Opportunities in Indian Derivatives and Commodities Market

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INTRODUCTION

Financial markets are, by nature, extremely volatile and hence the risk factor is an important concern for financial agents. To reduce this risk, the concept of derivatives comes into the picture. Derivatives are products whose values are derived from one or more basic variables called bases. These bases can be underlying assets (for example forex, equity, etc), bases or reference rates. For example, wheat farmers may wish to sell their harvest at a future date to eliminate the risk of a change in prices by that date. The transaction in this case would be the derivative, while the spot price of wheat would be the underlying asset. The derivatives market performs a number of economic functions: 1. They help in transferring risks from risk averse people to risk oriented people. 2. They help in the discovery of future as well as current prices. 3. They catalyze entrepreneurial activity. 4. They increase the volume traded in markets because of participation of risk averse people in greater numbers. 5. They increase savings and investment in the long run.

DEVELOPMENT OF EXCHANGE-TRADED DERIVATIVES

Derivatives have probably been around for as long as people have been trading with one another. Forward contracting dates back at least to the 12th century and may well have been around before then. Merchants entered into contracts with one another for future delivery of specified amount of commodities at specified price. A primary motivation for pre-arranging a buyer or seller for a stock of commodities in early forward contracts was to lessen the possibility that large swings would inhibit marketing the commodity after a harvest.

FACTORS DRIVING THE GROWTH OF FINANCIAL DERIVATIVES

❖ Increased volatility in asset prices in financial markets, ❖ Increased integration of national financial markets with the international markets, ❖ Marked improvement in communication facilities and sharp decline in their costs, ❖ Development of more sophisticated risk management tools, providing economic agents a wider choice of risk management strategies, and ❖ 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 transactions costs as compared to individual financial assets.

DERIVATIVES MARKET: INDIA'S PERSPECTIVE

The first step towards introduction of derivatives trading in India was the promulgation of the Securities Laws (Amendment) Ordinance, 1995, which withdrew the prohibition on options in securities. 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 prescribing necessary pre–conditions for introduction of derivatives trading in India. The committee recommended that derivatives should be declared as 'securities' so that regulatory framework applicable to trading of 'securities' could also govern trading of securities. SEBI also set up a group in June 1998 under the Chairmanship of Prof.J.R.Varma, to recommend measures for risk containment in derivatives market in India. The report, which was submitted in October 1998, worked out the operational details of margining system, methodology for charging initial margins, broker net worth, deposit requirement and real–time monitoring requirements. The Securities Contract Regulation Act (SCRA) was amended in December 1999 to include derivatives within the ambit of 'securities' and the regulatory framework were developed for governing derivatives trading. The act also made it clear that derivatives shall be legal and valid only if such contracts are traded on a recognized stock exchange, thus precluding OTC derivatives. The government also rescinded in March 2000, the three– decade old notification, which prohibited forward trading in securities. Derivatives trading commenced in India in June 2000 after SEBI granted the final approval to this effect in May 2001. SEBI permitted the derivative segments of two stock exchanges, NSE and BSE, and their clearing house/corporation to commence trading and settlement in approved derivatives contracts. To begin with, SEBI approved trading in index futures contracts based on S&P CNX Nifty and BSE–30(Sensex) index. This was followed by approval for trading in options based on these two indexes and options on individual securities.

The trading in BSE Sensex options commenced on June 4, 2001 and the trading in options on individual securities commenced in July 2001. Futures contracts on individual stocks were launched in November 2001. The derivatives trading on NSE commenced with S&P CNX Nifty Index futures on June 12, 2000. The trading in index options commenced on June 4, 2001 and trading in options on individual securities commenced on July 2, 2001. Single stock

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futures were launched on November 9, 2001. The index futures and options contract on NSE are based on S&P CNX. Trading and settlement in derivative contracts is done 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. Foreign Institutional Investors (FIIs) are permitted to trade in all Exchange traded derivative products. The following are some observations based on the trading statistics provided in the NSE report on the futures and options (F&O):

