

**Paper 1**

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**Discovering Derivatives**

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**Synopsis:**

- A. Introduction
- B. Distinction between forward, futures and options
- C. Swaps
- D. Statistics
- E. Uses of derivative instruments
- F. The scenario in India
- G. Tax implications in relation to
  - Equity swaps
  - Index based derivatives
  - Currency swaps
- H. Conclusion
- I. Summary of the L.C. Gupta Committee Report on derivative trading in India (Annexure 1)

### A. Introduction:

Derivatives are a widely misunderstood term. This word often conjures up visions of speculative dealings, a big boom and a big crash. Bad news spreads fast and the Barings Bank collapse as well as the Orange County episodes have helped strengthen the idea that derivative trading is nothing but reckless speculation.

But this notion is not true. Used carefully, a derivative transaction helps cover risks which would arise on the trading of securities on which the derivative is based. A derivative security, can be defined as a security whose value depends on the values of other underlying variables. Very often, the variables underlying the derivative securities are the prices of traded securities. A stock option, for example, is a derivative security whose value is contingent upon the price of a stock. However, derivative securities can be contingent upon the price of almost any variable. For this reason, another name accorded to derivative securities are contingent claims<sup>1</sup>.

### B. Distinction between forward, futures and options:

Transactions in a derivative market take place either through a forward or futures market. For example, castor seed cultivators may wish to enter in a contract to sell their harvest some time in the future to eliminate the ever prevailing risk of price fluctuations. They can enter into either a forward contract or a futures contract. The prices on the derivative market are driven by the spot market price of the underlying assets (which in this case is the spot price of castor seeds in the commodity market).

**Forward contract:** A forward contract can be regarded as the simplest mode of a derivative transaction. It is an agreement to buy or sell an asset (of a specified quantity) at a certain future time for a certain price. No cash is exchanged when the contract is entered into.

Such a contract is usually between two financial institutions or between a financial institution and one of its corporate clients. One of the parties to a forward contract assumes a *long position* and agrees to buy the underlying asset on the specified future date for a specified future price. The other party to the contract, assumes a *short position* and agrees to sell the asset on the same date for the same price.

The specified price in a forward contract is referred to as the *delivery price*. At the time the contract is entered into, the value of the forward contract to both parties is zero. This means, that it costs nothing to take either a long or short position<sup>2</sup>.

A forward contract is settled at maturity. The holder of a short position delivers the asset to the holder of the long position in return for a cash amount equivalent to the delivery price. On the settlement date the forward contract can have a positive or negative value depending upon the movement of the price of the underlying asset. It is pertinent to note that the forward price and the delivery price of the underlying asset are both equal at the time the contract is entered into. Over a period of time (duration of the forward contract),

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<sup>1</sup> Source: Options, Futures and Other Derivative Securities, by John C. Hull

<sup>2</sup> Source: same as above

the forward price tends to fluctuate but the delivery price remains constant. The difference between the price as on the settlement date and the price at which the forward contract was entered into determines the value of the contract for the buyer and the seller.

If a participant in the derivatives market has information or analysis which forecasts an upturn in price, the participant can go long on the forward market instead of the cash market. The participant can wait for the price to rise and then take a reversing transaction. The use of forward markets thus supplies a leverage benefit to the participant<sup>3</sup>.

*Illustration: On January 1, Mr A enters into a forward contract with Mr B and agrees to buy 200 kgs of wheat, three months later for Rs 20 per kg. The date of maturity is March 31 and the price prevailing is Rs 30 per kg. Thus, Mr A stands to gain by Rs 10 per kg. If the price would have fallen to Rs 15 per kg, he would have lost by Rs 5 per kg.*

Forward markets however, have their share of drawbacks. A forward contract is not dealt with on an exchange. Thus, illiquidity and counter-party risks are the main problems.

**Futures contract:** These drawbacks are eliminated in a futures contract. While, a futures contract is also a contract to buy or sell an asset at a certain specified time in the future at a specified price, such contracts are normally traded on a stock exchange. This leads to standardisation, imparts liquidity and creates a set of rules and regulations which have to be adhered to by the parties to the transaction. In fact, the exchange provides a mechanism which gives the two parties a guarantee that the contract will be honoured. A clearing house becomes the counterparty to both sides of each transaction. As the buyers and sellers do not even know each other, it is the clearing house which guarantees the trade. Another difference between a forward contract and a futures contract is that at the time of entering into a contract, the exact delivery date is also not specified. The contract is referred to by the delivery month and the exchange specifies the period during the month in which the delivery is to be made.

The rules of most future exchanges permit varying degrees of leverage. A small deposit in the present is sufficient to purchase the right to the entire contract in the future -- this deposit is referred to as the *margin*. The leverage allowed is almost as much as 20:1. A leverage however necessitates careful use as the leverage will increase the risk of large losses just as it increases the opportunities for large gains.

