

PRICE DISCOVERY & IMPACT ON SPOT PRICE VOLATILITY: ANECDOTES FROM INDIAN COMMODITY FUTURES MARKET

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ABSTRACT

The volume of commodity futures trading in India has increased from 20.53 trillion rupees in 2006 to Rs.181.26 trillion rupees in 2011-12. In spite of fast growth the commodity markets have gone through tumultuous times especially after independence. The twin functions of price discovery and price risk management have been discussed from time to time with conflicting opinions from various segments. Allegations of price volatility shooting up with the increase in futures trading volume have hindered the growth and development of markets thereby impacting its stakeholders. This paper discusses the path of futures trading in India, its significance in the present scenario of ever increasing volatility and how various commodity futures have fared with respect to their role as a hedging instrument and as a means of discovering the prices for transacting physical market transactions. To catch up with the countries which have hitherto achieved some maturity in derivatives trading, there is a need to strengthen research on all aspects of commodity markets.

Keywords: Commodity Derivatives, India, Commodity Futures, Price Discovery, Volatility.

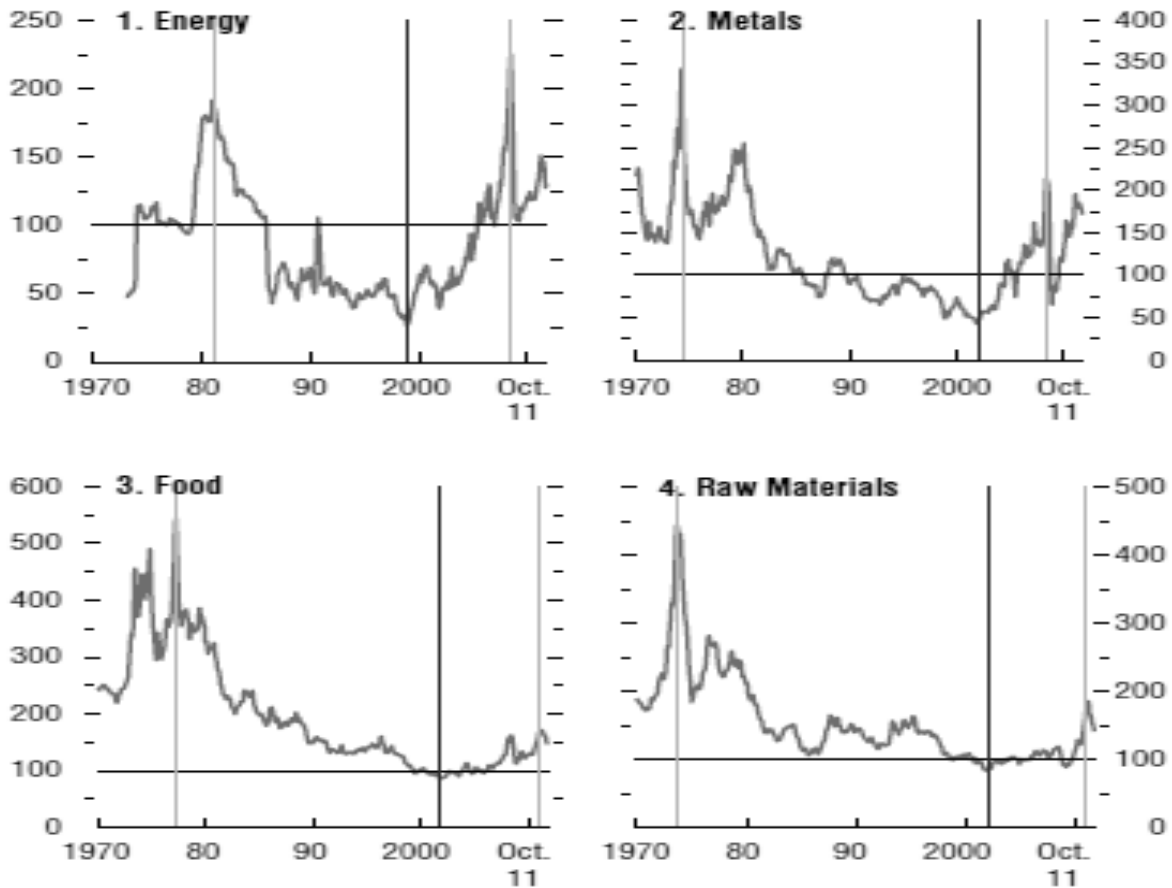
INTRODUCTION

Prices of commodities have witnessed an unprecedented upward movement ever since 1970's with the fluctuations remaining within certain range till the year 2000 after which there has been no looking back in the rising trend except for the year of global financial crisis in 2008. End of 2011 saw average prices of energy and base metals in real terms, three times higher than those touched a decade ago. Food and raw material prices have also risen, though not to the levels reached in 1970 (IMF, 2011) Figure 1. There have been many explanations for the phenomenal price rise. Developing BRIC countries, especially China have exerted tremendous demand pressure that has not been matched by supply resulting in price rise. Another viewpoint is that low interest rates and easy liquidity conditions to support demand has resulted in oil price increase which also percolated to other commodities (Calvo, 2008). But the major concern is about the increasing speculation in commodities market. Amongst other explanations, speculation has been triggered by the financialization of commodities in many countries which has forced the regulatory authorities and researchers to deliberate upon the ways to minimize the impact of noise brought about by uninformed speculation on the prices of commodities. Implications of this are grave not only for the producers, exporters

and traders but more for the poor in developing countries who spend 60 to 80 percent of their income on food (FAO, 2008). The high prices for basic commodities limit the income of farmers/ small producers whereas high

volatility of prices makes it very difficult for them to optimize the use of their income (Morgan, 2000) Therefore, there are grave humanitarian concerns, social & economic repercussions of this vicious problem.

Figure 1: World Commodity Prices (Source: IMF Staff Calculations)



