

# Indian Commodity Derivatives Markets: Some Measures for the Future

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## Abstract

*The Government of India is contemplating allowing the Institutional investors like Foreign Institutional Investors, Mutual funds and Banks to trade in a few selected products of commodity derivatives markets in India. This paper argues that if the institutional investors are allowed to operate in all the products of the commodity derivative markets, it has implications for both liquidity and broad basing of commodity derivatives markets given the assets under management of these investors. Their entry into commodity derivatives markets is also expected to benefit them given the portfolio diversification opportunities. This paper discusses some aspects of the gains that the commodity derivatives markets can derive if institutional investors are allowed to operate.*

**Keywords:** *Derivatives, Commodity Markets, Institutional Investors, Forward Markets, Futures*

Forward Markets Commission (FMC) has recommended to the Union Government to give automatic approval for Foreign Institutional Investors (FIIs) to participate in commodity futures by Foreign Investment Promotion Board. However, FMC would like to limit FIIs participation only to bullion, metals and crude. FMC is also in favour of Mutual Funds (MFs) and Banks taking part in bullion futures market. This will enrich the commodity derivatives markets by boosting liquidity and turnover volumes. India's commodity related industry is Rs. 5000 billion with a dependent industry of Rs. 2000 billion. Commodities account for 58 per cent of India's GDP. The need for commodity price risk management is immense. Hence, commodity risk management products should find larger audience. This requirement will be fulfilled if institutions are allowed to operate in commodity derivative markets. They will provide the much wanted breadth and depth to these markets. It will also provide better diversification avenues to the institutions. The theory of portfolio diversification and its empirical testing in other markets have

already proved that the institutional investors who invest in equity and debt market instruments can benefit from the portfolio diversification gains that the products of commodity derivatives markets can offer. This paper discusses some of the aspects of the gains that the commodity derivatives markets can derive if institutional investors are allowed to operate.

## History of Indian Commodity Derivatives Markets

The commodity derivatives markets in India are as old as those of USA. The origin of commodity derivatives markets in India can be traced back to 1875, when the Bombay Cotton Trade Association Ltd. was set up. The association started trading in cotton futures. Organized futures trading in oilseeds was started in India with the setting up of Gujarat Vyapari Mandali in 1900. Subsequent to this, many associations were floated at different points in time at different places to trade in derivatives on different commodities. For example, futures trading in raw jute and jute

goods began in Calcutta in 1912, wheat in Hapur in 1913, bullion in Bombay in 1920. The volumes of trade in these derivative markets were reported to be extremely large. However, derivatives were considered speculative and detrimental to the commodity markets. The enactment of Defence of India Act, 1935 made futures trading subject to restrictions and prohibitions from time to time. In 1939, the options trading in cotton was banned by the Government of Bombay to restrict the speculative activity in cotton markets. In subsequent years, forward trading in various commodities like oilseeds, food grains, vegetable oils, sugar and cloth were also prohibited.

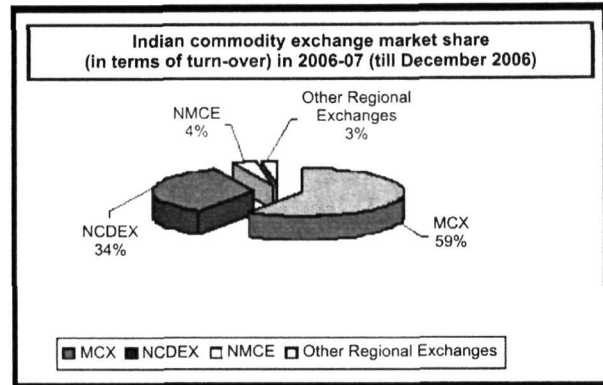
After independence, the Constitution of India brought the subject of stock exchanges and futures markets to Union List. In December 1952, Forward Contracts (Regulation) Act, 1952 was enacted. This was followed by the setting up of Forward Markets Commission in September 1953. FMC is the regulatory authority for commodity derivatives markets even today. In July 1954, The Forward Contract (Regulation) Rules were framed. However, the widespread shortages that prevailed in many essential commodities, the consequent inflationary pressure and the regulatory constraints resulted in poor trades in these markets. Forward trading was banned in 1960s except in pepper, turmeric, castor seed and linseed. This was due to wars, natural calamities and the consequent shortages. In 1977, the futures trading in castor seed and linseed was also suspended. In 1980s, on the basis of the recommendations made by Khusro Committee, forward trading in potato, gur and castor seed was allowed. But, it is only after the initiation of the liberalization process in the early 1990s, did these markets assume importance once again. The Government set up a committee under the chairmanship of Prof. K.N. Kabra in 1993 to examine the role of futures trading in the context of liberalization

