

The Study of Technological Change and its Impact of Commodity Market on Indian Society

Mrs. Vibha Suraj Bhusari
Research Scholar

Abstract:- Persistent inflationary pressures in global commodity prices in the recent past sparked a debate over its nature with speculation in commodity markets being singled out as the primary factor behind rising prices, even leading to a demand for a ban on futures trading for several important commodities. In recent times, increased amounts of capital have been flowing into the commodity futures trade, and there is thus a need to analyse the role futures market participants can possibly play in forming or distorting prices in the market for the underlying commodity. Investigations carried out by the US Commodity Futures Trading Commission and the Indian Expert Committee on Futures Trading could establish no conclusive proof regarding the role of the futures market in aggravating inflationary pressures. However, the task forces have again brought forward some important issues, which can help form a guideline for improving infrastructure, surveillance and efficiency in the commodity futures markets in India.

In this paper researcher try to analyse the role of the commodity market in aggravating commodity price inflation. For this purpose first take a look at the role of the futures market and the different participatory entities in the commodity futures market to see what possible contribution they can make in price formation (/distortion).

The research paper surveys the functioning and market organisation of eleven different (storable) commodities markets to ascertain drivers of price formation and highlight potential market failures. These markets are: crude oil, natural gas, iron ore, aluminium, copper, wheat, corn, soybean oil, sugar, cocoa and coffee. The commodities can be grouped into four categories: energy, raw materials and base metals, agricultural, and soft commodities.

Keywords: *Commodity Derivatives, India, Commodity Futures, Price Discovery*

OBJECTIVES OF THE RESEARCH:

1. To know the emerging trend in commodity market.
2. To know the behaviour of society towards changes in commodity market.
3. To know the impact on development of society by commodity market.
4. To know the benefits and contribution of commodity market in development of society and national income.

INTRODUCTION:

Commodities lie at the heart of the global economy. Access to and affordability of commodities are essential to the wellbeing, growth and competitiveness of our economies, which are highly dependent on commodity trade. Indeed, access to and affordability of essential food commodities,

such as staple foods, is important elements for the stability of many societies. Markets are seen as a guarantee to ensure this access and affordability, with the preconditions that they are transparent and competitive, and that market failures are properly addressed.

Volatile prices and actual or perceived government interference have raised questions over the efficient functioning of commodities price formation and sparked fears that instability could wreak havoc on global markets.

In the wake of globalization and surge in global uncertainties, the prices in commodity markets have shown wide fluctuations. Commodity price volatility is the most critical issue being faced by the producers of primary commodities. The instability in prices is largely originated by demand and supply discrepancies that stem from business cycles (as in case of metals, energy products and agricultural commodities) or political upheavals and unforeseen weather conditions. Since the year 2002, commodity prices have witnessed exceptional developments. The price rise has been drastic and unabated until the eruption of global financial crisis in the mid 2008 and has left many calculated hedges in a quandary. After a short respite the uptrend resumed in mid 2009. While the impact on metals, energy and non-agricultural commodities was more pronounced but the spike in case of food commodities has caused greater concern due to its social implications. Oil price rise in 2011 together with that of agricultural commodities has been especially disastrous for the poor in developing countries who spend 60 to 80 percent of their income on food (FAO, 2008).

With the shift to electronic trading, futures contract users like farmers and processors can place their hedges directly without going to the floor. There have been a number of studies trying to gauge the impact of the shift to electronic trading from open outcry. However, most of these studies concentrate on financial futures. Commodities are inherently different from financial securities. The storage and transportation cost is a significant part of the cost of the commodity futures contract, unlike a financial futures contract. Moreover, agricultural commodities are perishable and their prices may be seasonal. Unlike stocks, commodities are also consumption assets. Futures contracts may also have a relationship with the underlying cash market. Such features may mean that the impact of electronic trading may be different on agricultural futures than on other futures contracts. Electronic trading has been found to affect areas like bid-ask spreads, transaction costs and speed of information dissemination. If the shift to electronic trading systems leads to better performance on