To ensure that every customer stands behind the financial obligations of his contracts, the exchange clearing house values each contract in every account at the end of each trading day and readjusts the cash balance of each trader's margin account accordingly. This is called *marking to market*, since the trader is credited with any gains and debited with any losses in his account. The trader can remove from that account any cash resulting from such credits in excess of the margin requirements. Conversely, if the account is debited because of a loss of market value of his contracts, the trader must immediately deposit any cash or permissible collateral required to meet the margin. If the trader does not do so, the concerned futures commission merchant in charge of the account may liquidate

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<sup>3</sup> Source: Derivatives in India, Frequently asked questions, by Ajay Shah & Susan Thomas of IGIDR

the account before the margin monies are exhausted. If there is a negative balance in the account, the futures commission merchant has to make good this loss to the exchange and try and collect it from the trader. Sellers on this exchange are also subject to minimum capital requirements and other regulations<sup>4</sup>.

*Illustration<sup>5</sup>*: The oldest futures market in the US are in agricultural commodities, such as sugar, corn, hogs and cattle. Today, the largest volume of trading is in financial futures, stocks and bonds. These commodity exchanges bring together producers and buyers of commodities looking to lock in future prices and speculators who are willing to take on the risks which the former wish to avoid.

Futures commodity markets make it easy to profit from price changes or guard against them. Although commodity futures contracts provide for the actual delivery of the commodity as on the closing date, very few purchasers have any intention of actually receiving the delivery of such goods, on the delivery date specified in the contract.

In fact, nearly 98% of the contracts to buy and sell futures are cancelled before delivery, as buyers and sellers under the contracts simply pay one another the economic values represented by the contracts, in cash through the exchanges.

A corn farmer, might sell a futures contract on the exchange at the beginning of the season for a quantity equivalent to the expected crop of corn. The farmer may then wait until a few days before the delivery date specified in the contract, sell the crop of corn to the usual buyers at the market prices and at the same time close out his futures contract.

Suppose the farmer sells contracts at the beginning of the season for \$ 30,000. Two days before the first date on which a buyer can require delivery, that contract might be selling for \$ 50,000, as there is a great demand for corn.

Now, the farmer has two choices. The farmer can hold the contract, accept the delivery notice, and deliver the corn under the contract for \$ 30,000 by going through the somewhat burdensome formal delivery procedures. Alternatively, the farmer can buy back the contract absorbing a \$ 20,000 loss on the contract but allowing sale of the corn at market prices for \$ 50,000.

On the other hand, if the prices have fallen to \$ 20,000, the farmer can either deliver the crops as per the contract or sell the contract for a profit of \$ 10,000 and sell the corn on the cash market for \$ 20,000.

Whether the price has gone up or down, and whether the farmer chooses to make delivery or close out the futures contract for cash, the farmer gets \$ 30,000 which is the contract price.

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<sup>4</sup> Source: Strategic Management Issues -- Derivatives for decision makers, by George Crawford and Bidyut Sen

<sup>5</sup> Source: Strategic Management Issues -- Derivative for decision makers, by George Crawford & Bidyut Sen

**Options:** Having distinguished between a forward and a futures contract, it is now essential to know how options work. An option is simply the right (but not the obligation) to buy or sell something at the stated date at a stated price.

An option gives the holder the right to do something. Yet, the holder does not have to exercise this right. This fact distinguishes options from forwards and futures where the holder is obligated to buy or sell the underlying asset. Another distinguishing feature is that while it does not cost anything to enter into a forward or futures contract, an investor must pay to purchase an option contract<sup>6</sup>.

Options are traded on many different exchanges throughout the world. The underlying assets include stocks, stock indices, foreign currencies, debt instruments, commodities and future contracts.

There are basically two types of options viz: *Call option* and *Put option*. However, as either type can be bought or sold, it can be said that there exists four distinctly different types of option instruments.

A call option gives the holder the right to *buy* the underlying asset by a certain date for a certain price. On the other hand, the put option gives the holder the right to *sell* the underlying asset by a certain date for a certain price. The price in the contract is known as the *exercise price* or the *strike price*, the date in the contract is known as the *expiration date*, *exercise date* or *maturity*.

*Illustration -- Buying and Selling a call*<sup>7</sup>:

As mentioned earlier, in buying a call an investor acquires the right, but not the obligation to buy an underlying asset for a specified price during a specified period of time. For example, the investor who pays \$ 3,000 to buy a 'December 102 call option' on a \$ 100,000 US Treasury bond has the right, until December to buy that bond at an exercise price of 102 (\$ 102,000).

If the market price of US Treasury bonds, is now 101, the call option has no intrinsic value and is said to be *out of money*, because no one would like to exercise the call option to buy a Treasury bond for 102 when the bond could be purchased on the open market for 101. However, the call option would still sell for \$ 3,000 because of the possibility that the price of Treasury Bonds may rise before December, when the option expires. This \$ 3,000 price is called its *time value*.

If the price of the Treasury bond falls to 93, the price of the call option will fall, because it will take a bigger market price increase to give the call option any intrinsic value before it rises. For the call option to have any *intrinsic value* the market price must rise above the strike price of 102.

For example, if the price of the Treasury bonds rises to 110, the call option will have an

<sup>6</sup> Source: Options, Futures and Other Derivative Securities, by John C Hull

<sup>7</sup> Source: Strategic Management Issues -- Derivatives for decision makers, by George Crawford & Bidyut Sen

intrinsic value of \$ 8,000 (110 minus 102). When an option has an intrinsic value it is said to be *in the money*. However, in this case the option will sell for more than \$ 8,000 because there will still be an additional time value to the option and the possibility of the price rising above \$ 110 before the call option expires in December.

