Commodity Future and Its Impact on Price of Essential Commodities in India

Abstract
Commodity derivatives play a pivotal role in the price risk management process especially in any agricultural surplus country. As unique hedging instruments derivatives such as forwards, futures, swaps, options and exotic derivative products are extensively used in the global market. Commodity derivatives are not new in India. 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. The present study is an investigation into the present status, growth constraints and developmental policy alternatives for commodity futures markets in India. Also, as the factors that drive commodity prices are observed to be different from the factors that drive equity prices, commodities are perceived to be effective diversifying agents. Also, the discussion will focus on the impact of commodity futures on prices of essential commodities.
Key Words: *Commodity Derivatives, Food Security, Inflation.*

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Introduction

A commodity market facilitates trading in various commodities. It may be a spot or a derivatives market. In spot market, commodities are bought and sold for immediate delivery, whereas in derivatives market, various financial instruments based on commodities are traded. These financial instruments such as 'futures' are traded in exchanges. A commodity futures contract is an agreement between two parties to buy or sell the commodity at a future date at today's future price. Futures contracts differ from forward contracts in the sense that they are standardized and exchange traded. In other words, the parties to the contracts do not decide the terms of futures contracts; but they merely accept terms standardized by the Exchange.

Trading in commodity futures is transparent and a process of fair price discovery is ensured through large-scale participation. The large participation also reflects views and expectations of a wider section of people concerned with that commodity. Online Platform: Producers, traders and processors, exporters/importers get an online platform through MCX / NCDEX for price risk management. Hedging: It provides a platform for producers to hedge their positions according to their exposure in physical commodity. No Insider Trading: Dealing in commodities is free from the evils of insider trading. Besides, there are no company specific risks as those seen in stock markets. Simple Economics: Commodity trading is about the simple economics of demand and supply. More the

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demand for a commodity higher is its price and vice versa. Trade on Low Margin: Commodity Futures traders are required to deposit low margins, roughly 5 to 10% of the total value of the contract, much lower compared to other asset classes. The low margin, which again varies across exchanges and commodities, facilitates the taking of large positions at lower capital .Seasonality Patterns: Quite often provide clue to both short and long term players. No Counter party Risk: Much like the exchanges in the equity market, Commodity Futures market have Clearing Houses, which guarantee that the terms of the contracts are fulfilled, thereby eliminating the counter party risk. Wide Participation: The emergence of online trading would enable growth in the commodity market, much akin to the one seen in the equity market. It would also ensure bringing the market closer to both, the user and the trader. Evolved Pricing: The rise in participation would decrease the risk of cartelisation, ensuring a holistic view on the commodity. Hence, pricing would be more practical and less irrational leading to Fair Price Discovery Mechanism.

Table I: Comparison between Commodities and Equities

	Commodity Futures	Equity Futures
Regulator	Fmc	SEBI
Exchanges	NCDEX, MCX	BSE, NSE
Assets	Metals,Energy & Agro Commodities	Stocks
Sales Tax	Applicable	Not Applicable
Delivery	Physical / Cash Settlement	Cash Settlement
Quality Application	Not Applicable	Applicable
Working Days	Mon to Sat	Mon to Fri
Timing	10 a.m. - 11.55 p.m. 10 a.m. - 2.00 p.m.(Sat)	10 a.m. - 3.30 p.m.

Table II: The Tradable commodities in India

Bullion	Gold and Silver
Oil & Oilseeds	Castor Seeds, Soya Seeds, Castor Oil, Refined Soya Oil, Soya meal, Crude Palm Oil, Groundnut Oil, Mustard Seed, Mustard Seed Oil, Cottonseed Oil cake, Cottonseed.
Spices	Pepper, Red Chilli, Jeera, Turmeric, Cardamom
Metals	Steel Long, Steel Flat, Copper, Nickel, Tin, Steel, Aluminium Zinc ingots
Fibre	Kapas, Long Staple Cotton, Medium Staple Cotton
Pulses	Chana, Urad, Yellow Peas, Tur, Yellow Peas
Grains	Rice, Basmati Rice, Wheat, Maize, Sarbati Rice, Jeera
Energy	Crude Oil, Natural Gas, Brent Crude
Others	Rubber, Guar Seed, Guar gum, Cashew, Cashew Kernel, Sugar, Gur, Coffee, Silk, Sugar.