and globalization. The committee recommended the resumption of futures trading in 17 commodity groups. The suggestions by the committee also included the need for strengthening FMC and the amendment of FCRA. In response to these recommendations, the Government of India permitted the futures trading in all the commodities that the commission recommended except bullion and basmati rice. In 1998, forward trading in cotton and jute goods were permitted. From 1998 onwards, domestic entities facing price risk abroad were permitted to utilize foreign derivative exchanges to hedge their risk. The year 1999 saw the revival of the derivatives trading in some oilseeds. The National Agriculture Policy in July 2000 announced that the government would like to encourage futures trading in a large number of commodities to minimize the wide fluctuations in commodity prices and also allow the hedging. The Finance Minister in his Budget Speech on February 28, 2002 indicated that the futures and forward trading would be expanded to include all agricultural commodities. The real respite for the derivatives markets in commodities came on April 1, 2003 when the Government of India issued a notification rescinding all previous notifications which prohibited futures trading in a large number of commodities in the country. This was followed by another notification in May 2003 revoking the prohibition of non-transferable specific delivery forward contract. Presently futures trading is not prohibited in any commodity under Section 17 of Forward Contracts (Regulation) Act, 1952. But, FMC has suspended a few sensitive commodities a few months back.

### **Commodity Derivatives Exchanges**

One of the important recommendations of Kabra Committee was modernization of traditional commodity exchanges. The traditional exchanges were extremely regional

centric. Hence, along with the removal of prohibition of futures trading, FMC took steps to set up modern electronic exchanges on a national level. As of now, there are 21 regional commodity exchanges and 3 national level commodity exchanges. The three national level commodity exchanges are National Multi Commodity Exchange (NMCE), National Commodity and Derivative Exchange (NCDEX) and Multi Commodity Exchange (MCX). NMCE was the first exchange to be granted permanent recognition by the Government. It commenced futures trading in 24 commodities on November 26, 2002. NCDEX started its operations on 15<sup>th</sup> December 2003. MCX was inaugurated on the November 10, 2003 and it has now emerged as India's largest commodity exchange. These three national level commodity exchanges have tried to address the key problems that have plagued the commodity exchanges of the country. These modern exchanges facilitate online electronic trading and have nation wide reach. They provide real time price and trade data dissemination. These demutualized exchanges are technology driven and have adopted international best practices of risk management for trading, clearing and settlement. This has boosted commodity derivative trades in the country. The turnover in the commodities futures markets as a proportion of GDP was at 4.7 per cent in 2003-04. It increased to 18.3 per cent in 2004-05, climbing further in 2005-06. The growth in the volume of trading in the Indian commodities derivatives is primarily driven by the three national level commodity exchanges, especially MCX and NCDEX. In each of the last four years, the national level commodity exchanges have contributed more than 95 per cent to the total turnover by all the commodity derivatives exchanges. In 2006-07 (till December 2006), their share of the total turnover is about 97 per cent.