In selling a call, the investor takes the opposite side of the trade just described. Instead of paying \$ 3,000 for the right to buy the Treasury bond for \$ 102,000 during the option period the investor receives \$ 3,000 for undertaking the obligation to sell the Treasury bond for \$ 102,000 during the option period.

If the investor already owns a Treasury bond called for by the option contract, the investor has sold or *written a covered call*. If the investor does not own a Treasury bond (or a futures contract on such a bond) the investor has sold an *uncovered call*.

Unlike the buyer of the call, whose loss is limited to the \$ 3,000 premium paid for the call, the seller of the call has an unlimited liability. He has to deliver the Treasury bond at the call price, whatever the cost to do so.

If the call is sold for 102 and the price rises to 110, the seller will lose \$ 8,000 (less the \$ 3,000 premium received), which is the equivalent of buying the bond at \$ 110,000 and selling it for \$ 102,000. If the option expires, without having any intrinsic value, the seller of the call can keep the \$ 3,000 cost of the call as a pure profit.

*Illustration -- Buying and selling a put*<sup>8</sup> :

In buying a put option, the investor acquires the right but not the obligation to sell an underlying asset for a specified price during a specified period of time.

For example , an investor who pays \$ 3,000 to buy a December 98 put option on a \$ 100,000 US Treasury bond has the right until December to sell that bond at a strike price or an exercise price of 98 (\$ 98,000). The buyer of the put is in effect placing a bet that the underlying asset will fall in value. If the price does not fall below the strike price, then the investor loses the cost of the put option *ie* \$ 3,000.

If it does fall below the strike price, then the investor will receive a profit equal to the market price less the strike price and the cost of the put option. If the party making this bet actually owns a \$ 100,000 Treasury bond, the bet amounts to the purchase of insurance -- an effective risk reduction strategy. In such a case, if the market price of the Treasury bond rises, the investor can keep the profit made on the Treasury bonds owned by him, though he will lose the premium paid to buy the put. If the market price of the Treasury bonds falls below the exercise price, then his loss on the Treasury bonds owned by him will be offset by the profit on the put options purchased (after deduction of the premium paid for buying such put option).

In selling a put, the investor takes the exactly opposite side of that trade. The seller of the

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<sup>8</sup> Source: Strategic Management Issues -- Derivatives for decision makers, by George Crawford & Bidyut Sen

put receives \$ 3,000 and is obliged to buy the bond for \$ 98,000 during the time period of the put option. This obligation will obviously not be called upon unless the price of the bond is less than 98, as the market will help the seller fetch a better price. However, if the price of the Treasury bond plummets, the seller of the put will be forced to pay the difference between that price and the exercise price of the put no matter how huge this sum may be.

*American and European Options:* In addition to the difference between a call and put option, it is necessary to be aware of the distinction between an American option and a European option.

American options can be exercised at any time up to the expiration date, a European option can be exercised only on the expiration date itself. Most of the options which are traded on exchanges are American, in fact these options are traded even on the European markets.

### C. Swaps

A Swap is nothing but a barter or an exchange, but it plays a very important role in international finance. Currency swaps help eliminate the differences between international capital markets. Interest rate swaps help eliminate barriers caused by regulatory structures. While currency swaps result in exchange of one currency with another, interest rate swaps help exchange a fixed rate of interest with a variable rate. The needs of the parties in a swap transaction are diametrically different. Swaps are not listed and traded on exchanges but they do have an informal market and are traded among dealers.

A swap is a contract which can be effectively combined with other types of derivative instruments. An *option on a swap (swaption)* gives the party the right (but not the obligation) to enter into a swap at a later date. A *cap* or a *floor* in a swap may be used to set an outer limit to the amount the floating rate side of a swap will be forced to pay. A cap is an upper limit while a floor is a lower limit.

Since the upper limit provides an advantage to the party paying the interest and exposes the counterparty to a risk if the limit comes into effect, the party paying the interest must pay for the cap. For example, the party paying the floating interest rate under a swap might be required to pay LIBOR (-1) percent, capped at 10%; the party paying the floating rate interest would pay a price for the 10 percent cap. In contrast, the floor obliges the party to keep paying interest at the floor rate even if the rate as otherwise calculated would be lower. The party agreeing to the floor is therefore paid for doing so.

A *collar* is a combination of a cap and a floor as it places both an upper and a lower limit on the rate. For example, for LIBOR + 1 percent, capped at 10 percent with a floor of 4 percent, the rate paid will be determined by LIBOR + 1 percent. However, it will never exceed 10 percent or fall below 4 percent.

If LIBOR + 1 percent falls below 4 percent, the holder of the collar will receive 4 percent.

Conversely if it rises above 10 percent, the holder will receive no more than 10 percent. A *costless collar* is one in which the amount paid to buy the cap is equal to the amount received for selling the floor<sup>9</sup>.

#### D. Statistics

The tables below provide a glimpse into the global derivatives industry and the chronology of instruments which have been introduced on world markets<sup>10</sup>.