Contribution of Agricultural Commodities in WPI & CPI Inflation

There are 12 'food grain' (cereals & pulses) items in the basket of WPI index, with 5.01% weight. Among these, Rice & Wheat have significant weight while weight of other items is individually small. Contribution of foodgrains to overall WPI inflation is determined by increase in WPI of these items and their weight in the overall WPI index. In January 2007, y-on-y inflation was very high for gram and urad (about 30%), high for wheat (14%) but quite low for rice (4.7%). WPI "foodgrains" inflation averaged 10.85%. This was higher than the broader group "Primary Food Articles" (9.52%) and much The weight of food items, particularly of foodgrains, is much higher in the Consumer Price Indices. The CPI-AL assigns a weight of 69.15% to food items, of which

the weight of cereals is 40.94% and pulses 3.39%. While overall CPI-AL rose 9.8% y-ony in February 2007, the food component rose 11.8%, so that contribution of food was as high as 83.4%. The CPI-IW assigns weight of 57% to food, of which 20.47% is on cereals and 3.59% on pulses. The food index increased 12.2% y-on-y to February 2007 as against 7.6% increase in overall CPI-IW, implying a contribution of 74%. Of the three available consumer price indices, CPI-UNME assigns the lowest weight to food (45.61%) and to food grains (10.97% to cereals and 2.51% to pulses). But even so, the contribution of food to y-on-y inflation to February 2007 was as high as 67% since the food component increased 11.5% against 7.8% rise in the overall index. Even excluding perishable items (fruits, milk, meat, egg and fish), contribution was 48.6%, with foodgrains alone contributing 20.2% and with sizeable contributions also by edible oils and condiments & spices which are traded in futures markets.

Clearly, food and foodgrains inflation during the period considered was significantly higher than overall inflation by all price indices. But their contribution to inflation varies widely depending on weights assigned, being highest in CPI-AL which is pertinent for the poor and lowest in the WPI. In particular, the contribution of foodgrains to overall WPI inflation is relatively small and much less than to CPI inflation. This is because, unlike the CPIs, the WPI also includes intermediate and capital goods which do not enter directly into consumption. However, because of this, the WPI permits a wider look at agricultural goods since many of these do not directly enter the food basket but are used as intermediates.

There are 87 processed and non-processed agricultural commodities in the WPI basket accounting for a combined weight of 25.65%. Of these 66 are primary agricultural commodities and 21 are processed commodities. If we examine the contribution of these 87 commodities in the WPI inflation during January, 2007 when y-o-y inflation was 6.37%, their contribution was 31.54% against their weight of 25.65% in WPI basket. This was 1.23 times their weight in WPI which indicates more than proportionate contribution in inflation.

Thus, as in case of food, considering all agricultural commodities shows higher inflation than overall WPI inflation. But, although this supports the view that the inflation in early 2007 was led by agricultural commodities, it is not possible to conclude that factors particular to these commodities were the only, or even major, reason behind the spurt in inflation. This is because manufactured products (with weight of 63.75% in WPI) also recorded inflation of around 6%. While some of this could be accounted for by cost-push from agriculture, other factors such as demand consequences of high growth in GDP and in money supply cannot be ruled out.

Price Rise in Agricultural Commodities

Notwithstanding that the contribution of agricultural commodities, particularly 'food grains', in WPI inflation was small due to relatively low weight, it is a fact that there was a significant upsurge in prices of some of the agri-commodities from the middle of 2006 to the first quarter of 2007. In view of their headline implications as also their impact on the poor, this deserves in-depth examination and monitoring.

In order to examine whether futures trade could have led to price rise in agricultural commodities, we have relied on WPI data as these are a closer proxy of producer prices of agricultural produce than retail prices. Of the 43 agricultural commodities that have futures trading, 24 commodities accounted for 98.7% of total value of futures trading of agricultural commodities in 2006-07. A list of these commodities along with the volume and value of trade in the year 2006-07 is given in Table-IIIA. It will be seen from Table-IIIA that, not only do these 24 commodities account for almost the entire volume of futures trading in agricultural commodities, just the top eight commodities account for about 84% of the total value of trade.

Table III(A): Volume& Value of Trading in Major Agri-commodities (2004-05 to 2007-2008)

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Table III(B): Annualized Trend Growth Rate & Volatility of WPI of Selcted Agricultural Commodities in which Futures are traded