Source: Economic Survey 2006-07, pp.81

While most of the regional commodity exchanges are single commodity platforms, even the national level commodity exchanges have concentration of trade in a few commodities which account for more than 50 per cent of the total trade. During the fortnight, October 1 to October 15 of 2007, out of the 30 commodities that were actively traded at MCX, gold, silver and crude oil had the highest volumes of trade. The value of trade in these commodities, gold, silver and crude oil, were Rs. 34,678 crore, Rs. 23,446 crore and Rs. 17,894 crore respectively. Pepper, guar seed and soya oil had the highest volumes of trade in NCDEX. The value of trade in pepper was Rs. 3,220 crore, while guar seed and soya oil clocked a sale of Rs 2,977 and Rs. 2,684 crore respectively. Pepper, rubber and raw jute were the highly traded commodities in NMCE. The futures trading in pepper was Rs.375 crore and in rubber and raw jute were Rs. 196 crore and Rs .38 crore respectively.

### Trends in Commodity Derivatives Trading

The futures trading is currently conducted over 100 commodities as against just 59 in January 2005. These commodities include major agricultural commodities (rice, wheat, jute, gur, cotton, coffee, etc.), pulses (urad, arahar, chana, etc.), edible oilseeds (mustard seed, coconut, groundnut, sunflower, etc.), spices (chillies, pepper, cumin seed, turmeric, etc.), bullion (gold and silver), crude oil, natural gas and polymer among others.

**Table 1**  
**Turnover on Commodity Futures Markets**

Exchange	2004-05	2005-06	2006-07*
MCX	165,147	961,633	1,621,803
NCDEX	266,338	10,66,686	9,44,066
NMCE	13,988	18,385	101,731
NBOT	58,463	53,683	57,149
Others	67,823	54,735	14,591
All Exchanges	571,759	2,155,122	2,739,340

**Table 2**  
**Number of Contracts Traded in National Exchanges**

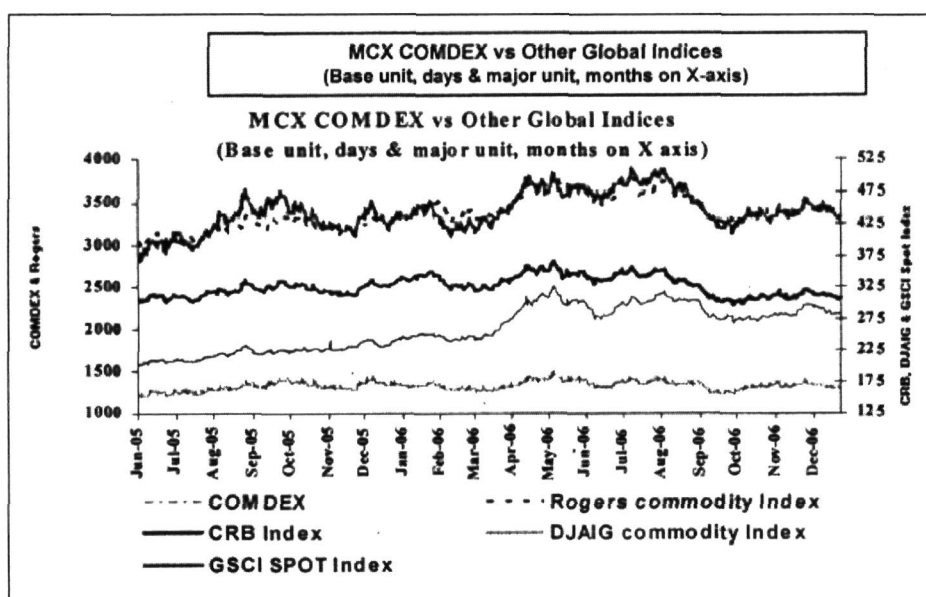
Exchange/Year	2004-05	2005-06	2006-07*
MCX	33.38	152.45	255.26
NCDEX	109.95	274.17	236.55
NMCE	9.56	9.95	28.51

\* Till December 31, 2006

Source : Economic MSurvey 2006-07, Ministry of Finance, Government of India, pp.81

The growth witnessed by the commodity derivatives trading in India has been quite impressive. The total volume of trade was only at Rs.1.29 lakh crore in 2003-04. It registered an increase constantly and is at Rs. 27.39 lakh crore in 2006-07. (till December 2006) The rise in the turnover over these two years is 20 times. The rise in the turnover over the recent 9 month period is particularly high.