- Single-stock futures continue to account for a sizable proportion of the F&O segment. It constituted 70 per cent of the total turnover during June 2002. A primary reason attributed to this phenomenon is that traders are comfortable with single-stock futures than equity options, as the former closely resembles the erstwhile badla system.
- On relative terms, volumes in the index options segment continue to remain poor. This may be due to the low volatility of the spot index. Typically, options are considered more valuable when the volatility of the underlying (in this case, the index) is high. A related issue is that brokers do not earn high commissions by recommending index options to their clients, because low volatility leads to higher waiting time for round-trips.
- Put volumes in the index options and equity options segment have increased since January 2002. The call-put volumes in index options have decreased from 2.86 in January 2002 to 1.32 in June. The fall in call-put volumes ratio suggests that the traders are increasingly becoming pessimistic on the market.

COMMODITY MARKET IN INDIA

Organized commodity derivatives in India started as early as 1875, barely about a decade after they started in Chicago. However, many feared that derivatives fuelled unnecessary speculation and were detrimental to the healthy functioning of the markets for the underlying commodities. As a result, after independence, commodity options trading and cash settlement of commodity futures were banned in 1952. A further blow came in 1960s when, following several years of severe draughts that forced many farmers to default on forward contracts (and even caused some suicides). Forward trading was banned in many commodities considered primary or essential. Consequently, the commodities derivative markets dismantled and remained dormant for about four decades until the new millennium when the Government, in a complete change in policy, started actively encouraging the commodity derivatives market. Since 2002, the commodities futures market in India has experienced an unprecedented boom in terms of the number of modern exchanges, number of commodities allowed for derivatives trading as well as the value of futures trading in commodities, which might cross the $ 1 Trillion mark in 2006. However, there are several impediments to be overcome and issues to be decided for sustainable development of the market.

NEED FOR COMMODITY DERIVATIVES MARKET

India is among the top-5 producers of most of the commodities, in addition to being a major consumer of bullion and energy products. Agriculture contributes about 22% to the GDP of the Indian economy. It employees around 57% of the labor force on a total of 163 million hectares of land. Agriculture sector is an important factor in achieving a GDP growth of 8-10%. All this indicates that India can be promoted as a major center for trading of commodity derivatives. It is unfortunate that the policies of FMC during the most of 1950s to 1980s suppressed the very markets it was supposed to encourage and nurture to grow with times. It was a mistake other emerging economies of the world would want to avoid. However, it is not in India alone that derivatives were suspected of creating too much speculation that would be to the detriment of the healthy growth of the markets and the farmers. Such suspicions might normally arise due to a misunderstanding of the characteristics and role of derivative product. It is important to understand why commodity derivatives are required and the role they can play in risk management. It is common knowledge that prices of commodities, metals, shares and currencies fluctuate over time. The possibility of adverse price changes in future creates risk for businesses. Derivatives are used to reduce or eliminate price risk arising from unforeseen price changes. A derivative is a financial contract whose price depends on, or is derived from, the price of another asset.

ISSUES IN DERIVATIVES AND COMMODITIES MARKET

- ***Commodity Options:*** Trading in commodity options contracts has been banned since 1952. The market for commodity derivatives cannot be called complete without the presence of this important derivative. Both futures and options are necessary for the healthy growth of the market. While futures contracts help a participant (say a farmer) to hedge against downside price movements, it does not allow him to reap the benefits of an increase in prices. No doubt there is an immediate need to bring about the necessary legal and regulatory changes to introduce commodity options trading in the country. The matter is said to be under the active consideration of the Government and the options trading may be introduced in the near future.
- ***The Warehousing and Standardization:*** For commodity derivatives market to work efficiently, it is necessary to have a sophisticated, cost-effective, reliable and convenient warehousing system in the country. The Habibullah (2003) task force admitted, "A sophisticated warehousing industry has yet to come about". Further, independent labs or quality testing centers should be set up in each region to certify the quality, grade and quantity of commodities so that they are appropriately standardized and there are no shocks waiting for the ultimate buyer who takes the

physical delivery. Warehouses also need to be conveniently located. Central Warehousing Corporation of India (CWC: www.fieo.com) is operating 500 Warehouses across the country with a storage capacity of 10.4 million tonnes. This is obviously not adequate for a vast country. To resolve the problem, a Gramin Bhandaran Yojana (Rural Warehousing Plan) has been introduced to construct new and expand the existing rural godowns. Large scale privatization of state warehouses is also being examined.