Table 1

#### Global derivatives industry : outstanding contracts US \$ billion

	1986	1990	1993	1994
Exchange traded	583	2292	7839	8838
Interest rate futures	370	1454	4960	5757
Interest rate options	146	600	2362	2623
Currency futures	10	16	30	33
Currency options	39	56	81	55
Stock index futures	15	70	119	128
OTC industry	500	3450	7777	11200
Interest rate swaps	400	2312	6177	8815
Currency swaps	100	578	900	915
Caps, collars, floors, swaptions	nil	561	700	1470
Total	1083	5742	16616	20038

Table 2

#### Chronology of instruments

1874	Commodity futures
1972	Foreign currency futures
1973	Equity options
1975	Treasury bond futures
1981	Currency swaps
1982	Interest rate swaps, T note futures, Eurodollar futures, Equity index futures, Options on T bond futures, Exchange listed currency options
1983	Options on equity index, Options on T-note futures, Options on currency futures, Options on equity index futures, interest rate caps and floors
1985	Eurodollar options, Swaptions
1987	OTC compound options, OTC average options
1989	Futures on interest rate swaps, Quanto options
1990	Equity index swaps
1991	Differential swaps
1993	Captions, exchange listed FLEX options
1994	Credit default options

<sup>9</sup> Source: Strategic Management Issues -- Derivatives for decision makers, by George Crawford & Bidyut Sen

<sup>10</sup> Source: The Financial Express, July 16, 1997



A wide variety of derivative instruments are available in world markets. As can be seen from Table 1, the market size is also immense, This is not the case in India, where derivative trading is yet to gain a foothold.

#### **E. Uses of Derivatives<sup>11</sup>**

***Derivatives can be used as a convenient substitute for other investments, leaving risks and rewards unchanged*** -- For example, instead of buying each of the stocks in Standard & Poor's index of the 500 largest US stocks, a pension fund might buy an S&P 500 futures contract of the same face value and set aside the full value in cash reserves. This strategy is no more or less risky than buying the stocks themselves, but uses futures as an efficient medium for investments.

***Derivatives can be used to hedge other instruments and thereby reduce risks and rewards or can help manage the risks inherent in a business*** -- For example, a pension fund that owns \$ 1 billion of large US stocks, but realises that a temporary market decline is imminent may sell \$ 1 billion of futures contract or buy \$ 1 billion of put options, to protect its portfolio against the risk of a general market decline.

In the context of currency fluctuations, exporters face losses if the rupee appreciates and importers face losses if the rupee depreciates. By forward contracting in the dollar-rupee forward market, they supply insurance to each other and reduce the risk.

***Derivatives can be used speculatively to increase risk and reward through leverage*** - For example, an investor with \$ 1 million could buy futures contracts with a face value equal to \$ 10 million of stock. This investor is taking a big risk in the hope of a gain, leveraging the investment approximately 10:1. If the stock market goes up 10 percent, increasing the value of the stock up to \$ 11 million, then the investor has made a \$ 1 million profit, doubling his initial \$ 1 million investment. If the stock market goes down 10 percent, decreasing the value of the stock to \$ 9 million, then all of the investor's money is lost.

***Derivatives are also the basis for modern financial engineering***-- For example, mortgage derivatives may be used to create a repackaged asset which is only part of an underlying bundle of mortgages financially engineered into a variety of sub-divided forms. One derivative might pass on only the interest payments of the underlying mortgages while another may pass on only the principal. These new instruments would be an additional attraction for the investors with varying needs.

In addition, index based derivatives are very useful in minimising risks. An investor who buys stocks may like to enjoy peace of mind by capping his downside loss. Put options on the index are the ideal form of insurance here. Regardless of the composition of a person's portfolio, index put options will protect him from exposure to a fall in the index. To illustrate, suppose a person has a portfolio worth Rs 1 million and suppose the Nifty (NSE 50 Index) is at 1000. This investor decides that he does not want to suffer a loss worse than 10 percent. He can purchase a Nifty put option with the strike price set to 900.

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<sup>11</sup> Source: Strategic Management Issues -- Derivative for decision makers, by George Crawford & Bidyut Sen

If the Nifty falls below 900 his put option reimburses him for the full loss. Portfolio insurance is thus possible through index based derivatives<sup>12</sup>.

#### **F. The scenario in India**

In India, the derivative market is still in a nascent stage. Derivatives in India were given a new lease of life last year. On January 25, 1995, the Securities Contract (Regulation) Act, 1956 (**SCRA**) was amended with an intention to make options legal. Prior to this date all options in securities were considered illegal. Securities covered by this legislation include shares, scrips, stocks, bonds, debentures and other marketable securities. In fact, this amendment also renders obsolete a notification issued by the Government of India, dated June 27, 1969 which imposed restrictions on the sale or purchase of securities sans delivery. Thus under SCRA, 'option in securities' is no longer illegal. This term includes a contract for the purchase or sale of a right to buy or sell securities in future and includes a put, a call or a put and call in securities. Besides the provisions of SCRA, marketable securities based derivatives fall within the purview of the regulations framed by the Securities and Exchange Board of India (**SEBI**) and the rules and regulations of the regional stock exchanges.