The turnover over the 12 months period, 2005-06 was Rs. 21.55 lakh crore. But, the turnover in the 9 month period April 2006 to December 2006 has already crossed this and is at Rs. 27.39 crore. The average daily volume of trade in commodity exchanges is at Rs. 12000 crore as of December 2006. The largest share of trade in terms of value is enjoyed by gold, which contributed 31 per cent to the total trade held in commodity derivatives markets. The other commodities that assumed importance by being the highest contributors to the value of trade are silver (19 per cent), guar seed (11 per cent) and chana (10 per cent). The number of contracts traded in the national commodity exchanges has also registered an impressive growth over this period. MCX has emerged the largest commodity exchange in India during 2006-07. It tops both in terms of the value of trade and number of contracts. The growth of MCX during 2006-07 is on par with some of the international futures exchanges like Goldman Sachs Commodity Index (GSCI), Dow Jones AIG Commodity Index Cash Index (DJAIG) and Reuters/Jefferies Commodity Research Bureau (RJCRB).



Source: Economic Survey 2006-07, pp. 82

In spite of all these impressive growth rates and the acceleration estimated for the future, the Indian commodity derivatives markets have to go a long way to catch up with their counter part – financial derivatives markets.

### Indian Financial Derivatives Markets

The derivatives markets in stocks in India are relatively recent as compared to its counterpart in commodities. The advent of traced to the promulgation of the Securities Laws (Amendment) Ordinance 1995 withdrawing prohibition on options in securities. The derivatives markets did not, however, take off immediately as there was no regulatory framework to regulate trading in derivatives. In November 1996, SEBI set up a 24 member committee under the chairmanship of Dr L.C.Gupta to develop the regulatory framework for derivatives trading in India. The committee came up with its recommendations in March 1998. This was followed by the setting up of another committee with Prof. J.R.Varma as its chairman to recommend the risk containment measures in derivatives markets. The report of this committee contained recommendations on margin system, broker net worth, deposit requirements and real-time monitoring requirements. In December 1999, the Securities Contract Regulation Act was amended to include derivatives within the ambit of securities and the regulatory framework for governing derivatives trading was developed. However, the act also made it clear that the derivatives shall be legal and valid only if such contracts are traded on recognized stock exchanges, thus excluding the Over the Counter derivatives trades. Finally the derivatives trading started in June 2000 in India. In 2001 SEBI permitted the derivative segment of National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) and their clearing house/corporation to commence trading and settlement in approved derivatives contract. Initially the approval was for trading in index futures

contract based on S&P CNX Nifty and BSE-30 (Sensex) index. This was followed by approval for trading both in index options based on S&P CNX Nifty and BSE-30 (Sensex) index as well as for trading in 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 futures were launched on November 9, 2001.

As of now index futures on CNX Nifty, CNX Nifty Junior, CNX IT, Bank Nifty and Nifty Midcap, index options on CNX Nifty, CNX Nifty Junior, CNX IT, Bank Nifty and Nifty Midcap and futures on 207 individual securities and options on 207 individual securities specified by SEBI are available in NSE. In addition to similar products likes these, the Bombay Stock Exchange also offers weekly contracts for 1 and 2 week for index options and options on individual securities.

Though the securities derivatives markets are of recent history, the turnover of these markets have registered an impressive growth.

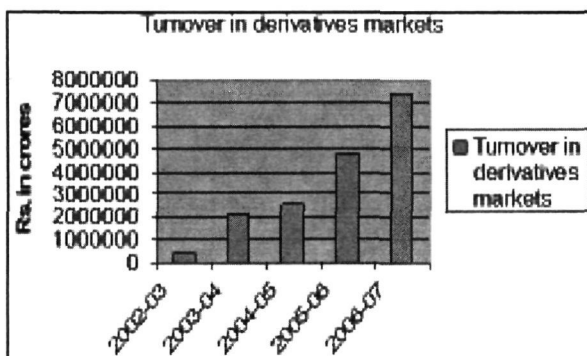
**Table 3**  
**Turnover of Derivatives**  
**Markets vis-à-vis Cash Markets**