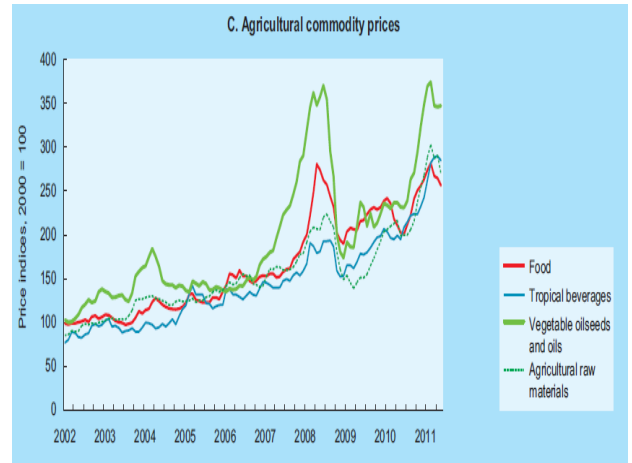
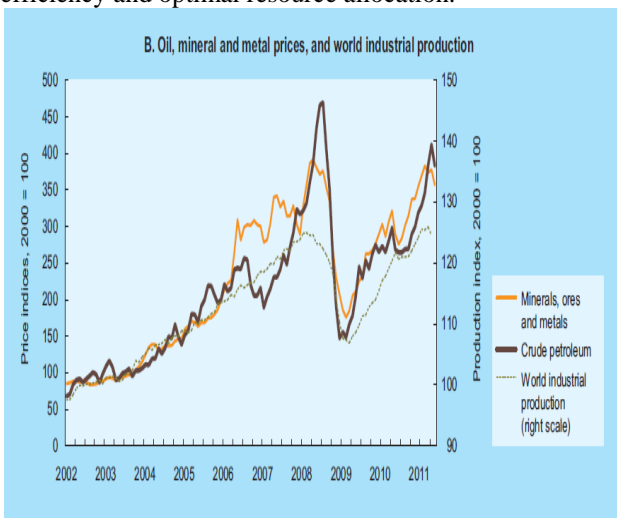
parameters like liquidity, trading costs and price efficiency, it would benefit the users of these futures contracts as well as improve the overall market.

ORIGIN OF COMMODITY MARKET:

The history of organized commodity futures market in India goes back to the nineteenth century when the cotton trade association started futures trading in 1875 followed by derivatives trading in oilseeds in Bombay (1900), raw jute and jute goods in Calcutta (1912), wheat in Hapur (1913) and bullion in Bombay (1920). However, many feared that derivatives fuelled unnecessary speculation and the Government of Bombay prohibited options business in cotton in 1939. Further, forward trading was prohibited in oilseeds and some other commodities including food-grains, spices, vegetable oils, sugar and cloth in 1943. Post independence, the Indian constitution listed the subject of “Stock Exchanges and Futures Markets” under the union list and a legislation called Forward Contract Act 1952 was enacted, on the basis of recommendations of the Shroff Committee providing legal framework for organized forward trading. The first organized future trading was by the India Pepper and Spices Trade Association (IPSTA) in Cochin in 1957. However, futures trade was prohibited in most of the commodities thereafter. Since then both the Dantawala Committee (1966) and the Khusro Committee (1980) have recommended the revival of futures trading in agricultural commodities.

DEVELOPMENT OF COMMODITY MARKET IN INDIA

India is one of the top producers of agricultural commodities and a major consumer of bullion and energy products. Given the importance of commodity production and consumption in India, it is necessary to develop the commodity markets with proper regulatory mechanism for efficiency and optimal resource allocation.



Source: UNCTAD secretariat calculations, based on UNCTAD, *Commodity Price Statistics Online*; World Bank, *Commodity Prices (Pink Sheet) database*; UNCTADstat; and CPB Netherlands Bureau of Economic Policy Analysis, *World Trade database*.

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. Financial organizations around the world are forced to devise ways to tackle the price risk that comes along with these uncertainties. 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.

LARGEST COMMODITY DERIVATIVES EXCHANGES

Name of Exchange	Country	Trades	No. of future contracts traded (million) 2009
Dalian Commodity Exchange	China	Agriculture	834
Shanghai Futures Exchange	China	Non-prec. Metals	435
CME Group	US	Energy, metals, agr.	431
Zhengzhou Commodity Exchange	China	Agriculture	227
ICE futures Europe	UK	Energy	165
Multi Comm. Exchange of India	India	Agricul. Met. Energy	161
London Metal Exchange	UK	Non-prec. Metals	106
ICE Futures US	US	Energy	39
Mercado a Termino de Buenos Aires	Argen.	Agriculture	14
NYSE Liffe	UK	Agriculture	11

Source: World Federation of Exchanges

Since commodities are traded in the world market, many factors are responsible for the price movements of these commodities. Here's a look at some of them.

On basis of the sheer volumes traded every day, the commodities market is the world's second largest market after the currency market. Given the size of the market and the variety it offers, it is difficult to identify the precise reasons that bring fluctuations in this market. However, there are a few general factors that affect the movements of commodity prices in the long and short run. Mentioned below are a few of them.

