



A Beginner's Guide to Indian Commodity Futures Markets

Neeraj Mahajan and Kavaljit Singh



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ACRONYMS

BIS	Bank for International Settlements
CDS	Credit Default Swap
CFTC	Commodity Futures Trading Commission
CME	Chicago Mercantile Exchange
CTT	Commodity Transaction Tax
FII	Foreign Institutional Investor
FMC	Forward Markets Commission
GDP	Gross Domestic Product
ICE	Intercontinental Exchange Inc.
ICEX	Indian Commodity Exchange
IFFCO	Indian Farmers Fertilizer Cooperative Limited
IOSCO	International Organization of Securities Commissions
ISIN	International Securities Identification Number
MCA	Ministry of Corporate Affairs
MCX	Multi Commodity Exchange of India
NAFED	National Agricultural Co-operative Marketing Federation of India Limited
NBOT	National Board of Trade
NCDEX	National Commodity and Derivatives Exchange of India
NMCE	National Multi Commodity Exchange
NYMEX	New York Mercantile Exchange
OCEIL	Online Commodity Exchange India Limited
OTC	Over-the-counter
PDS	Permanent Account Number
PDS	Public Distribution System
RBI	Reserve Bank of India
SEBI	Securities and Exchange Board of India
SGF	Settlement Guarantee Fund
UCC	Unique Client Code
UNCTAD	United Nations Conference on Trade and Development

DATA NOTES

1 US\$ = Rs.62 (as of March 2015)

Dollars are US dollars unless otherwise specified

1€ = Rs.70 (as of March 2015)

1 lakh is 100,000

1 crore is 100 lakh (or 10 million)

1 million is 10,00,000 (10 lakh)

1 billion is 1,000 million

1 trillion is 1,000 billion

1 quintal is 100 kilogram, or Kg

1 tonne is 1,000 kg

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INTRODUCTION

When food prices rose dramatically worldwide during the 2007-2008 period, food riots broke out in many poor countries and there were fears of high price volatility and inflation in the developed countries. The food price spike created a global food crisis. Concerns over the social unrest and economic instability compelled the policymakers to examine the factors behind the worldwide increases in food prices. Apart from analyzing developments in the spot markets, the policymakers also turned their attention to the commodity derivatives markets, which had been undergoing major changes since 2000. In India, too, the role of futures trading in aggravating the price hike was hotly debated when the government banned futures trading in several agricultural commodities in 2008 to control food inflation.

Commodity trading in food and other agricultural products, metals and energy products is not a new phenomenon. It is probably one of the most ancient economic activities and, therefore, it would not be incorrect to state that commodity trading is as old as human civilization. Over the centuries, commodity trading has undergone tremendous changes, from the barter system to spot markets to futures markets.

In the past few decades, trading in commodity futures has also evolved from “open-outcry” methods (which involved trading through a combination of hand signals and verbal orders in trading pits) to computer-powered electronic trading. Nowadays, big traders use sophisticated tools such as algorithmic trading (which involves no human intervention) for trading in commodity futures, and individuals often use mobile phones for placing orders. As a result, trading in commodity futures around the globe has now become more sophisticated, convenient and quicker than in the past.

Even though organized commodity derivatives in India began in the 19th century, commodity futures markets have flourished in recent years with the onset of reforms to liberalize the economy in the 1990s. The major steps towards introduction of futures trading in commodities were initiated in 2004 with the removal of prohibition on futures trading in all recommended commodities and the setting up of commodity exchanges at the national level. Since then, the commodity futures markets have witnessed a rapid increase in trading volumes, market participation and the number of commodities traded. The commodity futures were initially permitted to trade in agricultural products but nowadays bullion, metals and energy products dominate the trading volume.

India and other developing countries such as China, Brazil and South Africa have important commodity derivatives markets. The monthly turnover in Indian commodity exchanges is next only to the US and China. However, despite rapid growth in trading volume, the commodity futures markets have frequently courted controversy in India due to numerous factors, including pervasive market abuses and manipulation that have badly affected market integrity, weakened integration of spot and futures markets, raised concerns over price rise, and poor regulation and supervision.

How can citizens, farmers, parliamentarians, market practitioners, policy makers, academicians and journalists be involved in ensuring that commodity derivatives markets function properly in a fair and orderly manner and where effective regulations are in place and enforced by regulators to maintain market integrity? It is the duty of regulatory authorities to curb rampant manipulation and other unfair trading practices. In the aftermath of the 2008 global financial crisis, some regulatory reforms have been initiated in the US, European Union (EU) and some other countries to enhance market transparency and coordination among regulatory authorities. But a lot still needs to be done to ensure appropriate market surveillance and enforcement at both national and international levels.

This Guide is prepared with an aim to engage citizens, farmers, parliamentarians, market practitioners, policy makers, academicians and students with interest in the area of commodity derivatives markets in general and Indian markets in particular. The Guide explains basic concepts and workings of the commodity derivatives markets, raises several policy concerns and provides specific policy recommendations to improve the regulation and supervision of markets in the public interest.

There is no denying that there are several easy-to-read publications and beginner's guides (available in print and online) that explain the workings of commodity futures markets in India. But most, if not all, have been brought out by brokerage houses and commodity exchanges to encourage people to invest in these markets. In such publications, several important matters related to the functioning of futures markets such as market abusive practices, scams and regulatory loopholes are not discussed at length as doing so may deter potential investors.

In this regard, *A Beginner's Guide to Indian Commodity Futures Markets* is a departure from commercial publications as it aims to raise critical policy issues related to the functioning, structure, regulation and governance of commodity futures markets in India. Written from a public interest perspective, this publication attempts to describe complex and technical terms in a simple language and style. We have also questioned some stylized facts about futures markets.

We humbly accept that this publication does not address several vital policy issues related to futures markets that are fiercely debated in India and around the world. We hope that other researchers and analysts would address those. It is likely that this publication may provoke additional questions in the minds of readers. We look forward to your questions, comments and suggestions.

– Neeraj Mahajan and Kavaljit Singh

HOW THIS GUIDE IS ORGANIZED

The Guide is organized into three parts:

Part I explains the basics of commodity futures markets in a historical and theoretical context. It provides a basic understanding of concepts and terminology related to commodities, derivatives, commodity futures trading, commodity exchanges and market participants. The financialization of commodities and its implications are critically examined in this section besides discussion of some of the important scandals in the global commodity markets.

Part II specifically deals with issues and concerns related to the Indian commodity futures markets. It examines the policy environment that has shaped the rise of Indian commodity futures markets in the recent times. In particular, instances of frequent manipulation and some recent trading scandals in the Indian commodity futures markets are discussed at length. This section also explores the efficacy of commodity transaction tax and provides policy recommendations to strengthen the regulation and supervision of Indian commodity futures markets.

Part III focuses on key policy issues and challenges faced by commodity futures markets. By citing examples from the Indian markets, it questions the role of excessive speculation, algorithmic trading and other practices that tend to undermine the usefulness and efficiency of a commodity futures market. Some of the recent policy initiatives and regulatory reforms are also discussed in this section.



PART I

Chapter 1 explains the various types of commodities and the role played by them in the economic development of countries. It delineates key differences between spot and derivatives markets, and discusses the risks of excessive commodity price volatility, which has significant implications on all countries.

Chapter 2 defines derivatives, and their various types. It describes how mega corporate houses, investment banks and traders have failed to comprehend the true risks associated with derivative trading and ended up suffering huge losses while trying to profit from predicting future events. With the help of examples, this chapter explains in detail the key economic functions of commodity futures trading.

Chapter 3 provides a brief history of commodity futures exchanges. It explains how exchanges function in the present world and how prices are determined on a futures exchange.

Chapter 4 describes the key market participants and the different roles that they play in the commodity futures markets. The chapter critically examines the reasons behind the low participation of Indian farmers in the commodity futures market and discusses the current status regarding the entry of banks and financial institutions in the Indian commodity futures markets.

Chapter 5 examines the entry of financial players (such as investment banks and hedge funds) in the global commodity derivatives markets. It critically analyzes the potential implications of futures trading by financial players on price formation.

Chapter 6 discusses how big market players and financial speculators have skewed the markets through price manipulation in both futures and spot markets. The chapter showcases four major scandals caused by manipulative trading practices in the global commodity markets.



1. UNDERSTANDING COMMODITIES

What is a commodity?

Commodities are products that can be bought, sold or traded in different kinds of markets. Commodities are the raw materials that are used to create products which are consumed in everyday life around the world, from food products in India to building new homes in Europe or to running cars in the US.

There are two main types of commodities:

- Soft commodities – agricultural products such as corn, wheat, coffee, cocoa, sugar and soybean; and livestock.
- Hard commodities – natural resources that need to be mined or processed such as crude oil, gold, silver and rubber.

Throughout history, commodities have played a major role in shaping the global political economy and have affected the lives and livelihoods of people. History is replete with examples of how shortage of critical commodities sparked huge public outcry and social unrest. Of late, the world community is concerned over the environmental and health costs of production and consumption of certain commodities and impact on society.

Which kinds of commodities are traded in the world?

In the global markets, there are four categories of commodities in which trading takes place:

- Energy (e.g., crude oil, heating oil, natural gas and gasoline).
- Metals (e.g., precious metals such as gold, silver, platinum and palladium; base metals such as aluminium, copper, lead, nickel, tin and zinc; and industrial metals such as steel).
- Livestock and meat (e.g., lean hogs, pork bellies, live cattle and feeder cattle).
- Agricultural (e.g., corn, soybean, wheat, rice, cocoa, coffee, cotton and sugar).

Why are commodities important?

Commodities play an important role in the economic development of all countries – developed, developing and least developed countries (LDCs). In the case of LDCs, numbering 48 at present, more than two-thirds of the labour force is dependent on agriculture. In India, too, over 60 percent of the population is dependent on agriculture for livelihood.

According to UNCTAD statistics, 27 LDCs are commodity exporters. In fact, commodities accounted for almost 80 percent of LDCs' goods export during 2007-09. Given the LDCs' heavy dependence of commodities, any development

Commodities are products that can be bought, sold or traded in different kinds of markets. Commodities are the raw materials that are used to create products which are consumed in everyday life around the world, from food products in India to building new homes in Europe or to running cars in the US.

strategy aimed at economic growth, poverty reduction and food security needs to recognize the crucial role played by commodities and natural resources in these economies. As witnessed during the recent triple crises – food, financial and fuel – the economies of LDCs remain vulnerable due to their over-reliance on few primary commodities, and price volatility.

What are the main differences between commodity spot and derivatives markets?

There are two types of commodity markets: spot (physical) and derivatives (such as futures, options and swaps).

In a spot market, a physical commodity is sold or bought at a price negotiated between the buyer and the seller. The spot market involves buying and selling of commodities in cash with immediate delivery. There are spot markets for individual consumers (retail market) and the business-to-business (wholesale market) category. Spot markets also include traditional markets such as Delhi's Azadpur Mandi that deal in fruits and vegetables.

On the other hand, a commodity can be sold or bought via derivatives contract as well. A futures contract is a pre-determined and standardized contract to buy or sell commodities for a particular price and for a certain date in the future. For instance, if one wants to buy 10 tonne of rice today, one can buy it in the spot market. But if one wants to buy or sell 10 tonne of rice at a future date, (say, after two months), one can buy or sell rice futures contracts at a commodity futures exchange.

A futures contract is a pre-determined and standardized contract to buy or sell commodities for a particular price and for a certain date in the future.

The futures contracts provide for the delivery or receipt of a physical commodity of a specified amount at some future date. Under the physically settled contract, the full purchase price is paid by the buyer and the actual commodity is delivered by the seller. But in a futures contract, actual delivery takes place later. For instance, a farmer enters into a futures contract to sell 10 tonne of rice at \$100 per tonne to a miller on a future date. On that date, the miller will pay the full purchase price (\$1,000) to the farmer and in exchange will receive the 10 tonne of rice.



Delhi's Azadpur market is one of the biggest spot markets dealing in fruits and vegetables in India.

However, under the cash-settled futures contract, the farmer and the miller would simply exchange the difference between the spot price of rice on the settlement date and the agreed upon price as mentioned in the futures contract and there would be no actual delivery of rice. Following the above example, if on the settlement date the price of rice was \$80 per tonne, while the agreed upon price of futures contract was \$100 a tonne, the miller will pay \$200 to the farmer in cash and there will be no delivery of rice to the miller. If, on the settlement date, the price of rice was \$120 a tonne, the farmer will pay \$200 to the miller in cash and no delivery of rice will take place.

In practice, most futures contracts do not involve delivery of physical commodity as contracts are settled in cash through an exchange. The financial investors prefer cash settlement because of no interest in buying or selling the underlying commodity, and lower transaction costs. Nowadays, the entire process of futures trading in commodities is carried out electronically throughout the world.

Why are prices in global commodities markets volatile?

The sharp upward or downward movement in prices (in other words, price volatility) is one of the key problems associated with commodities. Price volatility can result from irregular production and harvests as well as from swings in demand and supply. Volatility evokes risks for both producers and consumers. Volatile prices can have a devastating impact on economies. For instance, if higher prices for imported oil continue for a prolonged period of time, it can generate serious payments problems, as was witnessed in India during the 1990-91 period. On the other hand, lower prices can lead to less income for commodity exporting countries.

A sharp increase in global food and fuel prices during 2007-08 resulted in food riots in many developing countries. It also contributed to a worsening of the trade balance and current account deficits in many oil-importing and food-importing developing countries. It posed new challenges for reducing poverty, preserving food security, controlling inflation and maintaining macroeconomic stability. This prompted policy makers to put the issues of commodity price volatility and the price formation on commodity derivatives markets high on the global policy and financial reform agenda.

As discussed later in this Guide, a combination of domestic and international factors drives prices in global commodity markets. There is no denying that the rapid growth in production and consumption of China and India has contributed to a massive surge in demand for commodities from energy to minerals in recent years. In addition, intense speculative activity by financial players, geo-political factors and tight supply capacities have also significantly affected commodity prices and volatility.

Most futures contracts do not involve delivery of physical commodity as contracts are settled in cash through an exchange.

OPTION				OPTION				OPTION					
LAST	2ND	HQ	LO	CONTRACT	LAST	2ND	HQ	LO	CONTRACT	LAST	2ND	HQ	LO
6300			6300	OMF-P3000	600			600	LOM-P7700	62			62
240			240	OMF-P3000	35			35	LOM-C1000	194			194
2325			2325	OMF-P3000	35			35	LOM-C3000	245			245
2375	2325		2375	OMF-P3000	35			35	LOM-C1000	30			30
780			780	OMF-P3000	35			35	LOM-C1000	14			14
780			780	OMF-P3000	35			35	LOM-C1000	14			14
725			725	OMF-P3000	35			35	LOM-C1000	14			14
725			725	OMF-P3000	35			35	LOM-C1000	14			14
725			725	OMF-P3000	35			35	LOM-C1000	14			14
700			700	OMF-P3000	35			35	LOM-C1000	14			14
1200			1200	OMF-P3000	35			35	LOM-C1000	14			14
1000			1000	OMF-P3000	35			35	LOM-C1000	14			14
950	1200		950	OMF-P3000	35			35	LOM-C1000	14			14
950	950		950	OMF-P3000	35			35	LOM-C1000	14			14



2. UNDERSTANDING DERIVATIVES AND COMMODITIES FUTURES TRADING

What is a derivative contract?

A derivative contract is an enforceable agreement between two parties where the value of the contract is based or derived from the value of an underlying asset. The underlying asset can be a commodity, stock, precious metal, currency, bond, interest rate, index, etc.

Some of the widely used derivative contracts are as following:

Forwards: A forward contract is a non-standardized or customized contract between two parties to undertake an exchange of the underlying asset at a specific future date at a pre-determined price. It is a bilateral agreement whose terms are negotiated and agreed upon between two parties. It is transacted over-the-counter and is not traded on an exchange. The contract is executed by both parties on the due date by delivery of asset by the seller and payment by the buyer.