(Rs. Crores)

Period	Derivatives segment	Cash Segment
2002-03	442332	935642
2003-04	2143101	1594016
2004-05	2563165	1659685
2005-06	4824259	2332913
2006-07	7415277	2896279

Source: Author's own compilation from SEBI Bulletin, August 2007

From the year 2003-04 onwards, the turnover in the derivatives markets has exceeded that of the spot markets. During 2005-06, the turnover of derivatives markets was 307.4% of cash market turnover at NSE and 202.2% of the combined cash market turnover of NSE and BSE. The growth in turnover of derivatives markets is around 10 times as compared to only 1.5 times of the cash markets over the period 2002-03 to 2005-06. The derivatives markets had grown exponentially in 2005-06. The average daily turnover in the derivatives segment in 2005-06 rose by 89.7% to Rs. 19,220 crores in 2005-06 from Rs. 10,131 crores in 2004-05. The total turnover to GDP ratio of the derivatives markets was 17.95% in 2002-03. It climbed to as high as 136.61% in 2005-06. (SEBI Annual Report 2005-06) This is the typical characteristic of all the successful derivatives markets in the world. This trend continued in the year 2006-07 as well. The turnover in the derivatives segment was about twice that of the cash segment during 2006-07. At the end of 2006, the turnover in the cash segment as a proportion of GDP is estimated to be 70.2 per cent, whereas that of the derivatives segments is 171.9 per cent. This trend is continuing unabated. During the period, October 2005 to September 2007 Nifty shot up by 80 per cent. During this period, the average daily traded value in the derivatives market at NSE registered an increase of 147 per cent from the October 2005 level.



National Stock Exchange has continued to be one of the top five among the world's biggest exchanges in terms of the number of contracts in the stock index futures like the previous three years. BSE has slipped by a position and is at rank 6 this year, while it was at position 5 last year. In India, the single stock futures continue to remain as the most popular derivative product. NSE continued to dominate the world derivatives markets in respect of trading in single stock futures. This remarkable growth has been achieved in less than 10 years of introduction of derivative products in India.

**Table 4**  
**Top Five Equity Derivative Exchanges of the World – 2006**

A. Single Stock Futures Contracts		
Exchange	Number of Contracts	Rank
National Stock Exchange, India	100,430,505	1
Jakarta Stock Exchange, Indonesia	69,663,332	2
Eurex	35,589,089	3
Euronext, Liffe	29,515,726	4
BME Spanish	21,120,621	5
B. Stock Index Futures Contracts		
Exchange	Number of Contracts	Rank
Chicago Mercantile Exchange	470,180,198	1
Eurex	270,134,951	2
Euronext, Liffe	75,135,006	3
National Stock Exchange, India	70,286,258	4
Korea Stock Exchange	46,562,881	5

Source: World Federation of Exchanges quoted in RBI Currency and Finance, 2006-07, pp.265

### Institutional Investors in the Indian Financial Derivatives Markets

The institutional investors account for 10.27% of the gross turnover of the equity markets as of the calendar year 2005. The net turnover of all the institutional investors in the equity markets, both spot and derivatives, was Rs. 12,36,400 crores in 2005. The gross turnover of both the spot and derivatives markets put together was at Rs. 1,20,31,981 crores. The share of the individual investors in the spot markets turnover was 17.10% and in the derivatives markets was 6.64% in 2005. The figures for 2004 were 10.85% and 3.39%

respectively. In the derivatives segment, the contribution of the institutional participants had improved from Rs. 176,940 crores (3.39% of the total turnover) to Rs. 521,762 crores (6.64% of the total turnover). This shows that the institutional investors had double their contribution over the period 2004 to 2005. (Economic Survey 2005-06)

