prospective participants are in the process of putting in place adequate internal control systems for undertaking FRAs/IRSs and asset-liability management systems, which would facilitate identification of mismatches. Effective April 27, 2000, the use of interest rates implied in the forex forward market as a benchmark has been permitted in addition to the existing domestic money and debt market rates.

Exemption from Stamp Duty

It is felt in some quarters that if the derivative contracts attract stamp duty at existing rates, trading in index futures may be uneconomical. It is, therefore, suggested that derivatives contracts may be exempted from stamp duty. The other view is that there should not be any discrimination between the cash market and the futures market in terms of stamp duty. The securities transactions attract stamp duty at two stages, namely, at the time of entering into the contract, i.e. on contract note and at the time of transfer of securities, i.e. on transfer deed. Transfer of securities in demat mode has recently been exempted from stamp duty. In case of index futures, no transfer of securities is involved and hence no stamp duty is payable. In case of futures on individual securities, there will be no stamp duty on transfer, if it is in demat mode. The contract notes for confirmation of trades done in both cash segment and derivatives segment would attract stamp duty. Hence, securities transactions in cash segment as well as derivatives segment would attract equal treatment in terms of stamp duty. Further, the rate of stamp duty on such contracts is not prohibitively high. In respect of contract notes issued by brokers to clients in Delhi, the stamp duty is applicable @ fifteen paise for every Rs.10,000 or part thereof of the value of the security subject to a maximum of Rs.15. It is Re.1 for every Rs.10,000 or part thereof of the value of the security, i.e., 0.01% in Maharashtra. Such low rates of stamp duty on contract notes only may not have any significant impact on derivative transactions. Further, stamp duty on contract notes being a state subject, efforts to exempt such duty can virtually stall derivatives trading.

Taxability of Profits/Losses from Derivatives

Doubts have been expressed about tax treatment of profits/losses on derivative products. It is possible that an investor does not have all the 30 or 50 stocks represented by the index. As a result an investor's losses or profits out of derivatives transactions, even though they are of hedging nature in real sense, it is apprehended, may be treated as speculative. This means that they may not be set off against other income. As per the Capital Asset Pricing Model, portfolios in any economy move in sympathy with the index although the portfolios do not necessarily contain any security in the index. The index futures are, therefore, used even for hedging the portfolio risk of non-index stocks. An investor who does not have the index stocks can also use the index futures to hedge against the market risk as all the portfolios have a correlation with the overall movement of the market (i.e., index). His profit/loss should not be speculative. However, since the index futures contracts and other derivatives are essentially cash-settled, any profit/loss arising therefrom, if it is not for hedging, may be construed as speculative profits or losses defined under the Income Tax Act and therefore the losses, if any, will not be eligible for set off against the other income of the assesses. This may hinder growth of the derivatives market, as the two sides to a derivative transaction, namely hedger and speculator, are not treated on even footing. Besides, it will be well nigh impossible to determine if a transaction is done for hedging/speculation purpose. In view of difficulties in administration of tax on derivative transaction and need to promote derivative market, derivative transactions may be exempted from the purview of speculative transactions.