Futures: Commodity futures contracts are agreements made on a futures exchange to buy or sell a commodity at a pre-determined price in the future. The futures contracts are traded on regulated exchanges and the terms of the contract are standardized by the exchange. What is negotiated by the counterparties (buyer and seller of a futures contract) is only the price. The price is discovered through the offers and bids process. As explained in the previous chapter, all contracts are settled by cash or physical delivery of the underlying commodity on the expiry date of the contract. In Indian exchanges, almost all commodity futures contracts are cash-settled.

Options: Commodity options are contracts that give the owner the right, but not the obligation, to buy or sell an agreed amount of a commodity on or before a specified future date.

Swaps: A commodity swap is an agreement between two parties to exchange cash (flows) on or before a specified future date based on the underlying value of commodity, currency, stock or other assets. Unlike futures, swaps are not exchange-traded instruments. Swaps are usually designed by banks and financial institutions that also arrange the trading of these bilateral contracts.

What are exchange-traded derivatives?

Broadly speaking, there are two groups of derivative contracts – exchange-traded and over-the-counter (OTC) – based on the manner in which they are traded in the market.

Exchange-traded derivatives are those instruments (such as futures and options) that are traded on derivatives exchanges. The last decade has witnessed tremendous growth in this segment.

In terms of number of traded contracts, the commodity derivative markets have

Commodity futures contracts are agreements made on a futures exchange to buy or sell a commodity at a pre-determined price in the future.

Box 1**Commodity Physical Forward Contracts**

In many countries, billions of dollars worth of commodities are traded daily through forward contracts providing for physical delivery. A forward contract is an agreement between the seller and the buyer for the delivery of a certain quality and quantity of a commodity at a specific future date and for a specified price. Such contracts are independent, bilaterally negotiated, private contracts and therefore not conducted at an organized exchange. Nevertheless, such contracts are legally binding.

Nowadays most commodity physical forwards are conducted on electronic trading platforms. Since these contracts are conducted in physical forward markets, they bring together the commodity producer, merchandiser and consumer at a common marketplace. The commodity physical forward markets necessitate substantial investments in the logistical infrastructure (transportation and storage facilities) for the physical delivery of the underlying commodity. It involves building and managing the logistics of the supply chain from producers to consumers.

The commodity physical forwards are different from commodity futures contracts in many important ways. Unlike futures, the majority of commodity physical forwards result in the physical delivery of the underlying commodity. Only in exceptional circumstances, such contracts could be fully or partially cash settled. The transfer of ownership of the underlying physical commodity is an important function of commodity physical forward markets. The market participants interested in the physical delivery of commodities rely on the physical forwards market for this function. On the other hand, futures markets are mainly used for risk management, hedging and speculative purposes. In addition, the commodity physical forwards are subject to different regulatory requirements since these are not considered as purely financial instruments.

OTC derivatives are contracts that are privately negotiated and traded between two parties, without going through an exchange.

experienced a rapid increase due to heightened activity of financial players in these markets, and a robust rise in volumes in mainland Chinese exchanges, which accounted for 41 percent of global volumes in 2012.

The commodity derivatives markets are only a small part of global derivatives trading that is based on underlying assets such as currencies, interest rates, stocks and other financial instruments. According to statistics provided by the Bank for International Settlements (BIS) on derivatives traded on organized exchanges, the total notional amount of all the outstanding positions at the end of September 2014 stood at \$77.9 trillion¹. The combined turnover in the world's derivatives exchanges totaled \$520 trillion during the second quarter of 2013² and \$1,416 trillion by the end of 2013.³

What are over-the-counter (OTC) derivatives?

OTC derivatives are contracts that are privately negotiated and traded between two parties, without going through an exchange. The market players trade with one another through telephone, email, and proprietary electronic trading

1 http://www.bis.org/statistics/r_qa1412_hanx23a.pdf.

2 http://www.bis.org/statistics/r_qa1309_hanx23a.pdf.

3 http://www.bis.org/statistics/r_qa1412_hanx23a.pdf.

systems. The most common products traded in OTC derivative market are swaps, exotic options and forward rate agreements.

The OTC derivative market is mainly dominated by banks, hedge funds and other highly sophisticated financial players. However, OTC commodity derivatives are used for non-standardized contracts that can meet specific demands of the contracting parties. The OTC derivative market is the largest market in the world of which the commodity OTC derivatives are the smallest part and the interest rate and foreign exchange derivatives contracts are the most significant. According to a recent survey of OTC market by the BIS, the total notional amount of all the outstanding positions at the end of June 2014 stood at \$691 trillion.⁴ Of this total notional amount, \$563 trillion were interest rate contracts, \$74 trillion were foreign exchange contracts, \$19 trillion were credit default swaps and \$2.2 trillion were commodity contracts. The BIS survey estimated that the gross market value of all OTC derivatives contracts (i.e., actual money exchanged) was much lower at \$17 trillion; still not an insignificant amount given that the world's annual GDP was around \$77 trillion in 2014.

Since OTC derivatives contracts are privately negotiated and traded without any supervision of an exchange, there is always the risk of a counterparty defaulting. The counterparty risk has gained particular importance following the collapse of major financial institutions such as Lehman Brothers in 2008 and has been addressed in the post-crisis regulatory reform programmes. The OTC markets, which began in the 1980s, are still opaque and subject to fewer regulations. Post-crisis, several initiatives have been launched to move the OTC contracts to regulated central counterparties (CCPs) in a bid to reduce counterparty risk among derivatives market participants. Nevertheless, movement of OTC contracts to a large CCP may not be the best solution because a CCP may also fail due to various reasons including a default of one or more members and losses on investment of collateral. The G20 reforms also require OTC derivatives to be reported for greater transparency.

The hedgers use derivatives to reduce or eliminate risk while speculators use derivatives to profit from exposure to risk.

Why are derivatives considered a double-edged sword?

Derivatives indeed are a double-edged sword — these instruments can help in risk management but can also increase risks and erode returns. It is very important to differentiate between hedging and speculative purposes of using derivatives. The hedgers use derivatives to reduce or eliminate risk while speculators use derivatives to profit from exposure to risk.

If used for hedging purposes, derivatives can act as a valuable risk management tool to protect the value of the underlying asset (commodity, stock or currency) from adverse market price movements in the future. By reducing parties' risks while hedging and facilitating price discovery, derivatives can perform a social function even though most hedging is risky and speculative. If derivatives are used purely for taking large speculative positions, it may lead to traders incurring huge losses since derivatives are leveraged⁵ instruments where one

4 <http://www.bis.org/statistics/dt1920a.pdf>.

5 Leverage, as a business term, refers to borrowing of funds to finance an investment. Leverage can be created through futures, margin and other financial instruments. In the futures market, margin refers to the initial deposit of money required to enter into a futures contract. With a leverage ratio of 50, for instance, an investor with a margin deposit of \$1,000 can initiate a trading position of up to \$50,000. Leverage allows an investor to increase the potential large gains but also large losses on a position if the market moves in the wrong direction. In other words, leverage magnifies both gains and losses.

commits to buy or sell a large quantity of commodities or stocks by only paying upfront a part of the total cost.

The financial leverage allows traders to trade in futures contracts of a higher market value with a small amount of capital. For example, one futures contract for gold is usually of 100 troy ounces. If the trading price of gold is \$400 per ounce, then the value of the contract would be \$40,000. As per the margin rules imposed by different international commodity futures exchanges, one can buy one contract (\$40,000 worth of gold) by paying a margin money in the range of \$2,500 to \$3,000. In other words, investors can leverage \$1 to control more than \$13 in a futures market.

Many traders and firms often fail to comprehend the true risks associated with derivatives trading and end up suffering phenomenal losses while trying to profit from predicting future events. A slight mishandling of trading can lead to huge losses. In the recent past, the world has witnessed how mega corporations and investment banks (such as Sumitomo Corporation, Barings, LTCM, Enron, Bear Stearns and JP Morgan) have suffered losses running into billions of dollars when large bets went wrong. Unchecked derivatives speculation resulted into bankruptcy of many such big firms.

Table 1: Billion-Dollar Losses in Commodity Derivatives Deals

It was the deregulation of financial derivatives under the Commodity Futures Modernization Act (CFMA) of 2000 that eventually brought the US banking system to its knees.

Firm	Instruments	Losses (\$bn)
Kidder Peabody	Oil futures	4.4
Sumitomo Corp.	Copper futures	2.6
Metallgesellschaft	Oil forwards	1.9
Kashima Oil	Oil forwards	1.2

Source: Kavaljit Singh, *Taming Global Financial Flows: Challenges and Alternatives in an Era of Financial Globalization*, Madhyam Books, 2000, p. 29.

Due to rapid changes in the global banking system, the OTC derivative markets have become more concentrated in the hands of a few banks. Increased concentration in OTC derivative markets highlights the potential adverse impact on the entire financial system.

The large-scale trading of derivatives contracts for purely speculative purposes adds risk to the entire system. Large exposures to one another and greater interconnectedness among these key market participants increases the repercussion effects of shocks if one of the key market players were to default on its obligation. The ability of market participants to assess the risks faced by the counterparties is hampered by the fact that many derivatives are off-balance sheet items. Such lack of disclosures leads to counterparties having no idea about the financial health of the firm with which they are dealing in the OTC markets. In other words, derivatives such as credit default swaps (CDS) can make the true riskiness of counterparty invisible. On September 16, 2008, the US authorities gave a \$85-billion loan to American International Group (AIG), which was on the verge of collapse because it had sold CDS contracts worth \$500 billion in OTC markets. The various kinds of credit derivatives (asset-backed

security, or ABS, collateralized debt obligation, or CDO, and CDS) played a significant role in creating the global financial crisis of 2008 affecting both the financial system and the real economy.

The recent experience clearly shows that the regulatory authorities have lagged in foreseeing the risks involved in the derivatives trading, particularly in the OTC derivatives markets, largely because of the steady deregulation of derivatives trading since the 1990s. It was the deregulation of financial derivatives under the Commodity Futures Modernization Act (CFMA) of 2000 that eventually brought the US banking system to its knees.⁶ Post-crisis, the real challenge before regulatory bodies is to curb speculative behaviour and bring discipline in derivatives markets so that financial disasters of such magnitude do not recur.

What are the key functions of commodity futures trading?

The two major economic functions of a commodity futures trading are **price risk management** and **price discovery**. A futures exchange carries out these twin functions by providing a trading platform that brings buyers and sellers together.

The price risk management (also called hedging) is considered to be the most important function of a commodity futures market. The hedging is used to manage price risks. It allows transfer of price risk to other agents who are willing to bear such risks. The hedgers, in principle, buy futures contracts for protection against rising commodity prices and sell futures for protection against falling prices or to get a guaranteed price in the future. Hedgers use futures market to protect themselves against price adverse changes and are often interested in taking or making physical delivery of the underlying commodity at a specified price. On the other hand, speculators, gamblers and other non-commercial players trade futures contracts strictly to make profits by betting on price movements. Such players have no interest in taking possession of the underlying commodity.

Hedgers use futures market to protect themselves against price adverse changes and are often interested in taking or making physical delivery of the underlying commodity at a specified price.

Initially, commodity futures markets were created for the benefits of hedgers (i.e., producers or users of the underlying commodity) who would like to get guaranteed prices for their product. The commodity futures market can be potentially beneficial to producers and users of commodities (including farmers, manufacturers, bulk users, traders, exporters and importers) who can pass the price risk on an expected purchase or sale of physical commodity to other agents (speculators) who participate in these markets without any physical backing.

The premise of hedging is the key reason behind the existence of commodity futures exchanges. It has greater significance in a country like India where over 60 percent of the population is dependent on agriculture and farmers face various kinds of uncertainties and risks including price risk. In India, the original purpose behind re-introduction of futures trading was to help farmers hedge against potential risks arising out of price movements in agricultural commodities.

The farmers can participate in futures market to manage price risk arising from decline and rise in commodity spot prices in the future. For instance, a guar farmer faces the possibility of incurring a loss on account of decline in guar

⁶ Lynn A. Stout, *How Deregulating Derivatives Led to Disaster, and Why Re-Regulating Them Can Prevent Another*, Lombard Street 1, No.7, 2009, p. 4. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1432654.

seed prices at harvest time. At the time of sowing, the guar farmer can reduce or eliminate his risk by entering into a futures contract to sell guar seed at Bikaner exchange (Rajasthan) at a certain fixed price. By doing this, the farmer has hedged his exposure to changes in guar prices; he is no longer affected by adverse price changes in prices of guar, because he is guaranteed to get the price quoted in the futures contract. This strategy is known as a short hedge. In India, however, such type of direct participation by farmers is seldom seen because farmers have little knowledge of futures markets. Besides, trading in future markets is cumbersome as it involves meeting various membership criteria, bank transaction norms, daily payments of margins, etc. In the US, however, big farmers and agribusiness corporations do take part in the futures markets.

On the other hand, a guar gum manufacturer plans to buy guar seeds in the future may suffer a loss on account of an increase in guar seed prices. To minimize or eliminate the risk, the manufacturer may enter into a futures contract to buy the guar seed at a certain fixed price. This strategy is known as a long hedge.

Just like a guar farmer, an airline can also hedge its operating costs by using a futures contract to lock in the price on future delivery of jet fuel, which alone may account for 30-50 percent of its operating costs.

It is important to note that the commodity futures price, the price agreed upon by the parties for the future transaction, is a market estimate about the future price of the underlying commodity. It reflects the price expectations of both buyers and sellers for a time of delivery in the future. It may be higher or lower than the spot price of the commodity in the spot market. Thus, the futures price could be used as an estimate of the spot price of a commodity at some future date. However, futures prices keep changing until the last date of the futures contract subject to additional information about demand and supply.

The continuous flow of information makes the process of price discovery dynamic in a commodity futures market. For instance, the price of March futures contract of guar seed will reflect the opinions of buyers and sellers about the value of the guar seed when the contract expires in March. The March futures prices may go up or down with the availability of new information. The price signal can provide a direction to a farmer about what a commodity will be worth at a future point of time and, on the basis of future prices, he can take decisions on what to produce (i.e., choice among different crops to be grown in a season) on the likely prices in the near future. If price signals given by long-duration new season futures contract of guar seed mean high prices in the future, the farmers can allocate more land/resources for growing guar, and vice versa. Hence, the farmers can benefit from the dissemination of the futures prices.

Which commodities are suitable for futures trading?

Some of the necessary pre-conditions required for futures trading in a commodity include:

- There should be large demand for and supply of the physical commodity and no individual or group of persons acting in concert should be in a position to influence the demand or supply, and consequently the price substantially;
- There should be fluctuations in prices of that commodity. If the prices

The futures price could be used as an estimate of the spot price of a commodity at some future date.

of a particular commodity are relatively stable, there is very less price risk involved in that commodity, and therefore, trading in that commodity is less meaningful;

- The market for the physical commodity should be free from substantial government control. The commodities where prices are determined by government policies should not be traded on the exchanges;
- The commodity should have long shelf life;
- The commodity should be capable of standardization and gradation. Since the contracts traded on the exchange are standardized, the commodities to be traded should be capable of standardization as well as of a standard quality (grading);
- The regulatory authorities should have powers and willingness to enforce new regulations and laws and exercise appropriate oversight of trading on the futures exchange with powers to curb market abusive practices;
- The delivery points where farmers need to physically deliver the underlying commodity should not be too far away from the harvest place.

In India, the market regulator – Forward Markets Commission – decides the suitability of a commodity to be traded on the exchange.

What is an “underlying” and how is it different from a “contract”?

A commodity (such as silver, rubber or wheat) available for futures trading is called an “underlying”, i.e., the commodity based on which the derivatives’ value is derived from.

There can be different futures contracts for the same underlying depending on location and expiry date. For instance, in the contract NCD-FUT-GARSEDJDR-20-OCT-2013 the “NCD” stands for NCDEX (refers to the commodity exchange), “FUT” stands for futures, “GARSEDJDR” for guar seed (underlying commodity), “JDR” for Jodhpur (location where the commodity will be delivered) and “20-OCT-2013” for its expiry date.