FII's were the major contributors to the turnover of the institutional investors in both the spot markets and the derivatives market. Their share was more than 70% in both the cases. In the derivatives segment the FII's account for 91.41% of the total turnover of the institutional investors in 2005, as against 96.27% in 2004. This may be due to the superior human resources, better market surveillance system, a higher holding in equity markets, risk management system followed, etc. The number of registered FII's had gone up from 637 in 2004 to 823 in 2005. The number of sub-accounts had also increased from 1785 in 2004 to 2273 in 2005. As of March 2006, the cumulative FII investment in derivatives was Rs. 194437 crores. (SEBI Bulletin 2005-06) The participation by the mutual funds is only marginal. Previously, SEBI (Mutual Funds) Regulations authorized mutual funds to use exchange traded equity derivatives for hedging and portfolio rebalancing purposes. They could deploy no more than 50% of their assets towards hedging. On September 14, 2005, SEBI modified the regulations on the trading by mutual funds in exchange traded derivatives contracts following the recommendations of the Secondary Markets Advisory Committee. Mutual Funds shall be treated at par with a registered FII in respect of position limits in index futures, index options, stock options and stock futures contracts. The mobilization of resources by the MFs has also been on the rise. The gross mobilization of resources by all mutual funds during 2005-06 stood at Rs. 10,98,149 crore compared to Rs. 839,708 crore

during the previous year. This is a 30% increase over the year. Hence, it may be expected that Mutual funds would, as a result, increase their trading in derivatives segment.

Financial Budget for 2005-06 announced that the income from derivatives would be treated as business income rather than as speculative income. Hence, it could be expected that institutional participation in the derivatives segment of the capital market will go up. The expectation has come true in subsequent year. The number of FII's rose to 1,044 at the end of 2006, an increase of 27 per cent over the previous year. The number of sub-accounts has also increased by 34 per cent. FII's have contributed 10.4 per cent of the total gross two-way turnover of the spot and derivatives markets in 2006. The assets under management with MFs has also increased over time and is at Rs.3.24 lakh crore in 2006.

Though the derivatives have a larger participation by non-institutional investors, the institutional investors have been assuming a larger importance over time. The share of business done by institutional investors has been steadily increasing over years. The institutional investors' contribution to the derivatives markets trade was only at 3.3 per cent of the total as of August 2004. It increased to 7.5 per cent in August 2005. Continuing this trend, this was at 9.4 per cent in August 2006. As of August 2007, it was at 14.4 per cent.

### **Institutional Investors in Commodity Derivatives Markets**

From the previous section it can be ascertained that the financial derivatives markets are growing exponentially. That the institutional investors contribute to this growth. All the institutional investors jointly contribute a little over 10 per cent to the total turnover in the equity markets and around 15 per cent in the derivatives segment. They are

assuming a more important role, as the assets under their management has been increasing over the years. If the institutional investors are allowed in the commodity derivatives markets also, we may expect the overall volumes in the derivatives markets, both financial and commodity, to go up.

**Table 5**  
**Assets under Custody of Custodians**

Year	Mutual Fund	Banks	FII's	Total Assets under all Custodians
2001-02	32570	17798	61753	270267
2002-03	41368	20814	56139	278855
2003-04	90338	21188	159397	497260
2004-05	126286	24531	236257	668585
2005-06	204518	31872	453636	1169113
2006-07	290378	24522	547010	1400608

(Source: SEBI Bulletin, September 2007, p. 873)

The assets under management of all categories of custodians, MFs, FII's and Banks, have increased over time. The assets under management of the MFs have increased by 792 per cent over the period, 2001-02 to 2006-07. The comparable figure for banks is 38 per cent. The growth in assets under management is the highest for FII's over this period and is 786 per cent. Rs. 270267 crores was the assets under the management of all the custodians as of 2001-02 and it has risen to Rs. 1400608 crores in 2006-07. This phenomenal growth in assets under management of the custodians can be expected to add to the turnover of the commodity derivatives markets. If the institutional investors are allowed to trade in commodities derivatives market, the assets under management of these investors could be reallocated to various segments of markets to reap the maximum benefits on portfolio returns and risk diversification. Since 1998, Indian corporates that face commodity price risk on their imports or exports are allowed to hedge their price risk through international exchanges. This has prompted the corporates