Sl. No.	Name of the Commodity	WPI Weights (1993-94)	Monthly Data				W			
			WPI Trend		WPI Volatilit		WPI Trend		WPI Volatilit	
			Pre-Futures	Post-Futur	Pre Futures	Post Futures	Pre-Futures	Post-Futures	Pre-Futures	Post-Futures
1	Guar Seed	-	-	-	-	-	-	-	-	-
2	Chana/Gram	0.223650	-9.2	20.9	10.6	11.3	-9.1	20.8	9.2	9.7
3	Soy Oil	0.178380	21.8	-1.6	14.1	6.1	21.4	-0.9	17.0	7.0
4	Pepper	0.022920	-22.5	8.9	27.4	30.9	-22.3	9.0	26.1	30.6
5	Jeera / Cumin Seed	0.102880	-5.0	8.1	12.9	16.1	-5.0	8.8	17.7	17.7
6	Urad	0.096190	-7.9	32.9	9.0	15.7	-7.7	32.7	10.9	18.4
7	Mentha Oil	- -	- -	- -	- -	- -	- -	- -	- -	- -
8	Chillis	0.188660	-16.4	42.9	15.0	17.1	-16.3	42.3	15.1	21.5
9	Soybean/ Soy Seed	0.446140	12.2	-11.3	15.1	21.5	12.1	-11.4	3.6	4.0
10	Rape Seed / Mustard	0.580660	18.3	0.1	12.6	9.4	18.2	0.2	11.5	8.6
11	Wheat	1.384080	2.3	9.6	5.3	7.3	2.3	9.5	4.9	6.1
12	Potato	0.256470	28.9	11.7	49.6	47.5	29.0	11.3	44.8	41.5
13	Turmeric	0.076500	20.2	-8.2	13.7	8.5	20.2	-8.2	18.5	16.6
14	Castor Seed	0.085720	2.5	-2.2	13.5	12.7	2.4	-1.5	21.0	14.0
15	Sugar	3.618830	1.2	3.2	7.7	7.6	1.3	3.0	5.9	6.0
16	Guar Gum	- -	- -	- -	- -	- -	- -	- -	- -	- -
17	Gur	0.059790	25.4	-0.6	9.6	11.6	21.6	-0.6	17.0	12.0
18	Tur / Arhar	0.134660	2.8	5.8	9.0	7.7	2.9	5.8	9.1	10.0
19	Raw Cotton / Kapas	1.356740	-21.7	5.2	12.9	10.6	-21.4	5.2	9.5	15.9
20	Rubber	0.150800	10.5	20.1	16.0	21.1	10.4	19.9	16.5	21.0
21	Cardamom	0.024940	-20.3	4.6	11.7	19.5	-20.2	4.7	25.7	29.9
22	Maize	0.185010	-2.4	9.6	11.4	6.8	-2.3	9.7	10.4	9.2
23	Raw Jute	0.108680	-11.4	10.8	13.4	13.6	-11.3	10.7	17.5	13.9
24	Rice	2.449070	-0.4	3.0	3.6	2.5	-0.4	2.9	3.1	2.3
Total above (21 Commodities)		**11.730770**	**4.15**	**5.05**	**3.95**	**3.57**	**4.18**	**5.04**	**3.22**	**3.29**
Primary Agricultural Products (Food & Non-food articles)		**21.54**	**4.19**	**4.99**	**3.64**	**4.49**	**4.16**	**4.99**	**4.07**	**4.27**
All Agricultural Commodities including Processed		**25.397**	**3.92**	**4.74**	**3.32**	**3.91**	**3.91**	**4.73**	**3.67**	**3.83**
CPI – IW			**3.51**	**5.50**	**1.80**	**2.21**				
CPI – AL			**3.14**	**6.20**	**1.74**	**2.77**				
CPI – UNME			**3.44**	**5.70**	**1.51**	**1.69**				

Note: Not in WPI basket

However, among these 24 commodities with preponderant share in volume of futures trade, 3 do not feature in the WPI basket at all. Guar seed, Guar gum and Mentha oil having a share of 29.6% in value of total future trading in agricultural commodities are significant omissions in the WPI basket, and could not be used in the price analysis. This shows that a very significant share of futures trading in agricultural commodities is accounted for by commodities that are insignificant for the overall price level in the economy. Indeed, even the remaining 21 commodities, with weight of nearly 70% in agricultural futures trade, have a weight of only 11.73% in the total WPI basket and account for less than half of the weight of the 87 processed and unprocessed agricultural commodities that are included in the WPI.

A mapping was done of these 21 commodities with regard to the events of futures trade in these. It was observed that reasonable degrees of liquidity in most of these commodities came much after they were notified for futures trading. For some commodities, even after some liquidity was observed, this did not grow or stabilize continuously thereafter. After arriving at the month of the year when reasonable liquidity in trade in a specific commodity was gained, the WPI data was divided into two sub-sets of pre and post futures period having equal observations for that commodity.

The current phase of inflation appears to have caught most off guard. As a result, one can see the tendency of holding practically everything responsible for the state of affairs. Futures trading, if allowed to occur efficiently, should actually help moderate price rises rather than aggravating them.