A behavioral commodity market model with consumers, producers and heterogeneous speculators to characterize the nature of commodity price fluctuations and to explore the effectiveness of price stabilization schemes. Within the model, nonlinear interactions between market participants can create either bull or bear markets, or irregular price fluctuations between bull and bear markets. Both the imposition of a bottoming price level (to support producers) or a topping price level (to protect consumers) can reduce market price volatility. However, simple policy rules, such as price limiters, may have unexpected consequences in a complex environment: a minimum price level decreases the average price while a maximum price limit increases the average price. In addition, price limiters influence the price dynamics in an intricate way and may cause volatility clustering.

TECHNOLOGICAL CHANGES

Commodity prices rose sharply since the summer of 2007, across the energy, agricultural and metals complex. The persistent inflationary pressures in global commodity prices sparked a debate over its nature. On one

hand, speculation in commodity markets is being singled out as the primary factor behind rising prices. On the other hand, many observers have opposed this point of view, arguing that there is no evidence, either empirical or theoretical, that speculative activity is the sole reason behind this present bout of inflation. The debate over the role of the futures market in causing the recent global inflationary trend is primarily based on the premise that the failure of financial markets since the sub-prime crisis last summer has led to increased speculative activity in the commodity sphere, which has remained rather profitable.

While it is true that in recent times increased amounts of capital have been flowing into commodity futures trade and more so due to both the need to cover losses in financial markets and to hedge against future inflation, there is a need to not only analyse the gamut of supply and demand side factors leading to sustained high levels of inflation, but also to understand the role participants can possibly play in the market. There is a need to not only analyse the supply and demand side factors leading to sustained high levels of inflation, but also to understand the role participants can possibly play in the market, rather than associate higher levels of futures activity directly with mispricing in the futures markets.

As in the case of all financial markets, commodity futures price is also a function of demand, supply and market sentiments. Commodity futures prices reflect the price that both the buyer and the seller agree will be the price at the time of delivery. Therefore, these prices provide direct information about investor's expectations about the future price of the commodity. Like the prices of every other risky asset, futures prices also include risk premiums, to reflect the possibility that spot prices at the time of delivery may be higher or lower than the contracted price. In the absence of any manipulative activity, the futures markets provide estimates of the demand/supply situation of a particular commodity in the near future. Commodity futures prices go up when market participants think that the supply of the commodity would not be able to meet the demand in future. On the other hand, if the expectations for a surplus production or reduced demand exist in the market, future prices of the commodity tend to decline.

RISING FOOD PRISES

World prices of wheat, coarse grains, rice and oilseed crops all nearly doubled between the 2005 and 2007 marketing years and continued rising in early 2008. These increases in agricultural commodity prices have been a significant factor driving up the cost of food and have led to a fuller awareness and a justifiably heightened concern about problems of food security and hunger, especially for developing countries.

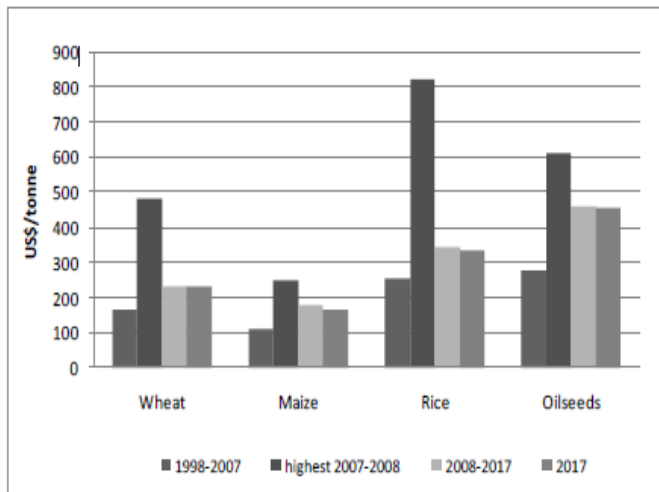
The causes of this price spike are complex and due to a combination of mutually reinforcing factors, including droughts in key grain-producing regions, low stocks for cereals and oilseeds, increased feedstock use in the production of biofuels, rapidly rising oil prices and a continuing devaluation of the US dollar, the currency in which indicator prices for these commodities are typically

quoted. This turmoil in commodity markets has occurred against the backdrop of an unsettled global economy, which in turn appears to have contributed to a substantial increase in speculative interest in agricultural futures markets.

Recent steep price increases of major crops (cereals, oilseeds) were triggered by a combination of production remaining somewhat below trend and strong growth of demand.