to access the international exchanges to hedge their price risk. But not all corporates have been able to take advantage of this due to large margin requirements. Hence, if the domestic commodity exchanges become more liquid and improve their volume, they may attract this market segment as well. Operations in the commodity derivative markets can also be expected to go up as a whole as the risk suffered by these institutional investors would considerably come down. This is possible because the basic tenet of portfolio theory is that diversification reduces risk. This suggests that an optimally diversified portfolio should be one that is invested across as many asset classes and markets as possible. If the commodity derivatives products offer risk and return trade-offs that cannot be easily replicated through other investment alternatives, or provide risk diversification opportunities for investors in other market segments, then it can be expected that the investment in commodity derivatives markets will benefit the institutional investors who are hitherto prohibited from operating in these markets.

The question of whether the commodities represent a separate asset class is a well debated topic in both academic research and practitioner literature (Greer 1994, Froot 1995, Schneeweis et al., 1997) However, the question that is more relevant is not if the commodities represent a separate asset class but if an investor can benefit from investing in them. Anson (1998) brings out the benefits of investing in commodity futures index. He has found that commodity futures indexes bear a significant positive correlation with the rate of inflation and are as a result an excellent source of portfolio diversification. Becker and Finnerty (2000) also have found that the inclusion of portfolios of long commodity futures contracts improves the risk and return performance of stock and bond portfolios for the period of 1970 through 1990. They have



observed that the improvement is more pronounced for the 1970s due to the high inflation with the commodities acting as an inflation hedge. Many other studies have concluded that an allocation to the Goldman Sachs Commodity Index proves to be a good diversifier for stocks and bonds in a mean-variance framework. (Lummer and Siegel, 1993, Kaplan and Lummer 1997) Froot (1995) has found that the Goldman Sachs Commodity Index is an effective portfolio diversification tool both as an initial hedge and as a secondary hedge after other real assets have already been added to the investment portfolio. The study by Satyanarayanan and Varangis (1996) has brought out the fact that an allocation to the same Goldman Sachs Commodity Index can improve the portfolio returns for a given level of risk. The study on spot returns, roll yield and diversification with commodity futures by Anson (1998) shows that an investment in non-financial futures contracts benchmarked to one of four unleveraged commodity futures indexes improves the Sharpe ratios for a diversified portfolio of domestic and foreign stocks and bonds. In 1999, he concludes from another study that he carried out that commodity futures, when considered in their proper portfolio context, are a valuable asset class for risk-averse investors. Because of their excellent profit potential over long periods of time, commodity futures are found to have greater utility, the more risk-averse the investor is. Gorton and Rouwenhorst (2004) provide evidence on the long-term properties of an investment in collateralized commodity futures contracts. They have found that the commodity futures risk premium has been equal in size to the historical risk premium of stocks (the equity risk premium), and has exceeded the risk premium of bonds during their period of study between July 1959 and March 2004. In addition to this, they also

have brought to light the fact that a diversified investment in commodity futures has slightly lower risk than stocks – as measured by standard deviation and because the distribution of commodity returns is positively skewed relative to equity returns, commodities have less downside risk. Spurgin and Georgiev (2000) have found that the benefits of commodity indices as an alternative means to capture commodity return is not found through direct investing in the underlying production firm as well as possible existence of roll return and the benefits of active trading in metal.

## Conclusion

It can be concluded from the results of the various studies carried out that the institutional investors would certainly stand to gain if allowed to trade in commodities derivatives markets. It is a well known fact that the return on investment from debt markets affected by the inflation rates. The bond market has not yet obtained exchange traded futures and options that can play a major role in price discovery, risk management and liquidity. The commodity markets can help take a hedge for these investments as they are positively correlated with inflation. Banks, as a class of investors, are the largest investors in the Indian debt market. They invest in a whole range of products including the Government of India securities, treasury bills, commercial papers, certificate of deposits, corporate bonds and debentures. The investment by mutual funds in the debt markets is also on the rise over the years. The net investment by the mutual funds in the debt market as of 2003-04 is Rs.22701 crores as against Rs.10959 crores in 2001-02. As of 2005-06, it was at Rs. 36801 crores. (Reserve Bank of India Annual Report, 2005-06) The role played by the Indian Banks and Mutual funds in the Indian debt market can be assessed by looking at the table given below.