The first steps towards index-based futures trading in India, have been taken. Recently, on September 14, 1997, the committee headed by L.C. Gupta which was appointed by SEBI to look into the possibility of futures trading in India, has submitted Part I of its report and recommended the introduction of index-based futures trading, as a first step towards introduction of equity derivative products. It will be submitting Part II of its report a month later. In Part II the committee will deal basically with devising a regulatory framework for derivatives. In the report already submitted, the committee has tried to remove the misconception prevailing about derivative trading and has recommended its introduction in a phased manner.

While the committee has concentrated mainly on derivatives in equities it has also touched upon interest rate futures and forward exchange futures. Currently, the committee has not recommended the use of any particular index for index-based futures trading. This leaves the field wide open, Nifty, Midcap, Crisil 500, BSE Sensitive Index and National Index are the base indices that could be adopted by any stock exchange<sup>13</sup> (The report is summarised in Annexure-1). Later, in Part II of its report the committee will deal with the rules and regulations for derivative trading. In addition, it is also likely to set criteria such as the minimum base requirement and other eligibility norms for those stock exchanges which would be interested in introducing derivative trading.

The depositories system is in place in India and the L.C. Gupta committee is optimistic that this mechanism will provide a cheaper option for derivative trading. The logic is that, dematerialised shares will provide the much needed arbitrage, between the current and the futures market. Taking delivery, holding and finally offloading of the stocks will have a much lower cost and will be more efficient in the dematerialised segment of trading. Timing is of the essence in derivative trading and hence the depository mode is more apt for derivatives.

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<sup>12</sup> Source: Derivatives in India, Most frequently asked questions, by Ajay Shah and Susan Thomas

<sup>13</sup> Source: The Observer of Business and Politics; September 16, 1997

Under the depository mechanism, an investor can invest in the entire index by buying upto one share in each of the index stocks and thereby drastically reduce his investment cost. If shares are not dematerialised, it may even necessitate purchase of the market lot of each index stock<sup>14</sup>. The report has also emphasised that mutual funds will benefit greatly from derivatives trading.

While SEBI is likely to play a predominant role in the futures market, trading in currency derivatives in India, is regulated under the Foreign Exchange Regulation Act, 1973 (**FERA**) and specific guidelines of the Reserve Bank of India (**RBI**). Credit policy announcement in April this year, by India's central bank *ie* RBI, has boosted activities relating to currency swaps. Commercial banks are allowed to run swap books by offering currency swaps to corporate entities having foreign currency exposures. Further, banks can now book forward contracts for importers and exporters on the basis of a declaration instead of documented transactions. However, such swaps have to be within the commercial bank's open positions or gap limits. Leeway on foreign currency borrowings has also been given to these authorised dealers (commercial banks) regarding foreign currency borrowings. Banks can borrow up to \$ 10 million (Rs 35 crore) from their overseas branches without any restrictions on the end use of such funds in India.

A further impetus to derivative trading has come from an unexpected quarter. A committee chaired by a former director of the RBI (SS Tarapore) submitted its report on Capital Account Convertibility (**CAC**) to the apex bank on June 3, 1997. This report advocates a phased implementation of capital account convertibility over a three year period: Phase 1 (1997-98), Phase II (1998-99) and Phase III (1999-2000).

This report emphasises that CAC will usher in a variety of derivative and risk management products. It mentions that currently, companies are allowed to use derivatives for hedging their currency or interest rate through authorised dealers in India and are not allowed to access the overseas markets directly. The Committee has recommended that in Phase II corporate entities may be allowed to access overseas markets directly for derivatives without having to route such transactions through authorised dealers in India.

The L.C. Gupta committee has taken into cognisance this report on CAC, while touching upon interest rate futures and foreign exchange futures. However, this committee has emphasised the need for a strong cash market. It states that: The futures products derive their value from the cash market, if the cash market is not functioning properly, then the cash asset will not be properly valued.

Trading in derivatives is yet to catch on in India and no specific tax provisions exist. Courts have also not yet dealt with issues pertaining to tax liabilities arising out of currency derivatives. However, India has had a mature dollar - rupee forward market with contracts being traded for one, two or even six months maturity. The daily trading volume on this forward market is around Rs 500 million.

## **G. Tax Implications**

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<sup>14</sup> Source: The Financial Express; September 13, 1997

Having already analysed forwards, futures, options and swaps and looked into the present and future scenario of derivatives in India, it is necessary to analyse the likely tax implications arising out of derivative transactions in case of marketable securities (which will shortly be a reality) and currency swaps. Unfortunately as derivatives are still an unknown commodity in India, tax laws are not clearly defined and courts have also not dealt with these issues.

### *Equity swaps*

The last few years have witnessed considerable excitement on Wall Street, thanks to equity swaps perceived as the latest whiz kid on the 'street'. Generally used by corporate entities and financial institutions, individual shareholders soon caught on to the game. Under a typical equity swap, the shareholder effectively sells his holdings to a bank, promising to buy it back at market price at a future date. However, he retains the voting rights on the shares and does not have to report a sale to the Internal Revenue Service. Thus he avoids paying capital gains taxes. The Securities and Exchange Commission has viewed such transactions as private deals and these transactions cannot be challenged on the ground of insider trading.