The price signal can provide a direction to a farmer about what a commodity will be worth at a future point of time and, on the basis of future prices, he can take decisions on what to produce on the likely prices in the near future.



The commodity suitable for futures trading should be capable of standardization and gradation.

What is convergence?

Theoretically speaking, the difference between spot and futures contract should decline over the life of a contract so that spot and futures prices are the same on the date of maturity of the contract. This is known as “convergence” of spot and futures prices, though the futures market and spot market operate as separate entities.

In reality, price discrepancies between these two markets may exist due to excessive speculation and price manipulation in the futures markets. It has been estimated that about 75 percent of all futures contracts in the world fail due to their inability to accurately reflect spot market conditions. The threat that a commodity will not be delivered as foreseen in the contract is an important factor for preventing price convergence between the spot and futures markets.

The regulatory authorities and futures exchanges can facilitate proper price convergence by ensuring that there is a credible threat of delivery of commodities. The threat of delivery is an important factor for facilitating price convergence between the spot and futures markets. It discourages the market participants from manipulating futures prices. Without the threat of delivery, futures contracts may not serve as a tool for price discovery and price risk management. Other measures to curb excessive speculation include imposition of position limits and higher margins.

Box 2

Exotic Derivatives Trap Small Exporters in India

During 2006-07, the depreciation of the US dollar against most global currencies coupled with rupee appreciation hit the Indian exporters badly. In particular, small and medium-sized exporters located in export zones such as Tirupur, Ludhiana, Panipat and Karur began to lose their competitive advantage due to currency appreciation.

Taking undue advantage of the situation, banks, particularly new private banks (e.g., ICICI Bank and Yes Bank) and foreign banks (e.g., ABN Amro), aggressively pushed exotic currency derivative products to exporters, ostensibly to hedge their losses from a rising rupee.

The unwary exporters entered into foreign exchange forward contracts largely on the advice of the banks without realizing the potential risks involved in these products.

In many instances, the full implications of these risky complex products and the use of leverage were not explained to the buyers. Many buyers of these complex products in Tirupur, for instance, were small exporters (ex-farmers with little education and awareness to understand these complex financial products).

Some banks offered sample deals to buyers in order to clinch bigger deals in the future. After gaining the confidence of the exporters, private and foreign banks pushed derivative products, which were grossly irrelevant and unsuitable. For instance, banks sold derivative products in multiple, cross-currencies (such as Swiss franc and Japanese yen) despite being fully aware that most Indian exporters bill their exports in US dollars.

Apart from the alleged breach of trust by banks, the currency derivative contracts were also in violation of existing derivative regulations. For instance, regulations allow only those banks with whom exporters have a credit relationship to offer such products. Derivative transactions that do not hedge any underlying exposure are not allowed.

Further, the regulations specify that the value of derivative products should have some relationship with the business turnover of the export company. In practice, all such regulations were violated by banks while offering derivative

contd. on next page

products to small and medium-sized exporters. No due diligence was undertaken by the banks to assess the suitability of the derivative product to a small exporter.

These speculative contracts went haywire when the Swiss franc and Japanese yen began to suddenly rise against the dollar in early 2008. As a result, several exporters incurred huge losses as their derivatives contracts multiplied their foreign exchange risks. The Tirupur-based Plywin Exports, for instance, incurred a loss of Rs.80 million on the currency derivatives sold by ABN Amro Bank.

It has been estimated that the total losses suffered by Tirupur-based exporters alone on account on derivatives contracts were above Rs.4,000 million, almost the net-worth of all exporters based in Tirupur. Many exporters have accused the banks of concealing the risk inherent in these contracts. Some exporters have taken the matter to court alleging that the banks sold them exotic derivatives contracts for purely speculative purposes.

The banks, too, are sitting on massive piles of non-recoverable debt. The losses are so huge that the banks cannot recover them even by selling the assets of the export firms. Some small-sized exporters are on the verge of closure with serious negative implications on employment and exports. In Tirupur, there are over 6,250 factories, which provide direct employment to about 350,000 people (mostly rural women) and indirect employment to about 150,000 people. After this incident, small exporters have become wary of such exotic derivatives products.

This episode has clearly revealed how the aggressive selling of exotic derivatives products by banks could badly damage the business prospects of a vibrant SME segment of Indian exporters.

Source: Kavaljit Singh, [India-EU Free Trade Agreement: Should India Open Up Banking Sector?](#), Special Report, Madhyam, 2009.



3. UNDERSTANDING COMMODITY DERIVATIVES EXCHANGES

What is a commodity derivatives exchange?

A commodity exchange (also called bourse) is an organized physical or virtual marketplace where various tradable securities, commodities and derivatives are sold and bought. Commodity derivatives exchanges are places where trading of commodity futures and options contracts are conducted.

What were the historical reasons behind setting up commodity exchanges worldwide?

Contrary to popular perception, commodity derivatives are not a new phenomenon. They appeared much before financial derivatives in the world. Clay tablets appeared in Mesopotamia around 2000 BC as contracts for future delivery of agricultural goods. The story of Thales of Miletus (624-547 BC) in Aristotle's writings is considered as the first account of an option trade whereby the price of the spring olive from the oil presses was negotiated in winter without an obligation to buy the oil. The idea was to offset the price risk and maintain a year-round supply of seasonal agricultural crops in the markets.



Clay tablets appeared in Mesopotamia around 2000 BC as contracts for future delivery of agricultural goods.

During the 12th century, merchants began making commitments to buy or sell goods even before they were physically available to reduce the risk of looting while traveling along dangerous routes.

The central function of these contracts, later called derivatives, was to guarantee a future price and avoid the risks of unexpected higher or lower prices.

The late 19th century witnessed a spurt in commodity futures trading with the creation of exchanges. The main rationale was reduction of transaction costs

The late 19th century witnessed a spurt in commodity futures trading with the creation of exchanges.

as well as organizing a marketplace where buyers and sellers could find a ready market. Interestingly, one of the main reasons behind creation of Chicago Board of Trade – one of the world's largest commodity exchanges – was that farmers coming to Chicago at times found no buyers and had to dump their unsold cereals in Lake Michigan, adjoining the city. Chicago, thus, emerged as a major commercial hub where derivatives were traded and harvest could be delivered, with the best of rail, road and telegraph line connections to attract wheat producers, dealers and distributors. The prices on the Chicago Board of Trade, e.g. for wheat futures, are still important price references and price indicators used worldwide. Some commodity exchanges were established in the rest of the world. Set up in 1854, Buenos Aires Grain Exchange in Argentina is an example of one such old exchange in the world.

After the liberalization of agricultural trade in the 20th century, many countries withdrew support to agricultural producers and prices became more volatile. Consequently, commodity exchanges stepped in to fulfill the price discovery and hedging function and facilitate physical trading. Initially, these exchanges were located mainly in developed countries but soon the developing countries too caught on. But even as many new sophisticated exchanges began operations, many old exchanges disappeared.

How does a commodity derivatives exchange function?

The key functions of the commodity derivatives exchanges include:

- Providing and enforcing rules and regulations for uniform and fair trading practice.
- Facilitating trading in a transparent manner.
- Recording trading transactions, including circulating price movements and market news, to the participating members.
- Ensuring execution of contracts.
- Providing a system of protection against default of payment (clearing).
- Providing a dispute settlement mechanism.
- Designing the standardized contract for trading which cannot be modified by either parties.

Ideally, a commodity derivatives exchange needs to provide a seamless trading platform with a fair, transparent and financially secure trading environment in keeping with the robust risk management practices.

It should have a suitable risk management mechanism, normally in the form of a clearing house (owned by the exchange or by another operator) that ascertains the credit-worthiness of the parties of a contract and ensures the execution of contracts. It especially serves as a legal counter-party between each buyer and each seller of a derivatives contract on the exchange and, therefore, is called a central counter party (CCP).

The exchange should also maintain a Settlement Guarantee Fund (SGF) to ensure a high level of protection against the risk of default by a trader. Importantly, the clearing house (the CCP), or the SGF of the exchange has to be used in

A commodity derivatives exchange needs to provide a seamless trading platform with a fair, transparent and financially secure trading environment in keeping with the robust risk management practices.

case of default by a buyer or a seller to pay the other party. In order to guarantee that the parties will execute the contract and to maintain reserves to deal with default, the clearing house or SGF requests the parties to provide collateral (called margin) in the form of cash or securities. The margin money fluctuates daily with the change in prices of the contracts on which traders have taken positions. In an event of adverse price movements, the traders are asked to increase their margin amount ('margin call').

What is the role of an exchange in futures trading?

Modern electronic commodity exchanges offer fast, secure, transparent and regulated platforms for transactions along with public display of prices and trading. The exchange designs the standardized contract for trading which cannot be modified by the either party. The exchange then provides a seamless trading platform and competitive trading as well as facilities for clearing, settlement, and arbitration. Above all, the exchange guarantees a financially secure environment for risk management and guaranteed performance of contract.

How are futures prices on the exchange determined?

In theory, the future prices are determined by the forces of demand and supply for a particular commodity in any market. The price rises if purchase volumes outnumber sales volumes, and vice versa. The bargaining (bids and offers) for commodity derivatives contracts converge at the trading floor on the expectations of different stakeholders about prices of a particular commodity on the specified maturity date in the future. The prices in a futures market are determined from the bargaining, namely the interaction of buy and sell 'quotes' from different participants having different expectations from the physical and financial markets, such as expectations about the quality of harvests, the trading by market players (hedgers or speculators), weather, consumption patterns and global macroeconomic or geo-political factors. The way exchange trading is conducted is also influenced by the domestic regulatory regime. In practice, futures prices can also be influenced by buying and selling by speculators when they engage in excessive speculative trading that is unrelated to the physical market.

The prices in a futures market are determined from the bargaining, namely the interaction of buy and sell 'quotes' from different participants having different expectations from the physical and financial markets.



Open outcry trading at the commodity derivatives exchange.

The actual bargaining and trading on an exchange can be conducted with traders meeting physically (open outcry) or through computerized communication. Open outcry is a vanishing method that involves verbal price offers as well as hand signals made by traders to convey trading information on the trading floors of the exchange building. A contract is made when one trader cries out that he wants to sell at a certain price and another trader responds that he will buy at that same price. Most exchanges now use electronic trading systems instead of open outcry, as it reduces costs and improves the speed of trade execution. Nowadays big traders use sophisticated tools such as algorithmic trading (which involves no human intervention) for trading in commodity futures, and individuals often use mobile phones for placing orders. As a result, trading in commodity futures around the globe has now become more sophisticated, convenient and quicker than in the past.

Which are the biggest global commodity derivatives trading exchanges?

In the 1970s and 80s, the United States was a leading player in commodity derivatives trading which began there with corn contracts at the Chicago Exchange in the mid-19th century and cotton at the New York Exchange. By the early 1980s, the US was home to 13 major futures and options exchanges, including the Chicago Board of Trade (CBOT), one of the world's biggest futures and options exchange; Chicago Mercantile Exchange (CME); and New York Mercantile Exchange (NYMEX).

However, Europe emerged as a clear leader in the mid-1990s, particularly in the non-agricultural commodities and tilted the balance away from the US in its own favour.

Most exchanges now use electronic trading systems instead of open outcry, as it reduces costs and improves the speed of trade execution.

Table 2: Top 15 Derivatives Exchanges Worldwide

Based on Number of Contracts Traded and/or Cleared (2013)

Ranking	Exchange	No. of Contracts
1	CME Group (US)	3,161,476,638
2	Intercontinental Exchange* (US)	2,807,970,132
3	Eurex (Germany)	2,190,548,148
4	National Stock Exchange of India	2,135,637,457
5	BM&F BOVESPA (Brazil)	1,603,600,651
6	CBOE Holdings (US)	1,187,642,669
7	NASDAQ OMX (US)	1,142,955,206
8	Moscow Exchange (Russia)	1,134,477,258
6	BM&F BOVESPA (Brazil)	1,603,600,651
9	Korea Exchange (South Korea)	820,664,621
10	MCX India (India)	794,001,650
11	Dalian Commodity Exchange (China)	700,500,777
12	Shanghai Futures Exchange (China)	642,473,980
13	Zhengzhou Commodity Exchange	525,299,023
14	Japan Exchange Group	366,145,920
15	Hong Kong Exchanges & Clearing	301,128,507

*Includes NYSE Euronext.

Source: www.futuresindustry.org.

Since 2005, commodity markets in Asia (primarily China and India) are witnessing huge trading volumes, despite the fact that Chicago, New York and London remain the big hubs for agricultural goods, precious and base metals and oil and gas products. In terms of trading volumes, Asia now accounts for more than half of global commodity futures and options trades.



CME Group is the world's largest owner and operator of derivatives exchanges.

In 2012, the top five exchanges by number of commodity derivatives contracts traded were CME Group, Dalian Commodity Exchange, Multi Commodity Exchange of India, Shanghai Futures Exchange and Zhengzhou Commodity Exchange. Some exchanges have merged and carry out trading across borders such as Euronext (Paris, Brussels, Amsterdam, London and Lisbon) and the CME Group.



4. THE MARKET PARTICIPANTS

Who are the main players in commodity futures market?

Broadly speaking, the commodity futures market ecosystem has the following main participants:

Scalpers/Day Traders are those participants who take positions in futures contracts for a single day and liquidate them prior to the close of the same trading day. The scalpers have the shortest time horizon. They hold their positions for a few minutes while day traders close their positions before the end of trading each day. Both the scalpers and the day traders attempt to make profit out of the intra-day movement in commodity futures prices. They do not carry over their position to the next trading day. These market players provide liquidity in futures market due to large volumes of transactions undertaken by them. However, it needs to be acknowledged that such players can also negatively affect the price formation and market functioning due to excessive reliance on speculative trading. A special category of scalpers is that of high frequency traders who only hold contracts for micro-seconds thanks to the use of superfast computers and algorithms.

Hedgers are essentially players with an exposure to the underlying commodity and associated price risk – producers or consumers who wish to transfer the price risk on to the market. The futures markets exist primarily for hedgers. The hedgers simultaneously operate in the spot market and the futures market. They try to reduce or eliminate their risk by taking an opposite position in the futures market on what they are trying to hedge in the spot market so that both positions cancel one another. They operate in the spot market to buy or sell the physical commodity, and in the futures market to offset any loss arising out of price fluctuations in the spot market.

Speculators are traders with no genuine commercial business to the underlying; they do not hedge but trade with the objective of making profits from movements in prices. The speculators generally assume higher risk and also expect a higher return on their investments. They do not have any real need to buy, sell or take delivery of the actual commodities. They wish to liquidate their positions before the expiry date of the contract and carry out a purely financial transaction. Due to the margin system, speculators operate in the futures market with minimum investments. For instance, upfront initial margin of 5 percent (or less) of the value of the contract provides speculators with substantial leverage. The speculators may be professional institutional investors dealing in big contracts or small individual traders who trade on their own accounts. The speculators are supposed to provide market liquidity as the number of those seeking protection against declining prices is rarely the same as the number of those seeking protection against rising prices. In the financial media, speculators are frequently labeled as investors and non-commercial players.

Arbitrageurs are traders who buy and sell to make money on price differentials across different markets. They simultaneously buy or sell the same commodities in different markets. Arbitrage keeps the prices in different markets in line with each other. Usually, such transactions are risk-free.

Aggregators bring liquidity in the futures market and help farmers to benefit

The scalpers have the shortest time horizon. They hold their positions for a few minutes while day traders close their positions before the end of trading each day.

from price discovery and price risk management. Aggregators could be farmers' cooperatives, agricultural institutions like NAFED (National Agricultural Co-operative Marketing Federation), farmers' or producers' unions and non-governmental organizations that are allowed to collect commodities from farmers and sell in the futures market.

Position Traders maintain overnight positions, which may run into weeks or even months, in the anticipation of favourable movement in the commodity futures prices. They may hold positions in which they run huge risks and may also earn big profits.

Brokers typically act as intermediaries and facilitate hedgers and speculators. A commodity broker is a firm or individual who acts as a go between to buy or sell commodity contracts on behalf of clients – for a commission.