Worldwide the national governments have designed various policies to control these instabilities in prices, but by and large these policies have been based on intervention by the state to artificially stabilize prices. These measures put a strain on the national resources, promote inefficiencies and are counterproductive. In the recent past, countries have begun to liberalize commodity markets and in particular commodity futures markets are being developed. The World Bank initiated the use of market based instruments for dealing with commodity price risks and this has given

fresh impetus for research in the area of commodity futures market. The World Bank (1999) notes: “market based management instruments, despite several limitations, offer a promising alternative to traditional stabilization schemes...” The argument is that the use of price risk management instruments allows governments to disengage from costly, distortionary and counterproductive policies.

Developments are taking place both at the national and international front for improvements of commodity futures market.

At the International front *The Task Force on Commodity Futures Markets (Task Force)* was formed in September 2008 by the Technical Committee of IOSCO (International Organization of Securities Commissions) responding to calls for an examination of the functioning of certain commodity futures markets from the G8 Finance Ministers in 2008. It was decided that the scope of the Task Force should go beyond oil to include other commodity derivatives such as agricultural-based contracts. Task Force recommended that work on commodities markets be placed on a permanent basis within IOSCO. This would include making new recommendations for further work which was likely to lead to proposals to improve market transparency, anti-market abuse treatment for other commodities markets, where necessary.³ UNCTAD in its Trade & Development Report, 2011 on Post Crisis Policy Challenges in the world economy has suggested measures to be adopted to improve the functioning of commodity derivatives markets because these are eventually facilitating the risk transfer needs of the hedgers and providing price signals to producers & consumers.

At national level the Government of India's *Working Group on Agricultural Marketing Infrastructure and Policy Required for Internal & External Trade for Eleventh Five-Year Plan (2007-12)* saw an important role for commodity futures exchanges as delivering price discovery & risk mitigation for farmers, with emphasis on the development of electronic spot exchanges as a mechanics for further extending these benefits.

Functions of Commodity Futures Market

The two most important economic functions of futures trading are ***price discovery*** and ***price risk management***. The trading activity of futures market participants viz. hedgers,

speculators and arbitrageurs help in establishing equilibrium prices for commodities. The prices displayed by the exchanges reflect how much the buyers are willing to pay and how much is acceptable to the seller for the commodity based on each segments' information of the fundamental position of the commodity. On the basis of price signals emanating from the futures market, production, procurement, export, marketing strategies are made. The presence of speculators in the market enables the hedgers to transfer their price risk. As a result, farmers get assured price for their produce, exporters and importers can hedge their commitments at remunerative prices.