This might soon be a common phenomenon in India. Stock lending by registered intermediaries has been recognised by SEBI. Moreover, the Central Board of Direct Taxes in its clarification has stated that such transactions would be outside the ambit of capital gains tax. One of India's largest public limited company -- Reliance Industries Limited has registered with SEBI as an intermediary. Another quasi-government company -- The Stock Holding Corporation of India has also registered itself with SEBI as a stock lending intermediary. One of the criteria for registration is a minimum networth of Rupees 500 million.

These intermediaries are allowed to lend securities. The securities lent may be their own, or those borrowed from registered shareholders. The lenders of securities earn a fee based income. However the lenders retain the rights of the shareholders to dividends and voting rights. The lenders also get the equivalent number of securities after the stipulated time period.

A foreign investor holding investments in the Indian capital markets may be able to conveniently utilise its portfolio for stock lending. Currently, SEBI is in the process of preparing the framework for the Foreign Institutional investors (**FIIs**) to indulge in stock lending. Such act, of lending according to CBDT's circular numbered 751 (dated February 10, 1997) does not amount to a transfer. Thus, there is no incidence of capital gains (even notional capital gains) when the securities are lent. The issue arises, as to the nature of income of such fees in the hands of the lender. The provisions of the Income Tax Act, 1961 (**ITA**) or the relevant double taxation avoidance agreement (whichever is more favourable to the tax payer) are to be adopted.

Classification of the nature of income is a crucial issue. Unfortunately, as stock lending has recently opened up, the tax laws or even treaty agreements are not crystal clear on the issue. Fees from stock lending activities are derived against the securities lent.

Examining the articles pertaining to business income or other income would be ideal as such fees cannot automatically fall within the classification of dividend or interest. In both the cases, whether the income falls within the purview of business income or other income, if the foreign investor does not have a Permanent Establishment (**PE**) in India, such income may be exempt from Indian taxes.

At the same time, it is pertinent to note section 115E of the ITA which deals with tax incidence on non-resident Indians. This section amended with effect from April 1, 1988 states: 'Where the total income of an assessee being a non-resident Indian includes any income from investments..... the tax payable by him on such income shall be at 20 per cent.' Earlier the words in this section were 'investment income'. The term income from investments is definitely wider and can encompass fees earned on stock lending activities.

#### *Index based derivatives*

There is a move to introduce index based derivatives in the Indian market (refer to Annexure 1). It is likely that trading in such derivative instruments whereby there is no actual delivery of the underlying securities will be treated as speculative in nature. If such a contract is entered into by a member of a forward market or a stock exchange in the course of any transaction in the nature of jobbing or arbitrage to guard against any loss which may arise in his capacity as a member, then such a contract by virtue of clause (c) of section 43 of ITA is not regarded as speculative.

For persons other than members of a forward market or a stock exchange, the distinction between a speculative gain and loss is vital. Section 73 of the ITA states that: Losses arising out of a speculation business cannot be set off, except against the profits and gains of any other speculation business. Moreover, if such a loss cannot be absorbed in the year of occurrence, it can be carried forward only for eight succeeding assessment years and be set-off against speculation gains.

But an explanation to section 73 further states that a company (other than one whose gross total income consists mainly of income chargeable under the heads Income from house property, interest on securities, capital gains or income from other sources or a banking or finance company) is said to have entered into a speculative transaction to the extent it engages in the purchase and sale of shares of other companies. Advantage can be taken of the words in this explanation. The term speculative transaction is limited to the purchase and sale of shares, an index derivative instrument would be based on a basket of the underlying securities and not the underlying securities itself. Thus the loss (if any) made on trading in index derivative instruments by companies not covered within the exemption, may also fall outside the purview of speculative loss.

This brings us to another query. Whether the profit or loss on sale of underlying securities is a capital gain or loss or business profit or loss? There is definitely a grey area regarding the distinction between investment and trade. Profit and loss on sale of the underlying asset would definitely be a capital gain or loss. One of the basic principles of financial economics is that portfolio risk is dominated by the market index, irrespective of the composition of the portfolio. Index based derivative transaction are necessarily

entered into to guard against such risks. Index based derivatives constitute a movable asset and the profits and losses arising therefrom may be treated as a capital gain or loss.

### *Currency Swaps*

A currency swap implies a series of forward contracts, where two counter-parties agree to exchange streams of payments or cash flows over a specific period of time. The exchange rate used is the ruling spot rate. At the end of the swap, the principal amounts are re-exchanged at the same spot rate or alternatively a net settlement based on the agreed spot rate is made. During the life of the exchange, swap payments are made between the parties at the agreed fixed rate of interest applicable to each currency.

In the Indian scenario, a large number of companies have accessed external commercial borrowing over the past few years. There is thus adequate demand for instruments to convert a floating rate dollar linked LIBOR loan to a fixed rate rupee loan. However the counterparty can only be an authorised dealer (ie commercial bank).