The Exchange is a central place (physical or virtual) where market participants trade standardized futures contracts.

Regulator oversees the working of the exchange. The Forward Markets Commission (FMC) is the regulatory authority for the commodity futures market in India. It is equivalent of the Securities and Exchange Board of India (SEBI), which regulates the equities markets in India.

Why is farmer participation in the Indian commodity futures markets very low?

Arbitrageurs are traders who buy and sell to make money on price differentials across different markets.

There are several reasons behind the low participation of farmers and their representative institutions in the Indian futures markets, some of which are listed below:

- Farmers cannot afford to pay the fees for maintaining trading account with the brokers besides warehousing and assaying costs;
- Farmers find the trading requirements such as payment of margins to be burdensome;
- The minimum lot size for trading in the futures market is much larger than the marketed surplus for most of the farmers in India. As a result, marginal/small farmers who need risk coverage the most are totally excluded;
- Most Indian farmers are incapable of participating in the futures markets because they lack the skills needed for trading on electronic exchanges;
- The trading terminals are yet to penetrate into villages as the necessary infrastructure (power supply and broadband) is still missing in rural India;
- The absence of the appropriate scale and quality of warehousing infrastructure and grading facility;
- A proposal for allowing farmers' cooperatives and state agricultural marketing federations (such as IFFCO) to act as aggregators and hedge positions in futures exchanges on the behalf of their farmers is pending at FMC for years.



Indian farmers do not trade in the commodity futures due to several obstacles.

Are foreign investors allowed to trade in the Indian commodity markets?

No. Currently only resident Indians, companies and traders are allowed to trade in Indian commodity markets.

Are banks and financial institutions allowed to trade in commodity futures markets in India?

No. As per the existing regulatory framework, banks in India are allowed to trade in financial instruments (shares, bonds and currencies) in the securities market. But the Banking Regulation Act, 1949, prohibits banks (domestic and foreign) from trading in goods. Section 8 of the Act states: "No banking company shall directly or indirectly deal in the buying or selling or bartering of goods, except in connection with the realization of security given to or held by it."

However, banks are allowed to finance commodity business and provide lending and payment settlement facilities to commodity traders to meet their working capital requirements. Banks also provide clearing and settlement services for commodities derivatives transactions. But banks cannot trade in commodities themselves.

In addition to banks, mutual funds, pension funds, insurance companies and foreign institutional investors (FIIs) are not allowed to trade in Indian commodity futures markets.

On December 10, 2012, the then finance minister, P. Chidambaram, proposed to add a new clause in the Banking Laws (Amendment) Bill, which allowed the entry of banks in commodity futures trading in India. After strong opposition by political parties on the grounds of parliamentary impropriety, the government dropped it from the Bill on December 18, 2012. However, it is expected that this clause would be incorporated in the forthcoming Forward Contract Regulation Act (Amendment) Bill, expected in 2015.

Banks, mutual funds, pension funds, insurance companies and foreign institutional investors (FIIs) are not allowed to trade in Indian commodity futures markets.



BUY

SELL

GO

YES

GO

GO

H=23.25 I=23.07 +0.02
I=22.85 I=22.44

L2000

L3000

5. THE FINANCIALIZATION OF COMMODITIES

What is financialization of commodities?

A rapid deregulation of commodity and financial markets coupled with swift technological advancement (e.g., computerised trading based on algorithms) and financial innovation (e.g., commodity index funds) have facilitated the entry of big financial players into both physical commodity markets and commodity derivatives markets (such as futures, options and swaps) in the major exchanges of the world (but not in India, where banks are prohibited from trading). The growing integration of financial and physical commodity markets over the last decade is popularly referred to as “financialization of commodities.”

The key financial players (non-commercial participants) in the commodity futures markets are very diverse and include investment banks, merchant banks, swap dealers, insurance companies, hedge funds, mutual funds, private equity funds, pension funds and other large institutional investors. Table 3 gives the list of top 12 most active banks in commodity derivatives trading in 2011.

Why are financial players interested in commodity derivatives?

Financial players view commodities as a separate asset class or as part of a real assets allocation. The traditional asset classes include equities, bonds and other fixed income securities, property and cash.

Financial players add commodity derivatives to their investment portfolio, i.e., the pool of money they invest, as part of a strategy to diversify their portfolio. They add commodities as “other asset class.” Investment in commodities is

Table 3: Top 12 Most Active Banks in Commodities Derivatives (by notional/total assets)

€ bn (End 2011)	Notional value	Gross value (fair value)*	Total assets	Revenues	%Notional/ Total assets	%Gross/ Total assets	Ratio Gross / Revenues
Morgan Stanley	607.07	61.60	579.00	25.02	104.85%	10.64%	2.46
Goldman Sachs	614.91	57.51	712.82	22.25	86.26%	8.07%	2.59
JP Morgan	859.35	90.62	1,749.42	75.07	49.12%	5.18%	1.21
Barclays	857.09	26.89	1,876.86	38.76	45.67%	1.43%	0.69
Bank of America	639.22	29.65	1,643.84	72.91	38.89%	1.80%	0.41
Credit Suisse	281.62	n/a	862.41	21.56	32.65%	n/a	n/a
Société Générale	343.09	17.06	1,181.37	25.64	29.04%	1.44%	0.67
Deutsche Bank**	459.13	44.36	2,164.10	33.23	21.22%	2.05%	1.34
Citigroup	221.11	21.92	1,446.82	60.50	15.28%	1.52%	0.36
BNP Paribas**	156.29	13.75	1,965.28	42.38	7.95%	0.70%	0.32
Credit Agricole	69.79	8.50	1,860.00	35.13	3.75%	0.46%	0.24
HSBC	59.06	2.85	1,973.16	46.44	2.99%	0.14%	0.06
Total	5,167.72	374.71	18,015.09	498.88	49.71%^	3.9%^	1.15^
Global OTC	2,57	405	-	-	-	-	-
Global ETD***	3,585	-	-	-	-	-	-

*Before netting adjustments. **Estimates. ***Conservative estimate of value of traded futures and options contracts. ^Weighted average (notional). ETD: Exchange traded derivatives.

Source: D. Valiante, *Commodities Price Formation: Financialisation and Beyond*, CEPS-ECMI Task Force Report, Centre for European Policy Studies, Brussels, September 2013, p. 27.

seen as a balancing effect on the portfolio and acts as a price risk management tool to avoid prices of all the assets in a portfolio from going down or to hedge against inflation. In India, for instance, gold is often considered as a hedge against inflation.

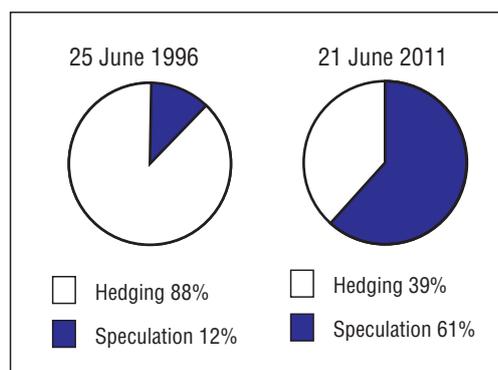
It has been observed in many countries that investors show particular interest in commodities when the economy is in an expansionary phase. However, financial players can leave commodity markets if there are fewer opportunities to profit from speculative trading.

Investment banks and hedge funds have developed various kinds of financial instruments for other investors to trade in or be exposed to commodity derivatives markets, including complex OTC derivatives and commodity (index) funds that track the prices of commodity futures. Besides, such players might also engage in trading in commodity derivatives themselves using their own capital ('proprietary trading') rather than earning fees and commissions from processing trades.

What has been the impact of financial players?

The arrival of purely financial players has dramatically changed the landscape of the global commodity futures markets. In recent years, the non-commercial futures positions⁷ have become by far the biggest component of futures markets. According to a staff report brought out by Commodity Futures Trading Commission (CFTC) in the US, the value of index related commodities futures investments by institutional investors grew from \$15 billion in 2003 to over \$200 billion in mid-2008.⁸ Furthermore, the CFTC data published in 2011 reveals that the vast majority of trading volume in the key US futures markets – more than 80 percent in many contracts – is day trading (or trading in calendar spreads) and only 14 percent of long positions and 13 percent of short positions in the crude oil market (NYMEX West Texas Intermediate grade contracts) were held by producers, merchants, processors and other users of the commodity.⁹

The CFTC data published in 2011 reveals that the vast majority of trading volume in the key US futures markets – more than 80 percent in many contracts – is day trading.



Increasing percentage of speculators and financial players on the wheat futures market of Chicago (US).

Source: 1996 data from Better Markets (US); 2011 data from CFTC (US).

7 The term "position" refers to the amount of contracts held by a trader in the futures market.
 8 *Staff Report on Commodity Swap Dealers and Index Traders with Commission Recommendations*, Commodity Futures Trading Commission, September 2008.
 9 Testimony of Gary Gensler (Chairman, Commodity Futures Trading Commission) before the US Senate Homeland Security and Governmental Affairs, Permanent Subcommittee on Investigations, November 3, 2011.

It is important to note that trading by different kinds of players (hedgers, speculators and others) can affect the price formation and the interaction among them can determine market prices in a futures market. If in a particular futures market, there are more buyers (say, speculators) than sellers (say, hedgers), then an excessive speculative buying of futures contracts is likely to increase the price of contracts. With the result, prices will no longer be determined only by the interplay between supply and demand as related to the physical commodity markets.

Some recent academic studies have provided direct evidence of the impact of financial investment on commodity futures prices,¹⁰ while most studies are either inconclusive or find no such evidence. It is very difficult to undertake an in-depth research due to non-availability of data as OTC trading is opaque and can potentially influence the trading on exchanges.

In 2006, the US Senate Permanent Subcommittee on Investigations issued a report showing how the injection of billions of dollars from speculation into the commodity futures markets had contributed to rising energy prices¹¹ and that the large influx of speculative investments in these markets had altered the traditional relationships between futures prices and supplies of energy commodities, particularly crude oil.¹² In 2007, the Subcommittee released another report highlighting how excessive speculation by Amaranth Advisors (a hedge fund) distorted natural gas prices and contributed to higher costs for natural gas consumers.¹³ In its 2009 report on wheat market, the Subcommittee stated that the large amount of commodity index trading due to speculative purchases of index instruments has contributed to “unreasonable fluctuations” and “unwarranted changes” in the price of wheat futures contracts in the US.¹⁴

A 2013 study based on a dataset of Commodity-Linked Notes (a financial product linked to commodity derivatives prices) in the US found that the speculative investor flows cause significant price changes in the underlying futures markets and, therefore, provide direct evidence of the impact of “financial” investment on commodity futures prices.¹⁵

The dramatic rise and fall in prices of oil and agricultural commodities during 2006-08 generated a heated debate in global policy circles whether speculation by financial players induced excessive price volatility. This issue was discussed at length at the G20 and several policy measures were recommended to improve the regulation and supervision of commodity derivatives markets. Two of the most important changes introduced in relation to OTC derivatives

In its 2009 report on wheat market, the US Senate Permanent Subcommittee on Investigations stated that the large amount of commodity index trading due to speculative purchases of index instruments has contributed to “unreasonable fluctuations” and “unwarranted changes” in the price of wheat futures contracts in the US.

10 See, for instance, Brian J. Henderson, Neil D. Pearson and Li Wang, *New Evidence on the Financialization of Commodity Markets*, July 22, 2013.

11 *The Role of Market Speculation in Rising Oil and Gas Prices: A Need to Put the Cop Back on the Beat*, Staff Report Prepared by the Permanent Subcommittee on Investigations of the Committee on Homeland Security and Government Affairs, US Senate, June 27, 2006.

12 Ibid.

13 *Excessive Speculation in the Natural Gas Market*, Staff Report Prepared by the Permanent Subcommittee on Investigations of the Committee on Homeland Security and Government Affairs, US Senate, June 25 and July 9, 2007.

14 *Excessive Speculation in the Wheat Market*, Staff Report Prepared by the Permanent Subcommittee on Investigations of the Committee on Homeland Security and Government Affairs, US Senate, June 24, 2009.

15 Brian J. Henderson, Neil D. Pearson and Li Wang, op. cit.

markets are the mandatory clearing of standardised OTC derivatives by central counterparties (CCPs) and the requirements for bilateral margin posting in non-standard OTC contracts. In addition, more standardised OTC derivatives are to be traded on the exchanges. However, having one CCP to clear huge amounts of OTC contracts may not be the best solution because a CCP may also fail for various reasons, including a default by many large members and losses on the value of the collateral received.

In 2011, G20 agriculture ministers agreed to share reliable data on agricultural markets in order to ensure transparency in agricultural financial markets (including the OTC derivatives). They also called for greater collaboration between physical and financial regulators to improve the functioning of markets.

Box 3

US Senate report: Banks Had “Unfair Advantage” in Physical Commodities Business

The United States Senate Permanent Subcommittee on Investigations carried out a two-year bipartisan investigation to find out the extent to which the US banks and their holding companies own physical commodities like oil, natural gas, aluminum and other industrial metals, as well as own or control businesses like power plants, oil and gas pipelines, and commodity warehouses. As part of the investigation, the Subcommittee gathered and reviewed over 90,000 pages of documents from US banks, financial firms, the US Federal Reserve, the Office of the Comptroller of the Currency (OCC), Commodity Futures Trading Commission (CFTC) and other agencies.

Released on November 20, 2014, the 403-page report titled [Wall Street Bank Involvement with Physical Commodities](#) provides interesting facts about the role of large Wall Street banks in physical commodities as well as trading in financial instruments whose value could be affected by a bank’s involvement with those physical commodities.

The report provides case studies of three major US bank holding companies (namely, Goldman Sachs, JPMorgan Chase, and Morgan Stanley) due to their largest levels of involvement in physical commodity activities in the last one decade. The report notes that these three bank holding companies have carried out a wide range of activities, including operating coal mines, trading in uranium, running warehouses that store metal, operating oil and gas pipelines, selling jet fuel to airlines, and operating power plants. The report also recommends policy and regulatory measures to reduce risks to the US financial system caused by bank involvement with physical markets for commodities and related businesses.

The following are excerpts from the report.

Findings:

- **Engaging in risky activities:** Since 2008, Goldman Sachs, JPMorgan Chase and Morgan Stanley have engaged in many billions of dollars’ worth risky physical commodity activities, owning or controlling, not only vast inventories of physical commodities like crude oil, jet fuel, heating oil, natural gas, copper, aluminum, and uranium, but also related businesses, including power plants, coal mines, natural gas facilities, and oil and gas pipelines.
- **Mixing banking and commerce:** From 2008 to 2014, Goldman Sachs, JPMorgan and Morgan Stanley engaged in physical commodity activities that mixed banking and commerce, benefiting from lower borrowing costs and lower capital to debt ratios compared to non-bank companies.
- **Affecting prices:** At times, some of the financial holding companies used or contemplated using physical commodity activities, such as electricity bidding strategies, merry-go-round trades, or a proposed

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exchange traded fund backed by physical copper, that had the effect or potential effect of manipulating or influencing commodity prices.

- **Gaining trading advantages:** Exercising control over vast physical commodity activities gave Goldman Sachs, JPMorgan and Morgan Stanley access to commercially valuable, non-public information that could have provided advantages in their trading activities.
- **Incurring new bank risks:** Due to their physical commodity activities, Goldman Sachs, JPMorgan and Morgan Stanley incurred multiple risks normally absent from banking, including operational, environmental, and catastrophic event risks, made worse by the transitory nature of their investments.
- **Incurring new systemic risks:** Due to their physical commodity activities, Goldman Sachs, JPMorgan and Morgan Stanley incurred increased financial, operational, and catastrophic event risks, faced accusations of unfair trading advantages, conflicts of interest, and market manipulation, and intensified problems with being too big to manage or regulate, introducing new systemic risks into the US financial system.
- **Using ineffective size limits:** Prudential safeguards limiting the size of physical commodity activities are riddled with exclusions and applied in an uncoordinated, incoherent, and ineffective fashion, allowing JPMorgan, for example, to hold physical commodities with a market value of \$17.4 billion – nearly 12% of its Tier 1 capital – while at the same time calculating the market value of its physical commodity holdings for purposes of complying with the Federal Reserve limit at just \$6.6 billion.
- **Lacking key information:** Federal regulators and the public currently lack key information about financial holding companies' physical commodities activities to form an accurate understanding of the nature and extent of those activities and to protect the markets.