Futures markets also provide ***support for credit needs*** to small producers. The collateral value of inventory is enhanced if it is hedged, enabling firms to borrow on better terms. According to Gorton and Rouwenhorst (2005) commodity futures have been seen to exhibit negative correlation with stock futures and bonds & positive correlation with inflation, so they serve as an ***additional risk management tool***. They found that the average correlation between returns on equities and commodity futures was a statistically significant -0.42 if the investments were held for 5 years. Hence, they provide stability under volatile market conditions.

Commodity Futures in India

India was one of the first countries in the world to adopt commodity exchanges, with its earliest exchange dating back to the Bombay Cotton Trading association in 1880s. First organized futures market, for various types of cotton appeared in 1921 and subsequently proliferated. Regulated trading in commodities started after the enactment of Forward Contract (Regulation) Act 1952 which provided the legal framework for organized forward trading

in the country and for recognition of commodity exchanges. Under this Act commodities are notified for regulation and prohibition of forward contract. Due to concerns regarding its effect on prices and supply of essential commodities and speculation in times of scarcity the markets for several commodities like cotton, oilseeds, bullion and jute were suspended during the 1960s and 1970s. Later the Khusro Committee (June 1980) recommended reintroduction of futures trading for cotton, kapas, raw jute and in the later half of 1980 futures trading in potatoes was resumed in Punjab & Uttar Pradesh.

Following the launch of economic reforms in the early 1990s, and especially after India signed the General Agreement on Trade and Tariffs (GATT) to enter the World Trade Organization (WTO), the World Bank and UNCTAD submitted a joint report to the Government of India recommending revival of futures trading in farm commodities and their products to render trade in such commodities competitive in the world markets after the envisaged removal of trade and non-trade barriers. Also, Government of India set up Kabra Committee in 1993 to review the futures trading for other commodities which were hitherto prohibited. As a result, futures trading was revived, after a lapse of nearly three and a half decades, towards the close of the 20th century.

The year 2003 was a watershed year in the history of commodities with the establishment & recognition of three national exchanges with online trading & professional management. At present, there is a three tier regulatory system for commodities futures market viz. the Central Government, Forward Market Commission & recognized exchanges. Futures trading in India are currently permitted in 6 national level multi-commodity exchanges and

21 regional level commodity specific exchanges. Futures turnover for the year 2011-12 at commodity bourses in India, the world's biggest buyer of bullion and second largest wheat grower, jumped 51.7 percent to 181.26 trillion rupees, spurred by gold and agricultural commodities. Volumes in agricultural commodities jumped 50.79 percent to 21.96 trillion rupees in the fiscal year that ended in March, 2012 while bullion futures volumes jumped 85.33 percent to 101.82 trillion rupees, as reported by FMC.

Commodity derivatives have witnessed remarkable growth since 2003; nevertheless fingers were still being pointed accusing futures trading for rising inflation in agricultural commodities. Four essential commodities- wheat, urad, tur and rice faced futures trading ban toward the end of 2006-07. An Expert Committee was set up under the Chairmanship of Prof. Abhijit Sen to examine the extent to which futures trading had contributed to price rise in agricultural commodities. The Committee was unable to find any causal relationship between price rise and futures trading in view of the short time period during which the futures market have functioned & the complexities that arise because of a large number of variables that impact spot prices.

On one hand are the benefits of commodity futures trading for price risk management and portfolio diversification and on the other hand are the doubts regarding issues of excessive speculation resulting from derivatives trading. Amidst this background, this paper reviews the empirical studies undertaken in India with the objective of testing price discovery and impact of futures trading on the spot market volatility in order to understand how effective the markets have been in successfully performing the functions of price discovery and price risk management.

LITERATURE REVIEW

The performance of commodities futures market can be evaluated using certain broad parameters which include basis risk, price discovery, and impact of futures trading on spot price volatility. Review of existing literature, which has been done with respect to these parameters, is an attempt to identify the issues that can form the basis of this study.

Basis in context of futures market is the difference between future and spot price and it assumes importance because it is fundamental to the understanding of the most important functions of futures market viz. hedging. The risk that futures and spot prices may not change by the same amount is called **basis risk** and is measured as variance of basis. Therefore, an understanding of basis is very useful for the hedging activity to be successful. A few studies have been examined to understand the risk arising due to basis variation.