Let's consider a five year dollar loan with a bullet repayment. Interest is payable half yearly at six month dollar LIBOR. The intention is to swap it into fixed rate rupees. Thus, on each payment date, the corporate entity will pay the counter-party bank a fixed rupee interest at the swap rate on the principal amount of the dollar loan converted to today's spot rate and the bank would pay it dollar interest at dollar LIBOR. The bank may in turn hedge its exposure by entering into a series of rupee borrowings (by carrying out repo transactions in the government securities market) and dollar lendings (by accessing the inter-bank repo market).

An Indian corporate entity cannot at present enter into a currency swap directly with a foreign counter-party. Currency swaps are possible only with a commercial bank based in India. Though tax laws make no specific mention, it can be stated that income or expense or gains and losses will be recognised for tax purposes based upon the accounting treatment followed by the user. If the recommendations made in the report on CAC are accepted, this will be a reality in the year 1998-99. However, as and when it is possible to enter into a currency swap with a non- Indian resident counter-party, the issue of withholding tax on periodic swap payments would arise.

In such an eventuality, the periodic swap payments could be perceived by the tax authorities as an interest payment. However, due to withholding taxes the foreign counter-party would be faced with the problem of receiving a net payment. To avoid this, a gross up clause ( which stipulates that the tax payable will be borne by the Indian payer) may be inserted into the swap agreement. However, in this eventuality the Indian resident payer must keep in mind the provisions of section 195A and CBDT's circular number 155 (dated December 21, 1974). For the purpose of determining the tax deductible at source, the income chargeable in the hands of the foreign counter-party will have to be determined by grossing up the net of tax payment to such an amount as would, after deducting the tax on such gross amount, leave the stipulated net amount of income.

At the same time, it is also possible that such swap payments may not fall within the

definition of interest contained in most DTAs. Hence it is likely that articles pertaining to 'other income' or even 'business profits' will have to be looked into. Again, foreign companies not having a PE in India, may not be taxed in India in respect of such payments. Obtaining an advance ruling on this issue would be a feasible alternative.

## **H. Conclusion**

While the derivative market is yet to fully develop in India, derivatives on Indian securities are currently trading abroad. Many GDR issues are bundled with warrants which are then traded separately. For example, the Hindalco issue done on November 2, 1995 bundled every two shares with one warrant. Custom built derivatives based on Indian market indexes and baskets of Indian GDRs are also known to exist abroad. As the first few steps towards recognition and acceptance of derivatives have been taken, perhaps a few years hence a radical change will be witnessed on the Indian shores.

*Annexure 1***I. Summary of the L.C. Gupta Committee report on derivative trading**

A committee headed by L.C. Gupta was appointed by the Securities and Exchange Board of India (SEBI) in November 18, 1996 in order to develop an appropriate regulatory framework for derivatives trading in India.

The committee, submitted Part I of its report to SEBI on September 12, 1997. In its report it has tried to remove the misconception surrounding derivatives and has envisaged derivatives trading to be a significant developmental step with regard to Indian capital market. Structuring of the derivatives system should be guided by the objective of accelerating the markets development and efficiency, emphasises the report.

The committee members strongly view that there is an urgent need for introducing equity derivatives in India from the viewpoint of market development because the Indian market lacks hedging facilities against market risk to which the equity holders are exposed. The hedging facility has become necessary for institutional equity holders such as mutual funds and other investment institutions which have been accumulating equity portfolios.

In the committee's view, introduction of equity derivatives should be an evolutionary process, but once introduced trading should be left to the market forces, under the SEBI's overall general supervision. The phased introduction should commence with stock index futures. Apart from protecting financial institutions, the introduction of stock index futures will enhance the efficiency and liquidity of the cash market in equities through arbitrage transactions. It will also create pressures for reforming the cash market, which should serve as a solid base for index futures. The L.C. Gupta committee has also recognised the need for currency and index based derivatives but states that decisions for its introduction and implementation vest with the RBI (rather than SEBI). The committee, however, has expressed its desire for a formal mechanism for co-ordination between SEBI and RBI in respect of financial derivatives markets, because all financial markets are interrelated and some overlapping of jurisdictions can occur.

"A world without hedging facilities is like a world without insurance with respect to the particular kind of risk" is the sentiment echoed by the committee members. The facility of futures trading (as recommended in the report) is aimed at offering a cost-efficient and convenient way for hedging against price risk. Futures contract rather than forward contracts have won favour with the committee. The reason is that a forward contract does not provide liquidity and transparency and there is no escape from counter party risks. These drawbacks are eliminated in a futures contract, where the clearing house provides effective safeguards against defaults. Having set their sights on the introduction of equity derivatives in India, the committee actually conducted a survey among potential users of financial derivatives to decipher the potential demand for stock index derivatives and individual stock derivatives.



The order of over-all preference in India, according to the committee's survey is as follows:

Stock Index Futures  
Stock Index Options  
Individual Stock Options and lastly  
Individual Stock Futures

The survey also showed that the readiness to participate in both stock index future/options is much more compared to individual stock options/futures.

The committee points out that the reasons for stock index futures emerging as the most popular is not surprising. This in fact is a global phenomenon because of the following reasons:

1. Institutional and other large equity holders tend to concentrate their attention on portfolio hedging.
2. Index futures are the most cost-efficient hedging devices.
3. A stock index unlike individual stock prices cannot be easily manipulated.
4. Stock index futures are more liquid and more popular than individual stock futures.
5. The stock index being an average is less volatile than individual stock prices. In a futures market, the clearing house stands as the guarantor, and its risk is minimised if the stock index is used.
6. Futures on individual stocks can be used as a vehicle for manipulating their prices in the cash market.
7. Regulatory complexity is less in the case of stock index futures than in other kinds of equity derivatives.