Recommendations:

- **Reaffirm separation of banking and commerce as it relates to physical commodity activities:** Federal bank regulators should reaffirm the separation of banking from commerce, and reconsider all of the rules and practices related to physical commodity activities in light of that principle.
- **Clarify size limits:** The US Federal Reserve should issue a clear limit on a financial holding company's physical commodity activities; clarify how to calculate the market value of physical commodity holdings; eliminate major exclusions; and limit all physical commodity activities to no more than 5% of the financial holding company's Tier 1 capital. The OCC should revise its 5% limit to protect banks from speculative or other risky positions, including by calculating it based on asset values on a commodity-by-commodity basis.
- **Strengthen disclosures:** The US Federal Reserve should strengthen financial holding company disclosure requirements for physical commodities and related businesses in internal and public filings to support effective regulatory oversight, public disclosure, and investor protections, including with respect to commodity related merchant banking and grandfathered activities.
- **Narrow scope of complementary activity:** The US Federal Reserve should narrow the scope of "complementary" activities by requiring financial holding companies to demonstrate how a proposed physical commodity activity would be directly linked to and support the settlement of other financial transactions conducted by the company.
- **Clarify scope of grandfathering clause:** The US Federal Reserve should clarify the scope of the "grandfather" clause as originally intended, which was only to prevent disinvestment of physical commodity activities that were underway in September 1997, and continued to be underway at the time of a company's conversion to a financial holding company.

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- **Narrow scope of merchant banking authority:** The US Federal Reserve should tighten controls over merchant banking activities involving physical commodities by shortening and equalizing the 10-year and 15-year investment time periods, clarifying the actions that qualify as “routine operation and management” of a business, and including those activities under an overall physical commodities size limit.
- **Establish capital and insurance minimums:** The US Federal Reserve should establish capital and insurance minimums based on market-prevailing standards to protect against potential losses from catastrophic events in physical commodity activities, and specify the catastrophic event models used by financial holding companies.
- **Prevent unfair trading:** Financial regulators should ensure that large traders, including financial holding companies, are legally precluded from using material non-public information gained from physical commodities activities to benefit their trading activities in the financial markets.
- **Utilize Section 620 study:** Federal regulators should use the ongoing Section 620 study requiring regulators to identify permissible bank activities to restrict banks and their holding companies from owning or controlling physical commodities in excess of 5% of their Tier 1 capital and consider other appropriate modifications to current practice involving physical commodities.
- **Reclassify commodity-backed ETFs:** The Commodity Futures Trading Commission (CFTC) and Securities Exchange Commission should treat exchange-traded funds (ETFs) backed by physical commodities as hybrid security-commodity instruments subject to regulation by both agencies. The CFTC should apply position limits to ETF organizers and promoters, and consider banning such instruments due to their potential use in commodity market corners or squeezes.
- **Study misuse of physical commodities to manipulate prices:** The Office of Financial Research should study and produce recommendations on the broader issue of how to detect, prevent, and take enforcement action against all entities that use physical commodities or related businesses to manipulate commodity prices in the physical and financial markets.

6. A WORLD FULL OF MANIPULATED MARKETS

A series of scandals in the past three decades have undermined the trust and integrity of global commodity markets. There have been several major scandals in the commodity markets centred around price manipulation in both futures and spot markets. This undermines a key function of the commodity futures exchanges, namely to provide a good forecast of future spot prices that can be used by players in the physical commodity trading and others. The deliberate price manipulation can result in losses for those players who use futures trading for hedging purposes.

Some of the major recent scandals have been due to poor regulation and supervision by the public authorities and the so-called “self-regulation” by the exchanges, which failed to timely detect manipulated trading practices. Some scandals were carried out simultaneously in both physical and derivatives markets in order to manipulate the price of commodities.

Some of the important scandals in the commodity markets are discussed below. All these scandals underscore the need for proper regulation and supervision by competent and well-resourced authorities, both on the derivatives as well as the physical commodity markets.

Silver Thursday and the Hunt Brothers Scandal

The Hunt brothers (Nelson Bunker Hunt and William Herbert Hunt) became famous after they bought almost overnight silver futures contracts that had as underlying more than 200 million ounces of silver – almost half the world’s deliverable supply. Through this large silver pool the two brothers wanted to control the silver market, and were in fact able to drive up the futures price of silver from under \$10 to over \$50 an ounce. The exchange, in this case COMEX (now part of the CME Group in the US) on which the futures were bought, stepped in and asked the brothers to sell their futures contracts. Consequently, the silver prices dropped back to \$10 an ounce within three months.

The Hunt brothers were convicted of conspiring to manipulate the market. They ended up with civil fraud convictions, and a fine of \$1.5 billion. Till now, March 27, 1980 – the day on which silver prices had the steepest fall and which led to panic in the silver commodity markets all over the world – is known as Silver Thursday.

Crude Oil Price Fixing Scandal

The case of crude oil price rigging illustrates how prices in the global crude market are decided by a very small number of market players but whose decisions impact billions of people around the world. Price rigging in energy markets can inflate prices of everything from gasoline to cosmetics as crude oil is a universal intermediate.

Oil prices have been manipulated by a handful of players for more than a decade. The European antitrust regulators are currently probing the involvement

March 27, 1980 – the day on which silver prices had the steepest fall and which led to panic in the silver commodity markets all over the world – is known as Silver Thursday.

of big oil companies (including Shell, BP, Statoil and Platts) for their alleged involvement in the manipulation of prices of crude oil, crude-based products and bio-fuels. The European Commission is particularly concerned that big oil companies may have colluded in reporting distorted prices to one of the price reporting agencies (PRAs) to potentially manipulate the published prices of oil and bio-fuel products.¹⁶

Oil prices serve as benchmarks for trillions of dollars of securities and contracts. Therefore, manipulation in oil prices has wide-reaching consequences. Even small distortions can have a huge impact on the purchase and sale prices of crude oil, refined oil products and bio-fuels.

The benchmarks prices published by Platts are used to determine what refiners pay for crude oil and distributors pay for diesel fuel and gasoline. According to an estimate, 80 percent of all crude and oil product transactions were linked to reference prices such as those published by Platts and 20 percent were linked to exchange-traded futures on Nymex and Intercontinental Exchange, Inc. (ICE).

This is not the first time that oil companies have been subjected to EU antitrust scrutiny. In September 2006, 14 companies were found involved in fixing the price of bitumen – a petroleum by-product. They were asked to pay a fine of \$346 million. Shell received the biggest penalty for being a repeat offender.

In October 2007, BP agreed to pay \$303 million to settle charges for cornering the market for TET propane and attempting to manipulate its prices. In April 2012, the US regulators imposed a fine of \$14 million on Optiver Holding BV, a Dutch high-frequency trading firm, for alleged oil market manipulation in the US market in March 2007.

In October 2007, BP agreed to pay \$303 million to settle charges for cornering the market for TET propane and attempting to manipulate its prices.

The Enron Scandal

The Enron scandal in 2001 involved manipulative trading strategies by traders to create phantom congestion in the California energy markets. It involved large-volume trading between Enron Corporation – an American energy company based in Houston, Texas – and Reliant Energy Inc. on an Enron-run electronic platform. These transactions influenced the daily price indexes in physical gas contracts and financial derivatives. The result was that electricity prices rose manifold.

Enron Corporation filed for bankruptcy in 2001 following revelations that it used off-balance-sheet vehicles to hide billions of dollars in losses and inflate stock price. This was the largest bankruptcy in American history. What's more, even Arthur Andersen, one of the five largest audit and accountancy firms in the world, was dissolved.

The Copper King Scandal

Yasuo Hamanaka, a 48-year-old copper trader from Tokyo, will go down in history as “Mr. Copper” because of his aggressive style of trading derivatives and physical copper markets. He has also been nick-named “Mr. Five Percent” because of the amount of the world's yearly supply of copper controlled by him.

16 Alexander Kwiatkowski and Winnie Zhu “EU Oil Manipulation Probe Shines Light on Platts Pricing,” Bloomberg, May 15, 2013.

The story began in 1986, when Hamanaka, who had over 20 years of experience in the copper division at Sumitomo Corporation, one of the largest trading companies in Japan, was asked to lead a team of copper futures traders and was given the authority to raise money directly from the banks. He used his financial clout and money in several offshore bank accounts to purchase large amounts of physical copper in warehouses and factories, as well as futures contracts. This led to his controlling almost 5 percent of the world copper market. He then began to manipulate the market via the London Metal Exchange (LME), which sets copper prices worldwide. He would operate through an exclusive group of brokers, traders and accomplices to rig the markets.



Hamanaka manipulated the copper market via the London Metal Exchange which sets the world copper price.

Yasuo Hamanaka will go down in history as “Mr. Copper” because of his aggressive style of trading derivatives and physical copper markets.

Mining, storing, moving copper and its delivery is a complicated affair. Because of this even the biggest players hold only a small percentage of the metal. So, with 5 percent of copper deliverable physical stock under him, Hamanaka became the ringmaster. He made the \$1.45 trillion derivatives market dance to his tunes for over a decade. Hamanaka was able to keep the price artificially high for nearly a decade up to 1995. His company Sumitomo benefited from the commission on the physical copper sold or delivered at high prices. The artificially high price also ensured larger commissions to the company on all its copper derivatives transactions.

Whenever any trader tried to undercut Hamanaka’s strategy by buying futures contracts that were the opposite of Hamanaka’s futures contracts, namely the “short contracts” which at the end of the contract time require physically delivery and which were used to bet on falling prices (“shorting” because the more the supply the more price falls), Hamanaka kept buying more “long” futures contracts simply by having more ability to buy long copper futures contracts on account of deeper pockets. Hamanaka’s long positions forced anyone “shorting” copper to deliver the goods or to sell their contracts (“close out their position”) at a higher cost.

This strategy worked for a long time till David Threlkeld, a copper broker, blew the whistle after receiving a letter – allegedly written by Hamanaka – asking him to backdate a fake deal worth \$425 million in 1991. Threlkeld refused to play

along and instead reported the matter to the London Metal Exchange which had a self-regulatory supervision system. When LME began underplaying the whole affair, Threlkeld approached the Britain's supervisory authorities, the Securities and Futures Authority (SFA), and reported a copper transaction of 20,000 tonnes, worth \$80 million, in favour of one of the four parties in the deal. Still nothing significant happened for three years. Note that the physical copper that is the underlying of the futures contracts has to be held in the warehouses managed or recognized by the exchanges.

Hamanaka pleaded guilty to criminal charges stemming from his manipulative trading activity and was sentenced to eight years in prison.

However, the market conditions suddenly changed in 1995 due to revival of mining in China, which increased supply and put a downward pressure on the prices. Sumitomo was in trouble. While Hamanaka was still figuring out how to get out of the situation without being noticed, the LME and the US commodity markets authority, the Commodity Futures Trading Commission (CFTC), began inquiry into the worldwide copper-market manipulation. In late 1995, the CFTC and the New York Mercantile Exchange began investigating the Sumitomo-Hamanaka affair. In April 1996, Sumitomo agreed to make Hamanaka available for the investigation and removed him from the trading desk. Mr. Copper's removal proved to be the proverbial last straw on the camel's back – enough to make copper prices come tumbling down as he was no longer able to manipulate the trading. In 1997, Hamanaka pleaded guilty to criminal charges stemming from his manipulative trading activity and was sentenced to eight years in prison. He was also charged with forging his supervisor's signature.

Above all, this scandal eroded the credibility of LME, where 88 percent of the world's listed copper contracts are traded. The exchange had difficulty explaining to the regulators why it followed a relaxed system of self-regulation. Sumitomo, which profited immensely from price manipulation, put the blame on JPMorgan Chase and Merrill Lynch banks for granting loans to Hamanaka for his illegal practices.

PART II

Chapter 7 traces the history of derivatives trading in commodities in India, from the ancient times to the present day. It charts out recent trends in the Indian commodity futures markets. The chapter also examines the rationale behind setting up of commodity futures exchanges and the workings of national and regional commodity exchanges in India.

Chapter 8 explains in detail some fraudulent trading practices (such as circular trading and client code modification) in the Indian commodity futures markets and the consequences on the integrity of the markets. The chapter argues that because of frequent manipulations by brokers and big players, genuine participants tend to stay away from trading in commodity futures.

Chapter 9 reveals how trading in guar futures contracts was manipulated by a few big players to their advantage, which led to an extreme rise in the commodity's prices. The chapter highlights the poor regulatory response to curb excessive speculative trading and price rigging practices in guar futures contracts.

Chapter 10 uncovers the truth behind the systematic fraud perpetrated at National Spot Exchange, the modus operandi, how it was discovered and the big systemic loopholes that it exposed.

Chapter 11 highlights the gaps and weaknesses in the regulation and supervision of Indian commodity futures markets, and recommends policy measures that need to be taken to plug some of these gaping holes. The chapter calls for legislative initiatives to further empower the regulatory body.

Chapter 12 examines the commodity transaction tax introduced in India in 2013. Will this tax make the Indian commodity futures markets more efficient and transparent? Are traders justified in fearing it?



7. COMMODITY FUTURES MARKETS IN INDIA

Are commodity derivatives new in India?

India has always been a country of market imperfections and prices fluctuations. Though India has an agricultural economy, it never had a national common market for agricultural products. There were always shortages and surpluses – with wide discrepancy in the prices at various levels. There was always price heterogeneity because of information asymmetry in the markets. In rural India, mandis were the traditional market places for food and agri-commodities. In different parts of India, mandis developed as wholesale trading hubs for vegetables, grains, pulses, spices, condiments, fruits, timber, gems, diamonds and livestock.

India has a long history of derivatives trading in commodities. Commodity futures trading dates back to the ancient times. Researchers have found the mention of forward trading in commodities in Kautilya's *Arthashastra*. In 1875, the first organized futures market for cotton contracts was established by the Bombay Cotton Trade Association. In independent India, the Forward Contracts (Regulation) Act was enacted in 1952 to regulate the commodity trading in forward and futures contracts.

Despite such a long history, commodity futures trading (particularly in agricultural goods) has always remained controversial in India where more than 65 percent of the population is dependent on agriculture for livelihoods. In the late 1960s, severe droughts forced many farmers to default on forward contracts. This, coupled with abusive market practices by some traders, led to increase in commodity prices, and the Indian government suspended forward trading in several commodities such as jute, edible oil seeds and cotton. For almost three decades, the futures trading was at a standstill, till India began liberalizing its economy in 1991.

In 1875, the first organized futures market for cotton contracts was established by the Bombay Cotton Trade Association.



A rice farmer in Chhattisgarh.

In the post-liberalization period, largely on the advice of a study¹⁷ by the World Bank and the United Nations Conference on Trade and Development (UNCTAD),

¹⁷ *Report of the Committee on Forward Markets*, Ministry of Consumer Affairs, Food and Public Distribution, Government of India, New Delhi, 1994.

and the recommendations of Kabra Committee Report, the Indian government lifted the ban on commodity futures trading in 2003. However, it is important to note that the Kabra Committee's recommendation not to allow futures trading in wheat, pulses, non-basmati rice, sugar, coffee, tea and other food products was not accepted by the government. The National Agricultural Policy (2000) also recommended the removal of price control and use of futures trading in agricultural commodities.

Despite the strong recommendation of the Guru Committee,¹⁸ that “all the commodities are not suited for futures trading,” the central government went ahead to open up forward trading in 54 prohibited commodities like wheat, rice, sugar and pulses. Hence, it is clear from these developments that the government succumbed to the pressures of powerful lobbies and opened up important new avenues of profit making to speculators and traders.

What was the rationale behind setting up commodity futures exchanges in India?