Theoretical considerations indicate that risk in basis behavior may vary over the contract life as new information becomes available and as it impacts on futures and general level of cash prices. Change in local demand and supply conditions results in different levels of basis risk in various markets. On these lines Garcia, Leuthold and Sarhan (1984) have attempted to measure and analyze within contract basis for selected livestock commodities (cattle & hogs) and ascertain the variations in basis across different markets and as contract approaches maturity. Using Variate Difference approach and regression analysis they found that not much difference was observed in basis risk at different market locations. However, as contract approached maturity evidence was found of lower levels of risk in basis behavior indicating increased market information and activity near maturity influences both futures

& cash position in a similar manner. Therefore, producers & market participants who hedge are advised to ascertain the level & long term pattern of prices. This will help in identifying period of high basis risk & lead to better production and marketing strategies. Informational content of the basis using barley, oats and canola futures was studied by Khoury and Yourougou (1991) by measuring the relative responsiveness of the basis and of the futures prices to new information. If the ratio of the variance of the basis to cash price changes is much larger than that of futures to cash price changes, one might expect the basis to have a greater forecasting power than the futures. Results suggest that the futures market for the commodities under study is used as the primary point of price discovery and in this sense they are consistent with the informational content hypothesis of the basis. They also demonstrate that the basis provides statistically reliable information about cash prices several weeks before maturity. Therefore prices are discovered in futures markets, and then transmitted to cash markets. Decision to hedge depends on the hedgers forecast of closing basis & whether it represents an attractive opportunity as compared to opening basis.

Castelino (1992) has used Wheat and corn futures along with financial futures of T-Bill and Eurodollar for a period from Jan 1983 to Dec 1985 and calculated minimum variance hedge ratios using simple regression analysis. It was observed that a substantial risk reduction is possible through minimum variance hedging for T-bills and Eurodollar contracts whereas it is very less in case of commodities. Minimum variance hedge ratios possess a time dimension. They are low for hedges lifted far from contract expiration and increase as the hedge lifting date approaches the contract expiration. Existence of minimum variance

hedge ratio does not imply that hedge should be used at all times. The major factor in hedging decisions is anticipation of favorable change in basis.

Netz (1996) has measured the impact of basis risk (unexpected changes in basis over time) on cash market position with corn as the underlying. Basis risk needs importance because very few contracts in the futures market are settled through physical delivery. Stockists' profits are a function of variance of basis. Basis risk will negatively impact his cash position. Results indicated that basis risk reduces the level of storage. Faced with greater basis risk the agents reduce their exposure by reducing the level of inventory. Basis risk reduces the effectiveness of futures as a risk management tool or managing price risk. A one standard deviation increase in basis risk is associated with a decline in storage by between 1% and 14% of a standard deviation, depending on the location.

Garcia and Sanders (1996) studied basis risk in live hogs futures market to test whether basis volatility has increased over the last decade at selected terminal and direct markets. They used RMSE (root mean square error) as a measure of basis risk and tested it by using procedures set forth by Ashley, Granger and Schmalensee. Henrikson Merton Timing Test was used to check whether basis had a positive or negative sign. Results indicated that in the two markets live hog prices behaved similarly and that there was no meaningful difference in basis. Monthly basis variance was rather stable in the period 1975-94. Therefore the usefulness of live hog contracts had not declined due to unfavorable nature of basis behavior. The demand for use of futures contract as hedging instruments may have decreased due to other factors such as change in structure of hog industry with movements

towards alternative and less costly means of managing price risk.

In the study on castorseed futures market in India from 1985 to 1999 Karande (2006) found that Basis risk as indicated by RMSE is lower for June contract as all information regarding supply of castorseed is available much before trading begins. It is opposite for December contract. Lower RMSE for Ahmedabad market is due to higher futures trading volume.

Price discovery is another important function of futures market and it hinges on whether new information in the market is reflected first in the changes in futures prices or changes in spot prices (Hoffman 1932). Through price discovery futures market establish a competitive reference (future) price from which spot price can be derived. Futures prices serve as the market expectations of subsequent spot prices and can be used by exporters, producers including farmers for optimal decision making and resource allocation. Price discovery function of futures market has been studied extensively using various underlying and at different time periods.