**Table 6**  
**Share of Participants in Turnover of**  
**Wholesale Debt Market Segment of NSE**  
 (Percent)

	2004-05	2005-06
Trading Members	33.96	32.01
FIs/MFs/Corporates	5.14	3.92
Primary Dealers	18.50	21.89
Indian Banks	28.07	29.90
Foreign Banks	12.50	14.50

Source: NSE as reported in SEBI Annual Report 2005-06, pp.77

The cumulative debt investment limit for FIIs investment in debt securities for 2006-07 has been revised upward by the Government within the overall limit of External Commercial Borrowings. The limit for government securities including treasury bills has been raised from US \$ 2.0 billion from US \$ 1.75 billion. For the corporate debt instruments investment, the limit has been increased to US \$ 1.5 billion from US \$ 0.5 billion.

**Table 7**  
**FIIs Investment in Debt**

Period	Net Investment
2003-04	5805
2004-05	1759
2005-06	-7334

Source: SEBI Annual Report 2005-06, pp.71

That presence in commodity derivatives markets will also help the banks by providing them with a protective cover against the default on agricultural loans is an additional advantage that the banks enjoy. Once they start operating in commodity derivatives markets they can lend to farmers and cooperatives with an agreement that their produce be sold in commodity futures market to avoid downside risk in commodity prices in future. This would help reduce the risk of farmers defaulting on their loans in the event of a fall in spot commodity prices. The Working Group on Warehouse Receipts and Commodity Futures headed by Mr. Prashant Saran recommended that banks may be

permitted to offer futures based products to farmers in order to enable them to hedge against price risk.

**Table 8**  
**Commercial Banks' Credit to Agriculture**

(Rs. Crores)	
Period	Credit
2002-03	39774
2003-04	52441
2004-05	81481
2005-06	125859
2006-07*	100999

\*Upto December 2006  
 Source : NABARD as reported in Economic Survey 2006-07, pp.170

However, the studies on the ability of commodity futures to provide the advantage of portfolio diversification or better returns in India are not there. This is not unexpected given the fact that commodity derivatives markets though have been in existence for long has a chequered history and is very shallow. Many studies carried out on Indian commodity markets (Jain and Naik 1999, Sahadevan 2002, Thomas 2003) have brought out the fact that only in a few cases the commodity futures markets performed its basic function of discovering efficient prices. Though the focal points of these studies were different all of them agree on the point that only in case of few commodities where the trade volumes were reasonable could the markets achieve the objective of price discovery to some extent. With the trade volumes of commodity derivatives market in India being very low this finding does not surprise us.

Hence, the studies carried out outside India have certainly document positive evidence on the ability of the commodity derivatives markets to offer the benefits of portfolio diversification and enhanced returns.

As mentioned earlier, most of the commodity exchanges function as specialized product bourses. This is even true of the national multi commodity exchanges because of lack of

volumes in many commodities in spite of the trading being allowed. This may be attributed to the fact that there are different players for different commodities. This is also due to the lack of large institutional investors in these markets. Hence the granting of permission to the institutional investors to operate in the commodity derivative markets can be expected to make the markets vibrant by boosting the liquidity and volume. This will also bring corporates to the commodity derivative markets. In addition it will also provide more opportunities for portfolio diversification for these investors. However, it requires the lifting of ban on options trading. Options trading in commodities are prohibited as of now which puts constraints on the markets. Introduction of options trading in commodities is a necessary condition for institutional investors to trade in commodity derivative trading, as this would make it easier for the institutional investors to convert the commodity derivative products as financial products.

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