One of the key reasons for the reintroduction of commodity futures trading was to enable farmers to hedge their price risk. However, this objective has remained a distant dream. Futures trading in agricultural goods has neither resulted in price discovery nor benefitted the farmers in terms of securing higher prices for their produce.

One of the key reasons for the re-introduction of commodity futures trading was to enable farmers to hedge their price risk. However, this objective has remained a distant dream.

The original concept behind setting up the national commodity exchanges was not-for-profit mediators who can act as self-regulators and maintain market discipline among the members. The demutualized¹⁹ exchanges were supposed to act like independent enterprises and design new types of contracts to facilitate participation of smaller players including small farmers, who were otherwise unable to benefit from the services offered by the exchanges. But none of these objectives have been attained so far and there is a conflict of interest between the regulatory role and the profit motive of demutualized exchanges.

The purported objective behind setting up modern, electronic commodity futures exchanges was to create technology-centric, regulated markets that were affordable and accessible, and propagated the benefits of ‘price transparency’, ‘efficient transaction’, ‘risk hedging’ and ‘structured finance.’ The expectation was to unlock value from the middle and bottom of the pyramid, change lives and empower the common man through next-generation technology platform. Unfortunately, the expectation is far from becoming a reality.

Though the futures exchanges are providing the latest technology for trading, how many market participants are in a position to use it? For instance, small traders simply cannot afford to use algorithmic trading and other expensive technologies, which are frequently used by big players. This has resulted in fragmentation of the market and lack of level-playing field across all commodity futures exchanges.

18 *Report of the Group on Forward and Derivatives Markets*, Department of Agriculture and Cooperation, Government of India, New Delhi, 2001.

19 The term “Demutualization” refers to the transition of a futures exchange from being a member-owned organization operating on a not-for-profit basis to a shareholder-owned for-profit company.

What are the major commodity exchanges in India?

There are currently 19 commodity derivatives exchanges in India. However, the bulk of trading (99.88%) is concentrated in the following national-level commodity exchanges:

1. Multi Commodity Exchange of India (MCX), Mumbai
2. National Commodity and Derivatives Exchange of India (NCDEX), Mumbai
3. National Multi Commodity Exchange (NMCE), Ahmedabad
4. Indian Commodity Exchange (ICEX), New Delhi
5. ACE Derivatives & Commodity Exchange Limited, Mumbai
6. Universal Commodity Exchange Limited, Navi Mumbai.



Headquartered in Mumbai, Multi Commodity Exchange of India Ltd (MCX) is India's largest commodity futures exchange.

In terms of total number of contracts traded, MCX has become the world's largest commodity futures exchange in gold and silver, second largest in natural gas, and third in crude oil. The top four commodities (gold, silver, copper and crude oil) form 85 percent of MCX's total trading business. NCDEX, on the other hand, deals with a large number of agricultural and metal commodities, while NMCE's portfolio includes major agricultural commodities and metals.

The total size of commodity futures market was Rs.170,468 billion (around \$2,705 billion) outstanding in the financial year 2012-13 (Table 4), registering a compounded annual growth rate (CAGR) of nearly 40 percent since 2003. In contrast, India's Gross Domestic Product (GDP) was worth \$1,841 billion in 2012. The monthly turnover in Indian commodity exchanges is next only to the US and China. During 2011-12, the total volume of trade across all commodity exchanges in India was 140,257 million metric tonne (MT), out of which deliveries were merely 888,250 MT (0.0000006 percent). This data clearly shows that actual delivery of commodities is extremely low in the Indian futures markets.

Over the years, the composition of trading has dramatically changed in the Indian futures markets. For instance, agricultural commodities constituted 69 percent of total value of trade in 2004-05 and the rest was in bullion and metals. In 2012-13, the share of bullion and metals rose to 65 percent and agricultural commodities declined to 12 percent. The futures prices of bullion and metals are largely influenced by the movements in the international markets and foreign exchange rate.

During 2011-12, the total volume of trade across all commodity exchanges in India was 140,257 million metric tonne (MT), out of which deliveries were merely 888,250 MT (0.0000006 percent).

Table 4: Group-wise and Commodity-wise trading in the Indian Futures Market

(Volume of trading in million tonne and value in Rs. crore)

No.	Commodity	2012-13	
		Volume	Value
A Bullion			
i	Gold	0.12	37,46,697.02
ii	Silver	7.16	41,15,981.63
Total for A		7.28	78,62,678.65
B Metals (other than bullion)			
i	Aluminum	225.32	2,44,432.17
ii	Copper	346.49	14,87,822.25
iii	Lead	541.81	6,37,722.04
iv	Nickel	48.13	4,45,839.56
v	Steel	13.16	4,211.11
vi	Tin	0.0002	2.06
vii	Zinc	399.40	4,27,739.82
viii	Iron	168.45	12,281.76
Total for B		1,742.76	32,60,050.77
C Agricultural commodities			
i	Chana/Gram	389.36	1,65,039.10
ii	Wheat	37.50	5,406.46
iii	Maize	78.21	10,938.34
iv	Soy oil	970.81	7,08,315.97
v	Mentha oil	7.57	1,02,399.93
vi	Potato	59.54	5,843.42
vii	Chillies	19.92	11,752.80
viii	Jeera (cumin seed)	45.45	65,955.88
ix	Cardamom	2.23	24,139.38
x	Pepper	8.80	34,742.45
xi	Rubber	5.62	9,939.76
xii	Other products	2,773.10	10,11,226.92
Total for C		4,398.11	21,55,700.42
D	Energy	8,361.92	37,68,408.97
E	Other	0.01	1.28
Grand total (A+B+C+D+E)		14,510.08	170,46,840.09

Note: Natural Gas and Gasoline volumes are not included in the total volume.

Source: *Annual Report 2012-13*, Forward Markets Commission, 2014.

What is the status of regional commodity exchanges?

Before the introduction of national commodity futures exchanges, there were 24 regional commodity exchanges in India. The regional exchanges are commodity specific and mostly cater to the needs of a local area (such as Bikaner Commodity Exchange Ltd. for trading in guar seed). Currently, almost all of regional

exchanges are on the verge of closure. Almost 17 out of 24 registered regional exchanges have not traded for the past 5 years and 13 of them have not carried out trading in the last 10 years.



Established in 1957, India Pepper and Spice Trade Association is a futures trading exchange in pepper and other spices.

The disappearance of regional exchanges is not a positive development as only a handful of national exchanges are monopolizing the futures market. This is despite the fact that regional exchanges better reflect region specific prices. Rather than allowing them to disappear, the government should strengthen the regional (and state-level) commodity exchanges through sharing a common technology platform and allow a few regional exchanges to emerge as national exchanges over a period of time.

What is even more surprising is the fact that NABARD – a government-owned development bank with a mandate for facilitating credit flow for promotion and development of agriculture and small-scale industries in rural India – was not allowed to establish a commodity futures exchange on its own. Instead, it was made to enter into partnership with MCX and NCDEX to set up national level privately-owned commodity futures exchanges.

Which commodities are allowed in the Indian futures markets?

The Forward Markets Commission (FMC) has allowed trading of 113 commodity futures contracts in the Indian markets. These include food grains (e.g., wheat and gram), edible oilseeds complexes (e.g., groundnut and cottonseed), spices (e.g., turmeric and pepper), fibers (e.g., cotton and jute), metals (e.g., gold and silver), energy (natural gas and crude oil) and other products such as guar seed. However, gold, silver, guar seed, pepper and gram are the prominently traded items in the Indian derivatives markets.

Are options allowed in commodity derivatives trading in India?

No. Commodity derivatives trading is currently governed by the Forward Contract Regulation Act (FCRA) which prohibits options trading and OTC commodity derivatives. Presently, only exchange-traded commodity futures are allowed. Successive governments have shown interest in amending the FCRA, which would allow the introduction of new products such as commodity options and weather derivatives.

The government should strengthen the regional (and state-level) commodity exchanges through sharing a common technology platform and allow a few regional exchanges to emerge as national exchanges over a period of time.

Are deliveries compulsory in Indian commodity futures markets?

No. However, in India, a delivery provision is required to be made as otherwise a futures contract (without delivery provision) would be deemed to be a 'wagering contract' under Indian Contract Act and, thus, void in principle.

The provision for delivery is included in futures trading to make sure that the futures prices in commodities are in sync with the actual price of underlying commodities traded in the spot markets. However, in reality, deliveries account for less than 0.1 percent of the total trading in futures contracts in India. Almost all contracts are traded not with the intention to take/give delivery but for purely speculative purposes and are settled in cash as per the Final Settlement Price (FSP). Even in instances where exchanges have introduced compulsory delivery in price-sensitive agricultural commodity contracts (such as pepper, turmeric and gram), the low penalty rates (ranging from 1.5 percent to 3 percent in case of delivery default) fail to act as a deterrent to speculators.

Even in instances where exchanges have introduced compulsory delivery in price-sensitive agricultural commodity contracts the low penalty rates (ranging from 1.5 percent to 3 percent in case of delivery default) fail to act as a deterrent to speculators.

In addition to speculative trading, there are other important factors responsible for low delivery volumes. These include limited accredited warehouses in the country, poor credibility of warehouse receipts, delivery centers (where the physical delivery of commodities needs to take place) located at distant locations which incur substantial transportation costs, different grades of underlying commodity (for instance, futures trading in rice is carried out in just one grade but over 30 grades of rice are grown in India), and myriad regulations imposed by state governments on the inventory and movement of the underlying commodity.

What is staggered delivery?

The staggered or early delivery system has been recently introduced in the Indian commodity futures markets to make futures trading more delivery oriented and to reduce excessive speculation and price volatility, especially towards the contract maturity date. In staggered delivery system, the markets participants have the facility to liquidate their positions early (generally 15 days before the expiry of the contract). It requires traders to report their delivery intention 15 days before the close of the near-month contract. Earlier, speculators could artificially rig up prices of contracts that would expire in the next month since delivery would take place on the last day of a contract and, as a result, excessive price volatility was witnessed on the last day of contract expiry. It has been observed that the staggered delivery system has reduced excessive speculation and price volatility in the near-month contracts, as speculators have moved to far month contracts with no pressure of delivery of goods.

8. HOW ARE THE INDIAN COMMODITIES FUTURES MARKETS MANIPULATED?

What are the common fraudulent business practices?

There are widespread allegations of circular trading by a small group of brokers to prop up the trading volumes at MCX. It has been pointed out by market analysts that some MCX members allegedly used hundreds of benami²⁰ companies as well as bogus, forged or genuine PAN²¹ cards to open a maze of fraudulent demat²² accounts. Besides, the growing trend of high trading volumes and low open interest is not healthy. A large number of transactions with low open interest is a signal that some cooperation is going on between the parties instead of actual trading. These undesirable activities are carried out for price manipulation and tax evasion purposes.

What is circular trading? How does it contribute to market manipulation?

Circular trade helps to attract lay investors who believe that there is liquidity in the market, that the market is active and the price is correct. Every time someone sells a share in a stock exchange, it is implied that someone else has bought it. This promotes market integrity. But if two people agree to do a paper transaction with the understanding that the goods sold will be taken back at the same price and report this as a transaction, the other market participants do not get fair information to make the right decision.

Circular trading helps fraudulent traders create false expectations that there is a lot of demand of particular futures contracts, and lures the small investors to trade in them. Once such investors enter the market, those involved in circular trading sell their positions at a higher price and get out while the investors who are not part of the circular trade lose their money.

What is open interest and what does it reveal?

Open interest is the total number of outstanding contracts that are held by market participants at the end of the day. It can also be defined as the total number of futures contracts or option contracts that have not yet been exercised (squared off or closed), expired, or fulfilled by delivery. Open interest applies primarily to the futures market. Open interest is often used to measure trends and trend reversals for futures and options contracts. It measures the flow of money into the futures market. For each seller of a futures contract there must be a buyer of that contract.

Open interest is often used to measure trends and trend reversals for futures and options contracts. It measures the flow of money into the futures market.

20 Transactions carried out in the name of another person to conceal the identity of the real owner or beneficiary.

21 Permanent Account Number.

22 In India, shares and securities are held electronically in a dematerialized account.

MCX witnessed the unhealthy trade practice of high volume trading and low open interest. There were allegations of circular trading by a small group of brokers to prop up the trading volumes at MCX. Open interest reveals the number of derivative contracts that have not been settled the previous day or week. A large number of transactions with low open interest are a signal that some kind of clandestine cooperation or coordinated activity is going on among the trading parties and no actual trading is taking place.

What are the international best practices on open interest?

The growing trend of high trading volumes and low open interest is not a healthy development in the Indian futures markets. Market observers believe that the average global volume of open interest in agriculture commodities is 30 percent and for non-agriculture commodities it is 40 percent. In contrast, the ratio between volume and open interest is much higher in the Indian commodity futures markets. The FMC has found huge disparity between the ratio of open interest and the volume of trading in some commodities traded on national commodity exchanges. "The Commission has done a preliminary analysis... and it has been observed that the ratio of open position with the volume of trading in some commodities is very high as compared to the international practices in national exchanges," the FMC said in a circular issued in May 2012.²³ The FMC has also asked the exchanges to bring such ratios at par with the international standards.

Under dabba trading, derivatives are traded on an unregulated trading platform managed by a broker, while the reference prices are based on regulated futures exchanges.

How does profit and loss accounting in commodity futures trading lead to tax evasion?

Though the purported objectives behind the establishment of commodity derivatives market were price stability, poverty reduction and economic development in a market-based economy, in reality these markets are being frequently used for price manipulation, tax evasion and gains through illicit means. There are plenty of instances where big traders and speculators have hijacked the futures trading platform to manipulate the prices and deprived the farmers, small traders, investors of their lifetime's earnings.

Even the government is aware that commodity futures trading platforms are being used for tax evasion and recycling unaccounted money by misusing the various provisions under the Income-tax Act, which permits offsetting of speculative profits against speculative loss. This involves transactions through inactive or illiquid contracts to evade any trading risk. In a written reply to a parliamentary question on blatant misuse of commodity futures trading platforms for tax evasion and other illegal economic operations, the then Minister for Consumer Affairs, Food And Public Distribution, K.V. Thomas admitted that the FMC had received complaints regarding alleged artificial volumes and tax evasion transactions in respect of some contracts listed in one of the national exchanges.

What is dabba trading?

Lack of effective regulation is the reason why dabba trading – a parallel variant of commodity futures trading – is mushrooming in different parts of India. Under this technique, derivatives are traded on an unregulated trading platform managed by a broker, while the reference prices are based on regulated futures exchanges. The broker collects the margin money in cash on the same terms

²³ Quoted in "Forward Markets Commission finds Huge Disparity in Open Position and Trade Volume," Press Trust of India, *The Economic Times*, May 31, 2012.

as in futures trading but does not deposit the money in the clearing house of the commodity exchange as per the norms. On the final date of the contract, the counterparty gives or takes the difference and the account is settled. It is a form of betting without any formal set of rules or regulatory mechanism and is patronized by commodity brokers, traders, and underworld dons. Since there is no institution behind it, there is always a risk that the broker himself goes broke and is not in a position to pay the investors who traded the contracts.

Dabba trading is officially banned but is still one of the major contributors of illicit money in the Indian economy. The volume of unofficial trade is at least 20–30 times the 'official' business in futures exchanges. Since the transaction costs are low, it attracts many small speculators. Raids on three commodity traders in Delhi promising extraordinary high returns revealed a big network across Delhi, Punjab, Haryana, Rajasthan, Uttar Pradesh, Bihar, Maharashtra and Andhra Pradesh. According to media reports, the fraudsters have developed innovative online dabba trading techniques to hoodwink the authorities and escape detection. A nationwide raid on Bansal Sharevest Services by the authorities revealed that this broking firm had installed 500 terminals with leased lines for dabba trading purposes across the country.