Garbade and Silber (1983) examined the characteristics of price movements in spot market and futures market for storable commodities and found that in general futures contract do not provide a perfect risk transfer facilities in the short time horizon. With respect to price discovery role of futures market evidence was found of information flow from futures to spot market. However, reverse information flow from cash market to futures market was also observed. They also found that market size and liquidity played a positive role in the price discovery function.

Oellermann and Farris (1985) investigated lead lag relation between change in futures and spot price for live beef cattle between 1966 and

1982. The futures price led spot price during nearly every sub period analyzed. Based on Granger causality test for various sub samples of their data, they conclude that change in live cattle futures price led change in live cattle spot price. They also found that the spot market responded to change in futures price within one trading day. The authors conclude that futures market was the centre of price discovery for live cattle. They suggest that a likely explanation for the results is that the futures market serves as a focal point for information assimilation. They conclude that the cattle futures market contributes towards a more efficient price discovery process in the underlying spot market for live beef cattle.

Koontz et al. (1990) examined live cattle market to study the nature of dominance of spot or futures market. Their finding was that spot market was relying less on futures market for price discovery.

Study by Quan (1992) on monthly crude oil prices using monthly data also concluded that spot prices lead futures prices. However, Zapata (2005) examined the relation between sugar futures prices traded in New York and the world cash prices for export sugar, finding evidence of futures market leading the spot market. Though futures contract are a useful vehicle for reducing market price risk, the risk reducing performance of such contracts have deteriorated since 1995 due to increase in basis risk relative to price risk and also due to increased market share of speculators.

Figuerola and Gonzalo (2010), chose spot and futures non-ferrous metals prices (aluminium, copper, lead, nickel and zinc) traded in the London Metal Exchange (LME) to test the price discovery and observed that most markets are in backwardation and futures prices are “information dominant” in highly liquid futures markets (Al, Cu, Ni, Zn) while

this was not the same for lead where liquidity was low.

Empirically testing both the long run and short run efficiency of Copper Futures market from London Futures Exchange, Kenourgios and Samitas (2004) found that copper futures market on the London Metal Exchange was inefficient and the three and fifteen months of futures prices did not provide unbiased estimates of the future spot prices in both the long-run and short-run. Markets offered opportunities for making consistent speculative profits. However, Leming and Oun (2010) have found evidence of price discovery in case of steel rebar futures and steel wire rod futures at SHFE (Shanghai Futures Exchange). The Steel Rebar futures play major role in price discovery and can be used for hedging risk when the trading volume is high. With a low trading volume, the steel wire rod futures have less effect than spots in price discovery.

Another controversial issue is the impact of future trading on the prices in underlying spot market. Critics of futures market claim that it destabilizes the spot market by increasing Spot price volatility as it attracts new speculators who do provide liquidity but can also create noise in the underlying spot market if they are less informed than the traders existing in the market. The other view is that spot market volatility decreases due to the liquidity provided by speculators. This additional liquidity allows spot traders to hedge their positions and curb volatility. Informational efficiency of futures market stabilizes the spot market. Early research on the effect of futures trading in commodities has generally concluded that the existence of a futures market tends to stabilize price in the spot market. Two papers on the onion market by Gray (1963) and Working (1960) found that

futures trading reduced the range between high and low spot price over a crop year.

A study of live cattle futures by Taylor (1974) compared the variance of price between a period with and without futures trading and found that the spot price was more stable when futures market was in existence.

Antoniou and Foster (1992) empirically investigated the effects of the introduction of a futures contract for Brent Crude Oil in 1988 on spot price volatility of Brent Crude in UK. The results of GARCH models indicated that introduction of futures market improved the quality of information flowing to the spot market & accordingly spot prices reflect more promptly changes that occur in demand & supply information. Similar results were indicated by GARCH M model & hence no volatility spillover was found from futures to spot market in case of Brent Crude Oil. Results of regression analysis revealed no apparent change in volatility after introduction of futures contract

EVIDENCES OF PRICE DISCOVERY AND SPOT PRICE VOLATILITY IN THE INDIAN COMMODITIES MARKET

India has passed through a tumultuous period and researchers have tried to examine the various aspects related to future market efficiency. The findings of empirical studies undertaken on different commodities after the commencement of organized futures trading are presented in the section below.