- ***Cash versus Physical Settlement:*** It is probably due to the inefficiencies in the present warehousing system that only about 1% to 5% of the total commodity derivatives trade in the country is settled in physical delivery. Therefore the warehousing problem obviously has to be handled on a war footing, as a good delivery system is the backbone of any commodity trade. An International Research Journal of Finance and Economics - Issue 2 (2006) particularly indicates difficult problem in cash settlement of commodity derivative contracts is that at present, under the Forward Contracts (Regulation) Act 1952, cash settlement of outstanding contracts at maturity is not allowed. In other words, all outstanding contracts at maturity should be settled in physical delivery. To avoid this, participants square off their positions before maturity. So, in practice, most contracts are settled in cash but before maturity. There is a need to modify the law to bring it closer to the widespread practice and save the participants from unnecessary hassles.
- ***The Regulator:*** As the market activity pick-up and the volumes rise, the market will definitely need a strong and independent regulator, similar to the Securities and Exchange Board of India (SEBI) that regulates the securities markets. Unlike SEBI which is an independent body, the Forwards Markets Commission (FMC) is under the Department of Consumer Affairs (Ministry of Consumer Affairs, Food and Public Distribution) and depends on it for funds. It is imperative that the Government should grant more powers to the FMC to ensure an orderly development of the commodity markets. The SEBI and FMC also need to work closely with each other due to the inter-relationship between the two markets.
- ***Lack of Economy of Scale:*** There are too many (3 national level and 21 regional) commodity exchanges. Though over 80 commodities are allowed for derivatives trading, in practice derivatives are popular for only a few commodities. Again, most of the trade takes place only on a few exchanges. All this splits volumes and makes some exchanges unviable. This problem can possibly be addressed by consolidating some exchanges. Also, the question of convergence of securities and commodities derivatives markets has been debated for a long time now. The Government of India has announced its intention to integrate the two markets. It is felt that convergence of these derivative markets would bring in economies of scale and scope without having to duplicate the efforts, thereby giving a boost to the growth of commodity derivatives market. It would also help in resolving some of the issues concerning regulation of the derivative markets. However, this would necessitate complete coordination among various regulating authorities such as Reserve Bank of India, Forward Markets commission, the Securities and Exchange Board of India, and the Department of Company affairs etc.
- ***Tax and Legal bottlenecks:*** There are at present restrictions on the movement of certain goods from one state to another. These need to be removed so that a truly national market could develop for commodities and derivatives. Also, regulatory changes are required to bring about uniformity in octroi and sales taxes etc. VAT has been introduced in the country in 2005, but has not yet been uniformly implemented by all states.

OPPORTUNITIES AND FUTURE PROSPECTS IN DERIVATIVES MARKET

- ***Position Limits:***

While institutions were prohibited by regulation from participating in the carry forward system, the derivatives markets are expected to have large institutional participation. A market open to institutional trading cannot have arbitrary monetary limits on the size of individual trades or positions of the kind that existed in the carry forward market. For example, a large mutual fund that wants to hedge its exposure to a large stock might need to take a position of a billion rupees or more in the derivative markets. The position limits in single stock futures are therefore more complex:

- The aggregate positions of all players in the market put together in a single stock cannot exceed 10% of the free float of that stock. There was no such limit at all in the carry forward market and it was possible for total positions to be very large in relation to the free float particularly for small stocks. There have been occasions in the past years where this aggregate limit was approached and the exchanges took corrective action to prevent it from being breached.
- No single client is allowed to take a position exceeding 1% of the free float of that stock. Except for the top rung of stocks with very large market capitalization, this position limit is quite modest. The carry forward system did not have any such limit at all as it applied limits only at the broker level rather than the client level. A single client could take large positions by operating through several brokers.