How do futures help producers of agricultural products? Suppose a wheat seller has entered a forward contract for delivering his produce at a future date. The contract has built-in price and quantity specifications. After entering the contract, the seller fears a loss. This can arise from fluctuations in prices of his product as he nears the delivery date. In order to cover the loss, he enters into a parallel contract as a buyer with a different price specification for “hedging” against the probable price loss.

Futures offer producers the opportunity of guarding against price fluctuations arising from unforeseen developments. With appropriate “put” and “call” measures, future contracts can help address problems arising from supply disturbances. However, for many, futures imply nothing other than speculation. They fear that such speculative exercises exacerbate volatility and impact prices adversely.

Commodity futures are functioning effectively all across the world. However, like all efficient markets, markets for trading commodity futures also need to have capable regulators and well-established norms for trading. Transparency in transactions is crucial in this regard. This is a point that has also been emphasised by the Sen Committee. In the absence of an efficient regulator, it is difficult for futures markets to help producers ‘discover’ their correct prices. As the committee has rightly mentioned, there is a strong case for strengthening the Forward Markets Commission (FMC).

Commodity price risk is simply the potential for adverse movements in commodity prices. For example, a sugar farmer faces the risk of falling sugar prices in the domestic or international market, resulting in a loss of income. Commodity price risk management, or hedging, is simply the process of identifying and managing commodity price risk. Whilst

commodity price risk cannot be eliminated, it can be effectively managed. You will know that movements in the value of commodity prices can have a significant impact on the cash flow and profitability of your business.

One has to understand that the primary goal of commodity price risk management is to protect the economic value of your business from the negative impact of commodity price fluctuations, at the lowest possible cost. Because commodity price volatility also provides opportunity for gains, a secondary goal is to strike a balance between risk and return. Risk management provides the ability to accurately budget on cash flow receipts.

It is also fair to explain that some form of risk taking is inherent to any business activity. Some risks are considered to be “natural” to specific businesses, such as the risk of oil prices increasing or decreasing is natural to oil drilling and refining firms. Other forms of risk are not wanted, but cannot be avoided without hedging. Not all hedges are financial instruments: a producer that exports to another country, for example, may hedge its currency risk when selling by linking its expenses to the desired currency. Banks and other financial institutions use hedging to control their asset-liability mismatches, such as the maturity matches between long, fixed-rate loans and short term (implicitly variable rate) deposits

Hedging was a new buzz-word in Sri Lanka until very recently when the oil derivative project was launched, but commodity hedging goes back many decades, and the modern commodity markets have their roots in the trading of agricultural products. While wheat and corn, cattle and pigs, were widely traded using standard instruments in the 19th century in the United States. Other basic foodstuff such as soybeans, sugar, cocoa, coffee and many other commodities were added only quite recently in most markets. For a commodity market to be established, there must be very broad consensus on the variations in the product that make it acceptable for one purpose or another. The economic impact of the development of commodity markets is hard to over-estimate. There is always winners and losers in the trade. Some commodity experts that tried to profit from inside information on a pending crop report; took a financial beating as speculators because they were on the wrong side of a huge price move. They risked the farm and lost it.

Over the last four to five years, futures trading has been allowed in a number of agricultural commodities. Commodity exchanges have been facilitating such trading. There haven’t been occasions, except in the recent past, when commodity futures have been accused of being inflationary. If such trading is intrinsically speculative and inflationary, then why should it lead to high prices only occasionally

By knowing your cost of production, you can determine at what prices you might consider forward pricing a portion of your crop. Thus, it is imperative that a producer knows his/her cost of production when hedging a commodity. Hedging was created not only for novice traders, or hedgers but for the professional as a refresher or to learn an alternative methodology as well. Whether you are just beginning to trade or have been trading for years, it is important to acquire this knowledge of exceptional trading fundamentals and methods and mastering markets. Therefore, it is ever so important for companies involved in international trade to “think globally, act locally”.

Whatever your exposure is, there's no way to eliminate your risk but you can certainly manage it. Which is very important to understand, because commodity price volatility also provides opportunity for gains; a secondary goal is to strike a balance between risk and return. The primary objective of hedging is not to make money. The primary objective of hedging is to minimize risks and this includes using hedging to minimise losses.

Commodity futures exchanges in India have remained the favourite whipping boy of those opposed to such markets and blame them for the rise in the prices of essential commodities. Are these the teething troubles of a nascent futures market, or signals that something is fundamentally wrong?

In the three years since their inception, have the national commodity exchanges accomplished what they set out to — providing a better price discovery mechanism, lowering the volatility in the physical market, and a hedging mechanism for producers and users.