Agricultural Commodities

Wheat

Wheat is the second largest cereal grain consumed on earth and the consumption is expected to increase from 680 million tons in 2009-10 to 775 million tons in 2020. Within

the country, government intervenes in the normal market functioning to stabilize the prices and supply. Wheat futures were studied from 2004 to 2006 (Raizada & Sahi, 2006) for examining the price discovery and results indicated that they are even in weak form inefficient and did not aid in price discovery. Rather, information assimilation was faster in spot market. It was also observed that growth in wheat futures volume had a significant impact on volatility. Sahi G.S. in another study again confirmed the significant impact on spot price volatility of increase in wheat futures trading volume & open interest. Ghosh (2010) using the wheat data from 2009-10 also found that futures prices did not serve as reference price for transacting contracts in physical market. The volume of futures trading was too low to influence the spot market prices. However, in the period of 2004-07 Mukherjee (2010) used Vector Autoregression technique on spot & futures prices and found evidence of futures market leading spot market. The result of GARCH (1,1) showed no volatility interdependence in the two wheat markets. The findings of the study by Lokare S.M. (2007) for the period 2003-04 gave evidence of higher volatility of wheat futures prices compared to spot prices. Therefore, studies on wheat have given mixed results as to the effectiveness of futures trading which may be because wheat being an essential food item has been facing government intervention to maintain price and supply stability.

Pepper

Indian pepper is traded at a premium in international markets owing to its superior quality. In case of pepper, futures market was found to be leading the spot market with bidirectional volatility spillover in both markets (Mukherjee, 2010). Even Lokare S.M. (2007) examined that pepper futures market

was efficient. But in the research by Gurbandini, 2010 pepper future contracts were not fairly priced giving rise to arbitrage opportunities. In a very recent study by Dey K., 2011 on pepper spot & future prices from 2006 to 2010, it was observed that there was unidirectional causality from futures to spot market. Also, positive shocks generated steeper movement on logarithmic conditional variance of spot and future return series as compared to negative shocks.

Chana

India is the largest producer of chana (chickpea) followed by Pakistan. Chana futures trading was examined by Abhijit Sen Committee, 2008 to review the spot price increase in 2006-07. The committee observed that no major change in spot price volatility was observed after introduction of futures trading. Low production in 2005-06 could have driven up the prices. In a study on price discovery, futures prices led spot prices of chana and there was no evidence of volatility spillover in the two markets (Mukherjee, 2010). Research by Gurbandini, 2010 showed that closing spot prices of chana for the previous day had no impact on the opening future price of the subsequent day. Also, futures contracts were overpriced on 85% of the trading days observed.

Castor Seed

India is the biggest exporter of castor oil holding about 70% share of the international trade. Castor oil is the largest vegetable oil exported out of India. Castor seed market of Mumbai and Ahmedabad from 1986 to 1999 was studied by Karande (2007) giving evidence of futures market performing the price discovery function for all contracts except those where the trading volume was too less. Spot price volatility did increase after the

introduction of futures trading but it stabilized later indicating that introduction of futures aided in information assimilation and had a beneficial impact on spot market volatility. However Mukherjee (2010) found no lead lag relation and volatility interdependence in spot & future prices.

Soya Oil

Refined soya oil is one of the main consuming edible oil in India and is the leading vegetable oil traded in the international market. Soya Oil futures led the spot market but there was no volatility spillover from futures to spot market (Mukherjee, 2010). Refined Soya Oil contracts were underpriced for 74% of the observed trading days (Gurbandini, 2010)

Chilli

India is the largest producer & exporter of chilli with domestic demand from the spice producing industry increasing at a fast rate. Also, globally Indian chillies are of superior quality. Though futures market was found perform the function of price discovery but volatility spillover was also observed from futures to spot market (Mukherjee, 2010)

Jeera

Jeera (Cumin Seed) contract is highly liquid and so is useful for hedgers & speculators as well. In case of Jeera spot markets were leading the futures market. Also there was volatility spillover from futures to spot market (Mukherjee, 2010)