- ***Margins:***

The minimum margins in the carry forward system were only 10%. This was beefed up by a complex tier of concentration and volatility margins as well as ad hoc margins. The Value at Risk (VaR) based margins in the derivative

markets automatically and dynamically adjusts the margins to the risk characteristics of the stock. There have been occasions where the margins on single stock futures have reached 57%. At the same time, the margins for low volatility stocks are much lower. The margins in the derivative market are collected up front. The margin is paid before the trade is executed. This is a level of protection that never existed in the carry forward system and does not exist in the cash market even today. Similarly, the mark to market losses and other margin calls that arise every day have to be paid before trading begins the next day unlike in the cash market where it is paid a day later. Thus in the cash segment, the exchange is exposed to the price risk for twice as long as it is in the derivatives segment. The differences in margin collection dates are the principal reasons for the difference in margin levels between the two segments. If the cash segment could also migrate to the derivative market practices, it should be possible to harmonize the margin levels between the two markets. The speedy collection of margins as well as its high degree of responsiveness to market conditions makes the derivative markets considerably safer than the erstwhile carry forward system.

❖ ***Contracts on New Indices:***

The eligibility criteria laid down above for single stock derivatives can be extended to the case of narrow stock indices as well. A stock index would normally be eligible for derivatives trading if most of the weightage in the index (say 90%) is accounted for by constituent stocks that are themselves eligible for derivatives trading. This would also of course be subject to the right of SEBI to refuse permission in exceptional cases under paragraph 4.10 of the LCGC report. The government also endorses futures and options on dollar-denominated indexes, which are cash-settled in rupees, provided the index meets the above eligibility criteria.

❖ ***Cross Margining:***

The positions in the underlying that are eligible for cross margining against positions in single stock derivatives are:

- The underlying in dematerialized form transferred to or pledged with the clearing corporation
- Short or long positions in any cash market segment that has a cross margining agreement with the derivative market segment under consideration

A position in the underlying offset by an equal opposite position in the stock future would be margined like a calendar spread. For the purpose of calculating the spread margin, the maturity difference between the underlying and the near month contract will be taken as one month and the maturity difference between the underlying and a far month contract will be taken as one month plus the maturity difference between the near month contract and the far month contract. Calendar spread treatment will also be accorded to stock option positions whose deltas are offset by opposite positions in the underlying in the same manner in which the calendar spread treatment is applied to option positions of one maturity delta-hedged with futures of a different maturity. Just as for calendar spreads between two futures contracts, calendar spreads between the underlying and the derivative will also cease three days before expiry of the relevant derivative contract. This has to be done because of the basis risk that arises on settlement. The only possible exception would be where the derivative is a futures contract that is physically settled and the underlying position consists of a position in the cash market segment whose settlement obligations can be netted against the settlement obligations arising on expiry of the future.

❖ ***Physical Settlement:***

When single stock derivatives were introduced in India, it was decided to use cash settlement to begin with because the exchanges did not then have the software, legal framework and administrative infrastructure for physical settlement. It was proposed that cash settlement would be replaced by physical settlement within a period of six months as the exchanges developed the capabilities to achieve physical settlement efficiently. In April 2002, the ACD proposed a broad framework for physical settlement. The SEBI Board desired that the committee should present a report highlighting the risks and benefits of physical settlements along with possible risk containment measures.

❖ ***Use of Derivatives by Mutual Funds:***

The government should bring the issue of mutual funds' participation in derivatives at great length. On the one hand, there was the question of whether mutual funds should be allowed to go beyond hedging and portfolio rebalancing. On the other hand, there were a number of questions about what the term "hedging and portfolio rebalancing" actually means. The Government need to bring new schemes, the regulatory regime should rely on full disclosure of risks.

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