In its report, the committee has also pointed out that mutual funds and other financial institutions needs a portfolio hedging facility, not for generating speculative profits but for the strategic purpose of controlling risks and restructuring portfolios.

Various illustrations have been provided in the report to support this view. The committee points out that if the Unit Trust of India (UTI)<sup>15</sup> decides to reduce its equity exposure in a fund, it would normally have to sell equity holdings which would involve high costs because of brokerage, depression of prices in the market and even a considerable time lag. The same objective can be achieved by selling index futures without any of these disadvantages. UTI could subsequently, sell its equity holdings gradually depending upon the market conditions to obtain the best possible prices. As unloading of actual equity holdings progresses, the index futures transactions could be unwound by an opposite transaction to the same extent.

Index futures would also be of great help to newly floated mutual fund schemes. The committee points out that, when a new scheme is floated, the funds raised do not get fully invested for a considerable period of time. A fund usually finds it difficult to invest the entire money of a new scheme in suitable stocks and at good prices, hence index futures would be the best option for these fund managers. In case of open ended schemes, the

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<sup>15</sup> The Unit Trust of India is the largest mutual fund in India governed by its own Act viz : The UTI Act

fund manager has to occasionally sell some of the equity holdings in the portfolio to effect the repurchase. This would be difficult, particularly if the stock is illiquid, which would eventually affect the fund. The answer lies in using a stock index future.

Open ended funds will also benefit greatly from the use of index base futures. Partial liquidation is necessary in case of such funds to meet the demands of the exiting unit holders. If market conditions are not conducive, such liquidation would prove detrimental to the interests of the fund, stock index futures can help overcome this drawback.

Stock index futures would be of great help to the fund managers and other investors to preserve the value of their portfolio during times of market stress. Sale of stock index futures will help insure any risks arising out of current fluctuations in the market. Buying and selling operations carried out by Foreign Institutional Investors (**FII**s) are aimed at either increasing or reducing their exposure in the Indian equities market. These bulk operations at times have a disproportionate price effect on the capital market, use of index based futures would help FIIs achieve their object without any adverse impact on the actual capital markets.

The committee has however, noted that several changes in the psyche of the investors as well as legislative amendments are vital to ensure the success of derivative trading. To begin with, the committee feels that the prohibition on use of derivatives by mutual funds should be withdrawn, at the same time, the trustees of each mutual fund should lay down a formal policy defining the rules and regulations in relation to derivative trading to prevent undue speculation.

The committee has well understood the importance of hedging in a derivative market and has also admitted that hedging is not possible sans speculators. Thus, derivative trading should be structured in a manner which strikes a balance between the needs of commercial hedgers and the need to attract an adequate number of well capitalised speculators who are prepared to take upon themselves the price risk which the hedgers wish to give up.

This necessitates removal of the weakness in the Indian equities market. The prerequisite of an effective futures market is the existence of a strong cash market, a true cash market is characterised by a delivery based system. As mentioned earlier, derivatives (irrespective of whether the underlying asset relates to commodities or cash) derive their value from the cash asset. Both the cash and the futures market would undoubtedly have to be subjected to stricter discipline once the futures trading commences. If the weaknesses are removed, the arbitrage operation between the cash and the futures market will help enhance the efficiency of both by keeping them tied together and also strengthen the fundamentals.

Differences in trading cycles among the stock exchanges in India, will lead to difficulties according to the committee. It notes that if all stock exchanges were on a rolling settlement system, there would be no problem. However, most Indian stock exchanges have a weekly trading cycle which again is not uniform. The weekly trading cycle on the National Stock Exchange (NSE) is from Wednesday to Tuesday and on the Bombay Stock Exchange (BSE) it is from Monday to Friday. Because of the difference in trading

cycles, brokers having membership on both the exchanges can go on circulating their trades continuously from exchange to another without having to actually deliver.

Adopting a stricter tone, the committee in its report says -- it appears that stock exchange members have acquired a vested interest in keeping trading cycles different in order to deliberately generate arbitrage opportunities. The prices for the same securities on two exchanges tend to differ often by 0.5 to 1.5 percent. Besides, arbitrage low brokerage charges on non-delivery trades are also viewed by the stock exchange members as advantageous. This however, only protects the interests of speculators and not genuine investors. The Committee has advocated a uniform trading cycle among all exchanges till the rolling system can be introduced in India.

In addition, the Committee has also pointed out that it is highly desirable to have all the scrips of a particular index in the depository mode and the progress of the depository system should be accelerated. The depository system however, has not been insisted upon as a pre-condition.

While introduction of future should not necessarily wait till all the weaknesses are completely removed, a programme of improvements should be drawn up which can go on simultaneously with the phased introduction of futures. At all costs the weaknesses should not be ignored concluded the committee members in their report.

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**The contents of this paper should not be construed as legal opinion or professional advice.**