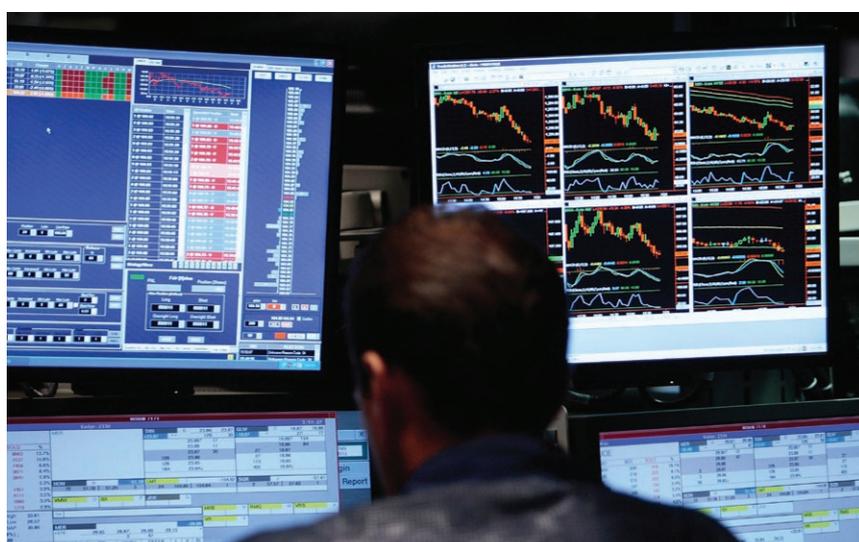
What is wash trading?

Some commodity exchange operators are using wash trading – a trading practice that involves selling and repurchasing the same or substantially the same security for the purpose of increasing the price and creating the semblance of activity in the market. Wash trading is worth over Rs. 30,000 crore and is said to be thriving in futures exchanges. Wash trading is illegal and its purpose is to manipulate the market and prompt other investors into buying the position. Incidence of wash trades, circular trades and other fake trades rise steeply towards the end of every financial year to evade taxes, particularly in illiquid contracts.

What is client code modification (CCM) and how is it used to evade taxes?

Client code modification (CCM) is a widespread fraudulent practice among commodity traders. It involves fund transfer from the accounts of big investors into the account of a small, unknown person who is made to invest in commodities on their behalf.

Dabba trading is officially banned but is still one of the major contributors of illicit money in the Indian economy.



CCM was supposed to be a tool for members to rectify errors that cropped up at the time of placing orders but it has been misused to transfer profits from a client's account to their own account as well as losses to clients' accounts. Estimated to be worth over Rs.14,570 crore, CCM, at a rate of 30 percent is being used to evade taxes of around Rs.150 crore. Significantly, Rs.30,000 crore worth of CCM transactions were reported in 2010-11.

Misusing the provisions of CCM, the MCX reportedly accounted for 2,27,981 trades with a turnover of Rs.45,614.40 crore from January 2010 to March 2012. During the same period, NCDEX did 53,314 transactions worth Rs.15,474.65 crore while NMCE did 917 trades worth Rs.55 crore.

The FMC investigations have revealed large scale misuse of CCM for massive tax evasion and money laundering. What is all the more surprising is that this illegal and fraudulent trade practice was going on without any timely interventions by the regulators and the central government.

9. THE GUAR FUTURES TRADING SCANDAL

What is guar?

Guar (*Cyamopsis tetragonoloba*) is a drought resistant crop grown mainly in Rajasthan and parts of Haryana and Punjab. Most guar farmers sell their produce to traders at the farm gate and nearby markets. A part of the produce is also kept by farmers for seed, animal feed and fodder purposes. India is the largest producer of guar seed in the world and accounts for 80 percent of the world's total guar seed production.

Guar gum, extracted from guar seed, is used as a thickening agent and additive in food products such as soups and ice-creams. Of late, the global demand for guar gum is growing rapidly because of its use in 'hydraulic fracturing' (fracking, in short) process to extract oil and gas from shale. Almost 80 percent of the country's total gum production is exported to US, China and Europe.

Since 2004, guar seed and guar gum contracts are being traded in the Indian commodity futures markets.



India is the largest producer of guar and accounts for about 80 percent of the total global guar production.

The guar seed and guar gum prices rose at an extraordinary rate during the six months period between October 2011 and March 2012.

What led to steep rise in guar futures prices?

In the commodity futures markets, guar seed and guar gum prices rose at an extraordinary rate during the six months period between October 2011 and March 2012. On October 1, 2011, guar seed was selling at Rs.4,263 per quintal (one quintal is 100 kilograms). By March 2012, the guar seed prices had touched a high of Rs.32,000 per quintal. Likewise, the prices of guar gum surged almost 900 percent in the futures markets, from Rs.11,230 per quintal on November 11, 2011 to Rs.98,350 per quintal in March 2012. The trading in guar gum was hitting the upper circuit²⁴ almost every other day in the futures markets during February-March 2012.

²⁴ An upper circuit is the percentage price above which a futures contract is not allowed to go on a particular day. If the price of a contract touches upper circuit, trading will stop. Circuit (upper or lower) is used to control undesirable price movements of futures contracts in either direction.

There is no denying the fact that strong export demand for guar products pushed up prices in the first four weeks but a 900 percent price increase cannot be attributed solely to this factor. The key factor behind the massive increase in guar prices was the excessive speculation – totally disproportionate to hedging activities of these two commodities in the futures markets.

The Forward Markets Commission found huge disparity between the ratio of open interest and the volume of trading in guar seed and guar gum contracts. The day trading volumes were far in excess of open interest, clearly indicating the pre-dominance of speculative trading in both commodities.

Such was the magnitude of speculative buying (coupled with market manipulation through circular trading, cross deals, client code modification and other abusive practices) that the trade multiples in guar futures contracts reached close to 700. In other words, twice the size of annual production of the crop was traded in the futures markets on a single day.

How were the guar futures prices manipulated?

Betting on a strong export demand and limited domestic production, speculators and non-commercial players were able to corner a sizeable share of the guar futures trading by buying large number of futures contracts through related entities – with common postal and Internet Protocol addresses. This trading through related entities was deliberately carried out to manipulate the prices in a coordinated manner in future. The FMC as well as the commodity exchanges took no action at that time to stop these irregularities.

The market observers have noted that the bulk of speculative buying in guar futures contracts was financed by non-bank finance companies, linked to financial conglomerates providing brokerage and unsecured lending to large traders.

Recognizing the fact that a surge in guar futures prices cannot be sustained unless the spot (physical) market prices are influenced, speculators and non-commercial players sought delivery of guar from sellers in the futures markets as the terms of the guar futures contracts required delivery of guar at the end of the contract. As a result, sellers of guar contracts rushed to the spot markets to cover their positions which, in turn, triggered a sharp rise in spot market prices.

In addition, large traders in the futures markets in collusion with spot market traders managed to hoard a sizeable portion of physical stocks and thereby created an artificial shortage in the spot markets. A large number of rogue brokers were also found to be involved in frequent client code modification (transferring a transaction from one client to another) for tax and regulatory avoidance purposes. In March 2012 alone, transactions worth Rs.1,45,700 million (about \$2,350 million) were reportedly involved in such practices.²⁵

It needs to be emphasized here that the purchase of guar gum by the US oil and gas drilling industry actually declined from February 2012 onwards. But surprisingly, this major development had no effect on the guar prices in both futures and spot markets. Thus, the widely held notion that market prices are determined by fundamentals (the interaction of demand and supply) proved untenable in the case of guar futures trading.

25 Dilip Kumar Jha, "I-T Department Investigates Tax Evasion by Commodity Brokers," *Business Standard*, September 4, 2012.

Large traders in the futures markets in collusion with spot market traders managed to hoard a sizeable portion of physical stocks and thereby created an artificial shortage in the spot markets.

Within a span of few weeks, speculators, non-commercial traders and day traders – who had no genuine interest in or exposure to the underlying commodity – earned huge profits from trading in guar seed and guar gum futures contracts. According to media reports, the investigations carried out by FMC found that 4,490 entities were involved in guar gum price manipulation and they together made profits of Rs.12,910 million.²⁶ The FMC investigations also found that major edible oil companies (e.g., Ruchi Soya Industries and Betul Oils), which are not directly involved in guar production or processing businesses, also cornered huge profits by manipulating the prices of guar futures contracts.²⁷

Did guar farmers benefit from the steep hike in prices?

No. The guar farmers had sold their produce in the spot markets several weeks before prices began spiraling upward in a manipulative manner in the futures markets.

At present, the guar farmers do not directly participate in the futures markets so as to benefit from upward price movements. The majority of guar farmers are small farmers who sell the crop immediately after harvest and, therefore, do not store it in godowns/warehouses to benefit from potential price increase in the future.



The majority of guar farmers are small farmers who sell the crop immediately after harvest.

On the contrary, guar farmers paid the heavy price for the price manipulation in the futures markets as they had to buy expensive guar seeds for their next crop.

What was the regulatory response to the guar trading scandal?

Despite the widespread evidence of speculative feeding frenzy and price rigging practices in guar futures contracts, FMC and commodity exchanges took no action to stop these irregularities in the first three months (October-December 2011). It was only after the market abusive practices came to public notice did the regulatory authorities wake up to ensure an orderly market. In late-January 2012, FMC announced the following regulatory measures:

Investigations carried out by FMC found that 4,490 entities were involved in guar gum price manipulation and they together made profits of Rs.12,910 million.

²⁶ Dilip Kumar Jha, "Guar Price-rig Report Names Ruchi Soya, Betul," *Business Standard*, May 5, 2012.

²⁷ *Ibid.*

- Additional margins on both buy and sell side were imposed to contain price volatility. Under the revised rules, a trader has to pay 65 percent margin upfront in cash before buying guar contracts.
- Clubbing of open positions of related entities was introduced to check price manipulation.
- Open position limits (the number of contracts an individual can hold in an exchange) were reduced by 20 percent for both aggregate and near month futures contracts.
- No fresh positions were allowed in contracts expiring in January 2012.

It is indeed true that FMC had rarely deployed such stringent measures in the futures markets in recent years. But surprisingly, the regulatory measures had no significant effect on the speculative buying which was causing unusual price hike in guar futures contracts.

Savvy speculators managed to circumvent new regulations on position limits by trading guar contracts through related entities or in the accounts of small individual investors who were paid a token amount for allowing the use of their accounts for trading purposes. Several brokerage firms did not collect margin money from clients on guar futures contracts in direct contravention of new regulations stipulated by the FMC and commodity exchanges.

Savvy speculators managed to circumvent new regulations on position limits by trading guar contracts through related entities or in the accounts of small individual investors who were paid a token amount for allowing the use of their accounts for trading purposes.

Later on, FMC launched criminal investigations against rogue traders and exchanges also imposed heavy penalties on traders who were directly involved in manipulating client funding rules. Close to 20 large brokerage firms (including Religare Commodities, Motilal Oswal Commodities, Kotak Commodity Services and Reliance Commodities) were reportedly penalized for failing to collect margin money of around Rs.20,000 million from clients on guar contracts.

When the new regulatory measures failed to rein in rampant speculative trading, FMC announced the suspension of futures trading in guar contracts on March 27, 2012. After the suspension of trading in futures contracts, the guar prices witnessed a sharp decline in the spot markets.

This is not the first time that speculators have distorted the guar futures prices. In 2006, a speculative buying frenzy in guar futures contracts was unleashed by big market players, which prompted the guar gum manufacturers and exporters to demand a complete ban on futures trading in the guar products.

In a scathing report on the widespread irregularities in the futures markets, the Parliamentary Standing Committee on Food, Consumer Affairs and Public Distribution observed that “powerful traders indulged in malpractices have no fear of the authority conferred on FMC under the Forward Contracts (Regulation) Act, 1952 nor are they bothered about the fine that can be imposed on them.”²⁸ The Parliamentary Committee strongly recommended that the cases of market manipulation should be handed over to the Central Bureau of Investigation (CBI) for thorough investigations. To sum up, the guar scandal reveals how price manipulation in the Indian commodity futures markets can cost farmers and consumers dearly due to poor regulation and supervision.

²⁸ *Standing Committee on Food, Consumer Affairs and Public Distribution (2011-12)*, 18th Report, Lok Sabha Secretariat, May 2012, p. 100.

10. THE NSEL PAYMENT SCAM

How did the NSEL payment scam unfold?

The Rs.55 billion payment crisis at the National Spot Exchange Limited (NSEL) was triggered when it suspended trading of all one-day contracts on July 31, 2013. Controlled by Financial Technologies Limited, NSEL was born and allowed to operate only in the spot market. It was specifically forbidden to offer forward or futures contracts. NSEL operated with regulatory exemption from the government, based on riders such as a ban on long-dated contracts and short-selling. But it allowed trading that was never approved by the government and that, in the eyes of many, virtually offered assured returns and helped boost volumes till the Ministry of Consumer Affairs stepped in July 2013, forcing NSEL to provide an undertaking that it would not launch any more contracts and that all existing contracts would be settled on due dates, besides stopping a payout to brokers. This led to a payment settlement crisis.

The most astonishing fact is that a market for immediate trading of commodities, the equivalent of a cash market in stocks, began functioning as a forward market with lax payment and settlement rules. The trade at the exchange starts with the seller bringing his goods, which are weighed and checked for quality. Once approved, a warehouse receipt is issued. The seller deposits the receipt at the designated exchange. This sets the quantity the seller can trade on the exchange. Finally, the buyer and seller mutually agree to a price and delivery, and the payment is done.

Apparently, every transaction of buy and sell was paired with one leg beyond the specified spot settlement cycle of two days after the trade (T+2). And the NSEL contracts settled within T+10 days were defined as 'spot', but could be carried forward, dodging the FMC regulations, with settlements going as far ahead as T+35. As a result, the buyers benefited from an increase in the value of their positions and they booked profits by selling at higher price within the T+35 period.

NSEL launched a number of one-day forward contracts, but some of them were being settled as many as 36 days after the date of transaction. The supposed reason for the delayed settlement was that one had to account for the peculiarities of certain commodities and time and effort were required to deliver them physically to specific locations.

It has become evident through multiple sources – including regulators, brokers and users of NSEL products – that most of the trading on the exchange centred on the so-called pair trades to generate annualized returns of 14-15 percent, without assuming any commodity price risk. Pair trades worked as follows. Investors bought a near-term settlement contract with a T+2 settlement period, and another one with a T+36 settlement was sold simultaneously. The difference in the price of the two contracts – namely, the interest paid to defer payment – was the return for the financier. When the near-term contract was settled, investors became the owners of a warehouse receipt of the commodity purchased. This was effectively pledged to the exchange for the second leg of the transaction – the delivery transaction to be settled 36 days later.

However, the buyer of the 36-day contract (effectively, a borrower of funds if he

Most of the trading on the exchange centred on the so-called pair trades to generate annualized returns of 14-15 percent, without assuming any commodity price risk.

also sold the near-term contract) was levied inadequate margins for the risk he posed to the system. According to the head of a leading domestic trading house, the margin of 10 percent was woefully inadequate, considering that the underlying asset was fairly 'illiquid.' It is quite evident that the NSEL was unable to liquidate stock and settle with trading members with net short positions. Its stock position in some commodities, such as wool and sugar, was fairly large and would have driven down prices if they were dumped en masse. In an ideal scenario where an exchange which practices robust risk management, trading members with open positions should have been levied margins of at least 40-50 percent to compensate for the illiquidity and price risk of underlying commodities. Of course, this would have caused investors' returns to fall from the lucrative 14-15 percent, but adequate margining would have helped avert the current payment crisis.

What was the modus operandi?

In June 2007, when the central government granted a license to NSEL, the underlying idea was that the futures market could not function efficiently without an efficient physical market. Many commodities are traded in both spot and futures markets. Spot exchanges were supposed to be electronic trading platforms similar to mandis (marketplace) for spot delivery contracts for sale and purchase of agricultural commodities, metals and bullion. This was supposed to be an innovative Indian experiment in the trading of goods and a form of direct marketing by sellers of commodities, distinct from what was commonly known as "commodity exchanges."

The more-than-11-day contracts' tenure was illegal. NSEL started offering assured returns of 12-15 percent; as a result, its business boomed.