Case study with reference to the Impact of Commodity Futures-(SriLanka Tea Market)

There is no doubt that developing nations are especially vulnerable, and even the currency tends to be tied to the price of those particular commodity items until it manages to be a fully developed nation. For example, one could see the nominally "fiat" money of Cuba as being tied to sugar prices, since the lack of hard currency paying for sugar means less foreign goods per peso in Cuba itself. In effect, Cuba needs a hedge against a drop in sugar prices, if it wishes to maintain a stable quality of life for its citizens. Whether you are a large producer or a whole set of consumers, you need to hedge your foreign currency exposures and the respective exchange futures commodities.

The volatility of the world commodity markets has a huge impact both on developing economies and on the people that produce the material. Therefore, it is important to find a way of flattening out the markets' peaks and troughs. In an ideal world it is important to have a hedging mechanism set up to face these challenges. We should set up a task force intended to allow both individuals and organisations within access to the same means of protecting against risk that richer countries and large corporations use. The tool is hedging: the process of making deals, which guarantee a price for a commodity at a future date. By buying options - the right, although not the obligation, to sell a specific quantity of a good on a particular date at a preset price - the risk is lessened.

Sri Lanka should gradually learn this concept in order to stay in control against international risk exposures. Since we are heavily dependent on foreign imports such as for raw materials, essential commodities, fuel, other energy products, it is important that we set up right financial infra-structure as a cushion from wild price shifts in the world futures exchange markets.

Currently the Sri Lankan economy is experiencing a $2 billion oil bill exposure per annum in a $20 billion-worth economy. According to recent market sources, a net oil importer, Sri Lanka's fuel bill climbed up to around to $2.2 billion last year, from $1.6 billion in 2005, which was indeed a huge increase. Petrol prices again increased in 2007 by 17%, the sixth increase in the year alone amid high crude oil costs.

As a direct result, local fuel prices pushed to inconceivable levels, which pushed inflation to a staggeringly 17%. Yes it is true that global oil prices have rallied in recent weeks, but it does not necessarily mean that we have to pass these higher prices back the consumer.

It is also a well-known fact that prices of most commodities have surged in recent years due to many underlying factors. The price hike was not only due to good demand for such commodities but it it seen that investing in commodities is also popular. Most multinational investment banks are switching their investment focus into commodities rather than equities markets while adding commodities into their portfolio. Investment banks always play an essential role in the commodity markets, providing and taking off commodity price risk from producers and consumers. Currently world commodity indexes are outperforming world equities via commodity hedge funds or you may want to call it as managed money.

The rationale behind this growth, which originate as a strategic choice, is that it also provides a macroeconomic hedge that can help to simultaneously enhance returns and reduce the volatility of a portfolio.

Above all global economic growth was above 5% last year; the third year in a row that it has expanded above this rate. The current boom in the world economy is having many effects, unleashing forces of reform and conservatism and change in political and social spheres in countries around the world. Rapid global growth is also changing the relationships between developed countries and the developing countries, as the latter grow two to three times faster than the developed countries.

Moreover, the full range of industries and occupations feel the impact in different ways and to varying degrees by this fast growth, including financial markets. Strong demand from the industrialising countries, and from the developed countries that has also seen strong growth in the last few years, has led to huge increases in the prices of metals and industrial materials. Metal prices like, zinc, copper and lead are over 200% higher than they were in 2005. Crude oil prices behave much as any other commodity with wide price swings in time of shortage or oversupply.

As a country, what we need to analyze these huge price swings, and take corrective action where possible, rather than being vulnerable to higher prices. It is widely known that crude oil futures moved into uncharted territory lately by topping $89 a barrel, buoyed by ongoing supply concerns over potential storm risks in the Gulf of Mexico, and expectation of a fall in US supplies and the Fed Reserve's decision to cut interest rates.

There are clear links between these factors and oil prices. As an example, the lower US interest rate makes the US dollar less attractive, and a weaker dollar means you have to pay more dollars to get a barrel of the world's most exchange traded commodity. Therefore, these factors go hand in hand, which we need to look very closely.

References

Ahuja N L (2006), "Commodity Derivatives Market in India: Development, Regulation and Future Prospects", *International Research Journal of Finance and Economics*, No. 2.

Sen A (2008), *Effect of Commodity Future Trading on Agricultural Commodity Prices* (Report).

Shah J (2008), *Commodity Futures in India,* MCX, India, Section-3.

Thomas S (2003), "Agricultural commodity markets in India: Policy issues for growth", *RBI Bulletin*.

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