Mentha Oil

Demand of Mentha Oil comes from the food and cosmetic industry and India plays a significant role in the world mentha oil market being the largest producer and exporter of the commodity. In mentha oil market, futures

market was leading the spot market with bi directional volatility spillover in both markets (Mukherjee, 2010)

Mustard Seed

Being an important source of edible oil and feed meal to the country, mustardseed (RM seed) is the focus of Indian Oilseed Industry. There is considerable price volatility in the physical and futures RM Seed market. Exchange traded RM seed futures are ideal for the price risk management needs of producers, traders, processors and end users. Spot prices of mustarsdeed were leading the future prices with no volatility interdependence (Mukherjee, 2010)

Cotton

India is one of the largest producer & consumers of cotton and in 2010-11 it was the world's second largest exporter. Cotton futures were examined from 2003 to 2004 by Lokare (2007). Futures prices exhibited higher volatility than spot prices with indications of speculation in many contracts. However, long run cointegration was established in both markets.

Rubber

World Natural Rubber (NR) production has increased by 43% in the last decade whereas the consumption has gone up by 47%. Rubber futures prices variability was higher than that of spot prices reflecting excessive speculation Lokare (2007). Iyer V., Pillai A (2010) empirically testing the rubber futures contract examined that rubber futures contract were not useful for hedging as the information convergence was not there in the expiration week.

PERFORMANCE OF METALS

Gold

Gold futures trading has given India second ranking in the world . Srinivasan K., Deo M. (2009) examined Gold trading for 2005-08 and found unidirectional causality from spot to futures market with spot market acting as the centre for price discovery. However, in another study, due to sufficient trading volume, futures market was the centre of price discovery and the information convergence was instantaneous in the expiry week. Therefore, it is a useful hedging instrument (Iyer V., Pillai A 2010). Study by Chaihetphon P., Pavabutr P.(2010) on Gold Standard and Mini contracts from 2003-07 found futures market to be efficient. Gold Mini contracts (100 grams) contributed to over 30% of price discovery though they accounted for only 2% of trading value on MCX. Therefore, findings on Gold market have been consistent.

Silver

India's number one metal in terms of futures trading volume, silver is a much sought after metal for being both a precious metal and industrial commodity. Silver futures contract was a useful for hedging as price discovery was taking place in the futures market (Iyer V., Pillai A 2010)

Copper

For copper futures also India enjoys second rank in the world trading of commodity futures. After steel and aluminum, copper stands third in terms of world consumption. Copper futures market was found to be efficient and helped in price discovery (Iyer V., Pillai A 2010)

From the research on the commodities discussed above, it appears that though futures

market is playing its role for some commodities, yet anomalies are also seen which make it essential to expand the research efforts put so far. Also, there are a host of commodities being traded on Indian commodity exchanges which are still not investigated as to their futures market performance. Organized commodity futures trading in India are relatively new compared to developed markets of U.S., U.K., China, Japan etc, but the volume is picking up at a very fast rate. Many times the functioning of the markets has been disrupted by uninformed speculation. As a result, government has imposed strict regulations to the extent of suspending the futures trading in certain commodities. This hampers the real purpose of derivative instruments, that is, price risk management and price discovery and their utility gets fraught with doubts & suspicion by the end users. To understand the real problems faced and to come out with workable solutions there is a need to carry extensive research on various issues of commodity markets. Much of the research done so far has been confined to framework of financial economics which involve modeling the relation between spot and futures prices in a few regression equations. This according to some experts gives a reductionist perspective to the nuances of commodity markets. It is also important to examine issues like problems in the actual transaction process, study of market microstructure, role of market participants, regulators etc.

CONCLUSION

Commodity prices are very critical for the existence & growth of any industry and for the economy as a whole. Our government has brought about sweeping reforms in the commodities markets so that industry can

efficiently manage the price risk they are faced with. This was the rationale behind promoting and encouraging futures markets for commodities. However, Indian markets are still nascent compared to their counterparts in US and China. Many apprehensions prevent average traders from using them for mitigating the uncertainties under which they do business. With increasing demand the strain on commodities is going to increase in the times to come. Commodity prices will continue to behave unpredictably. Risk management through commodity derivatives will give stability to the economic activities of the country. Therefore, extensive research is required in this area to continuously bring out issues that need to be attended for the growth and development of commodities market.

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