A low and declining level of stocks has added to the price rise, as has probably a significant increase in investments in agricultural derivative markets.

Nominal prices fall but stay above average levels of the past



CONCLUSIONS & SUGGESTIONS

1. The prices of basic foods on international markets reached their highest levels for 30 years, threatening the food security of the poor worldwide. In 2007 and 2008, mainly because of high food prices, an additional 115 million people were pushed into chronic hunger.
2. Since then, prices have declined, driven lower by the financial crisis, emerging world recession, falling oil prices and an appreciating US dollar. However, they are still high by recent historical standards and the structural problems underlying the vulnerability of developing countries to international price increases remain.
- 3 Many factors contributed to the dramatic increase in world food prices, but new biofuel demands and record oil prices were the major drivers, leading some analysts to ask whether new linkages between food and energy markets have broken the long-run downward trend in real agricultural commodity prices.
4. High product prices did not prove to be an opportunity for farmers in developing countries. They did not seize that opportunity to invest and raise their production and productivity because the high prices did not filter through to them, their access to affordable inputs was limited, their available technology was weak, necessary infrastructure and institutions were lacking and some policy responses

(such as price controls and tariff reductions) actually reduced incentives.

5. The need to protect consumers from higher food prices must be balanced against maintaining incentives for productivity-raising investment and supply response. Policy measures need to be targeted, non-distortionary and positive towards agricultural investment.

6. Many developing countries need international support to overcome budgetary constraints and to identify and implement appropriate policies. Developed countries also need to consider the impacts of their agriculture, trade and energy policies on international food prices and availability.

FINDING & RECOMMENDATIONS:

Prices have risen sharply for many commodities that have neither developed futures markets (e.g. Durham wheat, steel, iron ore, coal, etc.) nor institutional fund investments (Minneapolis wheat and Chicago rice).

- Markets where index trading is greatest as a percentage of total open interest (live cattle and hog futures) have actually suffered from falling prices during the past year.
- The level of speculation in the agriculture commodity and the crude oil markets has remained relatively constant in percentage terms as prices have risen.

Studies in agriculture and crude oil markets have found that speculators tend to follow trends in prices rather than set them.

- Speculators such as managed money traders are both buyers and sellers in these markets.

When demand for a commodity is higher than the supply, its price increases, and vice versa. There is always some imbalance between the two when it comes to commodities, which results in constantly fluctuating prices.

WEATHER CONDITIONS

A majority of commodities traded in the world markets are agricultural goods, and the production of these goods depends on the weather. Sudden changes in climatic conditions like inadequate rainfall or draughts might affect the availability of agricultural goods in the world market, causing scarcity and pushing commodity prices northwards.

ECONOMIC AND POLITICAL CONDITIONS

The prices of commodities are also impacted by the economic and political conditions of the countries that are producing and consuming them. For instance, during the Gulf War in Iraq—which was a major producer of oil—the price of oil fluctuated very frequently. Moreover, weak economic conditions reduce the spending power of consumers, leading to fall in demand, which results in movement in prices.

GOVERNMENT POLICIES

Any changes in the government policy, especially the ones impacting import/export cost to the buyer or seller will have a huge impact on commodity prices. If, for instance, the Indian government increases import duty on edible oil, its price will show a proportionate increase, and vice versa. These and some other factors like inflation, seasonal variations, currency movements, etc. are majorly responsible for price fluctuations in the commodity market

- The oil price, and energy prices more generally, is a critically important contributing factor to the increase in production costs for agricultural commodities and food and ultimately in the market prices for these goods. Price projections discussed here reflect the widely held belief that the oil price increases are permanent, lifting future prices to higher average levels.
- Feedstock demand for biofuel production is expected to increase further, albeit at a slower rate than in the past three years, and under current policy settings appears to represent a permanent factor in price formation. Unlike strong income growth in developing countries, this is a new source of demand which is seen as one of the factors lifting prices to higher average levels in the future.
- Stocks of wheat, coarse grains and vegetable oil have fallen to low levels relative to use, reducing the buffer against shocks in supply and demand. Stocks are not expected to be fully replenished over the coming ten years, implying that tight markets may be a permanent factor in the period to 2017. This should not lead to permanently higher prices, but provides the background for more price volatility in the future.
- The surge of investment in futures commodity markets from non-traditional sources may have short term price effects. But relative to the ten year outlook period these may prove temporary, given adjustment in markets and participants' behaviour: funds can move rapidly in and out of commodity markets as profit opportunities dictate. Given their size, this may well be a new and permanent element in future price volatility.

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