Spot exchanges were supposed to be an electronic market where a farmer or trader could discover the prices of commodities and buy or sell goods immediately to anyone across the country. All contracts on the exchange were compulsory delivery contracts, i.e., at the end of the day the seller had to deliver commodities and the buyer had to take delivery of what was owed to each other at the end of the day (intra-day squaring off was allowed). Another mandatory requirement was 'ready contracts', meaning a contract which provides for the delivery of goods and the payment of a price, either immediately, or within a period not exceeding 11 days (T+10 contract) after the date of the contract. The seller had to deliver the commodities and the buyer had to take delivery of what was owed to each other at the end of the day.

NSEL's mandate was only to offer a spot trading platform. It is not a recognized forward contract exchange like MCX. But, as a shady package deal, traders were allegedly allowed to buy contracts in NSEL and sell the same on MCX – which is not the same thing. Also, it was operating T+25 contracts right from the beginning and pairing trade of T+2 and T+25 or T+2 and T+35 – which had no legal basis.

The more-than-11-day contracts' tenure was illegal. NSEL started offering assured returns of 12-15 percent; as a result, its business boomed. It achieved a turnover of Rs.21,820 million by the end of the first year in 2009, and its daily turnover touched Rs.10,000 million.

Another blatantly illegal but popular product was vyaj badla, an ingenious risk-free guaranteed return scheme where the financier held a warehouse receipt for the goods and NSEL stood counter-guarantee for any failed transaction. As part of a pair trade, or vyaj badla cycle, a mill-owner may buy a commodity from NSEL, or from a mandi, using cash or agri-financing from a bank. These stocks were stored at warehouses owned or rented by the mill-owners, who

would enter a long-term higher price forward contract to buy the stock from the financier at the end of 25 days or 35 days. In the process, the mill-owner may recover his money and the financier got the difference between the two contract prices – approximately 14-16 percent per annum returns.

What was the regulatory response?

NSEL violations were first noticed in May 2011, when a sub-committee of the Reserve Bank of India (RBI) and Ministry of Consumer Affairs officials was apprised about the lack of regulatory measures in the spot exchanges. But nothing happened for eight months. Though the central government woke up and brought NSEL under the purview of FMC in February 2012, yet nothing much changed on the ground except NSEL was made to furnish weekly and fortnightly trade data. Even as early as February 21, 2012, FMC knew of 55 contracts having a settlement period of more than 11 days, and instances of short-selling. Why is it that despite the Ministry of Consumer Affairs and FMC finding large scale violations as early as April 27, 2012, NSEL was allowed to continue for 16 months, till August 6, 2013? For close to two years, the government kept dilly-dallying. Though the FMC submitted a draft legislation for regulating spot exchanges to the Ministry, and the Ministry issued a show cause notice to NSEL on April 27, 2012. There was no follow-up action.

Finally, the endgame began on July 13, 2013, when the Ministry ordered NSEL to settle all existing contracts by their due dates and not issue any further contracts. NSEL had a practice of deliver-now-pay-later contracts; the FMC wanted this practice to stop. When NSEL informed its members that henceforth contracts would have to be settled within 11 days on a trade-to-trade basis, i.e., payment against delivery of the commodity, the forward traders were not interested in spot trading and demanded immediate settlement. As a result, NSEL ran into payment trouble.

What happened to the settlement guarantee fund?

Behind trading of contracts was NSEL's settlement guarantee fund (SGF) and therefore it was legally bound to pay if there was a default by counterparties. The purpose of the SGF is to ensure that all market participants are not affected in case of a default. It is alarming as to how the SGF (comprising cash, fixed deposit receipts, bank guarantees and other assets) shrunk from Rs.8,395 million on July 29 to Rs.570 million on August 7, 2013. No convincing arguments have been put forward by NSEL to explain how the fund corpus had dwindled away. It is widely believed that payments were made to a chosen few investors in an arbitrary manner.

It is alarming as to how the SGF shrunk from Rs.8,395 million on July 29 to Rs.570 million on August 7, 2013. No convincing arguments have been put forward by NSEL to explain how the fund corpus had dwindled away.



NSEL investors protesting against payment default crisis outside the Financial Technologies office in Mumbai.

This raises several important policy concerns: can NSEL escape the noose by arranging to settle the contract value between the parties? Who approved the system of margining in the clearing house? Is the SGF adequate for sudden adverse events? Was it subjected to a stress test? Should non-defaulting brokers be deprived of margins lying in SGF due to the recklessness of others? Should NSEL's liability be limited to the corpus in SGF that comprises the collection of margins of the members? Were margins collected from beneficial owners of positions since spot contracts have morphed into futures contracts?

Investigations show that close to 13,000 investors have lent money through the NSEL platform to less than 25 borrowers, using a two-legged buy/sell contracts. None of these investors would have lent money to a group of little-known borrowers, had it not been for the exchange. The financial product operated like a vyaj badla scheme, where money was lent in exchange for warehouse receipts and repaid after 25 or 30 days when the receipt was returned to the borrower. However, in most cases, the contracts were rolled over beyond 25 days, with the lender collecting just the interest amount.

The fact that 25- to 50-day future contracts were being traded on NSEL and that some structured products offered by brokers on the exchange were offering assured annual return of 14-15 percent to investors, was publicly known but no timely action was taken by FMC and the central government to stop this malpractice.

According to NSEL's stock position, 11,190 tonne of raw wool – almost a quarter of India's annual wool production – was stored in the warehouse of ARK Imports in Ludhiana on July 26, 2013. Can one imagine such a large quantity of raw wool lying in a single warehouse?

How were warehouse receipts forged?

At many accredited warehouses, the stocks claimed by NSEL appear to be suspect, as receipts issued by them turned out to be forged. In many instances, where warehouse-keepers were themselves involved in trading, what was the sanctity of their declaration and receipts as they could always manipulate the stock position? In some cases, the stocks were pledged to more than one financial institution.

In most cases, actual stocks do not tally with the quantities mentioned in the warehouse receipts. According to NSEL's stock position, 11,190.5 tonne of raw wool – almost a quarter of India's annual wool production – was stored in the warehouse of ARK Imports in Ludhiana on July 26, 2013. Can one imagine such a large quantity of raw wool lying in a single warehouse?

The stocks of jeera, shown in NSEL's two warehouses at Unjha in the Shivganga area, were reportedly pledged to ICICI Bank. At Mohan India warehouses in Delhi, NSEL claimed to have deposited sugar stocks worth over Rs.10,000 million. Likewise, large-scale discrepancies have been found in stocks of paddy, castor seed, castor oil and steel. These commodities were the favourites of small and medium traders.

Is weak regulatory framework responsible for the NSEL scam?

At the heart of the unfolding developments at NSEL is the shoddy regulation of the commodity markets. Paul Joseph, former Director (Stock Exchanges) in the Department of Economic Affairs, retired in 2008 and soon joined Jignesh Shah (the promoter of NSEL). He signed a notification dated June 5, 2007, which helped NSEL take advantage of the technicality of 'one-day forward' contracts and launch spot markets across the country. NSEL went live on October 15, 2008.

Though the plea taken was that the amendment would help farmers get better prices, as the regional terminals where farmers bring their produce are controlled by cartels that beat down prices, in actual terms it placed the functioning and control of NSEL spot exchanges outside the purview of the FMC and without assigning clear-cut powers to the central or state governments to regulate the trading of such contracts. 'Ready delivery' contracts are outside the purview of Forward Contracts (Regulation) Act.

To undo the damage, the Department of Consumer Affairs issued another notification on February 6, 2012, appointing the FMC as the designated regulatory agency for NSEL. Technically, now, for any forward contract, NSEL had to seek FMC's permission. But it was too late in the day and the damage was already done. The notification of February 6, 2012, made another amendment to the Forward Contracts (Regulation) Act stipulating that all information or returns relating to trade, if requested for, are to be provided to the authorities. This turned out to be a weak regulation which sought only information or return of trade. There were no regulatory and penal powers for search and seizure.

NSEL made the most of the regulatory vacuum to set up spot trading operations in 52 commodities, including bullion (gold, silver, platinum), agri-products (cereals, fibers, spices), metals (steel, copper) and energy in 16 states of India. NSEL's good fortunes can be attributed to the fact that it was virtually allowed to run the operations without any controls, checks and balances, in a regulatory vacuum from 2007 till February 2012.

NSEL was virtually allowed to run the operations without any controls, checks and balances, in a regulatory vacuum from 2007 till February 2012.



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11. THE REGULATORY ISSUES

Why should commodity futures markets be regulated?

A robust regulatory and supervisory framework for futures markets is needed to ensure that market participants don't indulge in price rigging, manipulation and other kinds of market abusive practices. A well-designed regulatory regime improves transparency, efficiency and market integrity. Regulations also help futures market achieve their twin objectives of price discovery and price risk management in an efficient and orderly manner.

In a country like India where non-enforcement of regulations is a widespread phenomenon, it is equally important that regulation of commodity futures markets is followed by better rule enforcement, supervision and monitoring. However, the complexity and non-transparency of the derivatives markets prevents sufficient public and political pressure to address the problems.

Who regulates the commodity futures markets in India?

At present, the regulation of commodity futures markets is carried out through a three-tiered regulatory structure – the central government, the Forward Markets Commission (FMC) and the commodity exchanges.

Apart from determining regulatory policies, the central government has the legislative powers to pass, amend and repeal laws related to futures trading in India subject to the approval of the Parliament. In the aftermath of National Spot Exchange Ltd (NSE) payment crisis in 2013, the Ministry of Finance has been appointed as the nodal ministry to deal with legislative matters. Earlier, the Ministry of Consumer Affairs, Food and Public Distribution was dealing with these matters. The finance ministry is considering a proposal to merge the FMC with capital market regulator, Sebi, for better regulation and supervision of the commodity futures market.

The FMC, headquartered at Mumbai, is the regulatory and supervisory authority for commodity futures market in India. It is a statutory body set up under Forward Contracts (Regulation) Act, 1952. Over the years, most of the regulatory powers of the central government have been delegated to FMC. It now functions under the administrative control of the Ministry of Finance. The FMC is expected to monitor, regulate and supervise the futures trading on commodity exchanges on a daily basis. It has the power to take regulatory measures such as imposing different types of margins²⁹, revision of open position limits³⁰, price limits and banning certain contracts wherever necessary. It can also inspect the accounts of the exchanges and their members. All terms and conditions of a futures contract have to be approved by the FMC before it can be launched on commodity futures exchanges.

Commodity exchanges deal with the actual implementation of rules related to

The regulation of commodity futures markets is carried out through a three-tiered regulatory structure – the central government, the Forward Markets Commission (FMC) and the commodity exchanges.

²⁹ The amount of money paid by traders upfront for buying and selling futures contracts.

³⁰ The number of contracts an individual member and client can hold in an exchange. Position limits are imposed to ensure that a single trader does not accumulate an outside position that could potentially affect market liquidity and integrity.

conduct of trading and settlement of contracts and payments. The exchanges may impose circuit breakers to stop the trading for a specified period in futures contracts, if the market price moves out of a pre-specified range of values (band). For example, NCDEX imposed restriction on traders for taking fresh positions in the near month turmeric contract on August 7, 2012, when turmeric futures contracts hit upper circuit and gained 4 percent to reach Rs.6,608 a quintal on a single day. However, important questions have been raised on the desirability of handing over substantial regulatory powers related to market monitoring and surveillance to privately-owned exchanges with inherent commercial and profit making interests. There are plenty of instances where exchanges have failed to curb market abusive practices such as proprietary trading and allowing trading without payment of margin money³¹ in order to generate higher trading volumes and income.

What are the key regulatory tools used by FMC in the recent past?

In the wake of growing public criticism over excessive speculation and market manipulation in the Indian commodity futures markets, FMC has imposed a series of new regulatory measures since June 2012:

- Introduction of staggered delivery system (see Chapter 7).
- Imposition of special margin to reduce leverage and curb excessive speculative activity in specified commodities. In September 2013, for instance, FMC imposed an additional special margin of 10 percent on futures contracts of guar seed and guar gum.
- Limit on price fluctuation (daily/weekly) to prevent abrupt movements in prices.
- Based on production data and market conditions, reduction in open position limits to prevent speculative trading.
- No contract in the lean season for agricultural commodities (e.g., permission was not granted for February and March 2013 contracts in gram).
- Imposition of additional margin based on price volatility and market developments.

What are the key regulatory and governance gaps in Indian commodity futures markets?

Although trading in commodity futures market has witnessed tremendous growth since 2005, the regulatory provisions of the Forward Contracts (Regulation) Act, 1952, have not changed significantly since its enactment in 1952. Hence, there is an urgent need to upgrade the current regulatory system governing the commodity futures market.

Unlike the equity markets regulatory authority (Securities and Exchange Board of India), the commodity futures regulatory authority is not autonomous. The FMC does not have independent powers to regulate all market intermediaries

31 A collateral deposited by the buyer of a futures contract to cover the credit risk of counterparty.

Although trading in commodity futures market has witnessed tremendous growth since 2005, the regulatory framework has not improved significantly.

and it relies on commodity exchanges for market monitoring and surveillance activities. Also, the law makers have too little information about the working and the regulatory framework of the commodity futures exchanges.

There are plenty of instances where the FMC has failed to curb malpractices (parallel illegal trading) and prevent excessive speculative activities which distorted the price discovery and hedging function of commodity future markets. The 2012 guar trading fiasco (discussed in Chapter 9) reveals how commodity exchanges are acting like casinos for speculators, moving away from their avowed objectives of price discovery and price risk management. Guar seed and guar gum prices surged 900 per cent in the futures markets during the six months between October 2011 and March 2012. Such was the magnitude of speculative trading and market manipulation that twice the size of the annual production of guar was traded in the futures markets on a single day.



FMC relies on commodity exchanges for market monitoring and surveillance activities.

In addition, the existing penalty provisions are grossly inadequate and not in tune with the current trading volume in the Indian commodity derivatives markets. It may sound astonishing that the FMC – which regulates billions of dollars' worth of commodity trade – does not have the power to directly impose a financial penalty on traders. Now, only a maximum penalty of Rs.1,000 can be imposed on market participants by it, and through court orders on conviction. A financial penalty of a mere Rs.1,000 (enforced through a lengthy court process) does not deter potential offenders in the commodity markets.

Also, FMC does not enjoy independent search and seizure powers. It has to rely on local police force.

In the aftermath of guar futures trading scandal, FMC introduced additional regulatory measures such as staggered delivery system, declaration of warehouse stocks and changes in the validity period for agricultural commodities. These measures are indeed welcome but not adequate to rein in rampant malpractices in the Indian futures markets. What is required is a complete overhaul of the current legal and institutional framework governing the Indian commodity futures markets. The FMC should also introduce strong consumer protection norms in the Indian futures markets.

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Should FMC be given more powers and greater administrative autonomy?

Yes. The FMC needs greater powers to regulate and supervise the operations of commodity futures markets in India. The Bill to amend the Forwards Contracts (Regulation) Act, 1952, which will strengthen and give more autonomy to FMC (on the lines of SEBI) is yet to see the light of day.

In addition to empowering FMC with requisite legal powers to discharge its regulatory functions, New Delhi should give it more financial and administrative autonomy. To carry out effective market surveillance and complex regulatory obligations, FMC needs better technological tools as well as professionals with domain specialization. The FMC is unable to recruit talented professionals due to its low remuneration policy. Most of its staff members are on deputation from various government departments, and lack adequate domain expertise in terms of market knowledge and product knowledge.

As on March 31, 2013, the total staff strength of the FMC was 70 — out of which 49 perform purely administrative duties. Hence, it is not an easy task for FMC to regulate and supervise futures trading (worth Rs.1.70 trillion) across 19 recognized commodity exchanges.

Should FMC encourage independent research for evidence-based policymaking?

It is a well-known fact that research plays an important role in policy formulation. The evidence-based policy making is seen to produce better outcomes. Currently, the research capacity within the FMC is very limited. A majority of studies on the Indian commodity futures markets are usually sponsored by interested parties (such as exchanges, market players and advisory firms) which raises serious questions about their objectivity. There are hardly any independent studies on important regulatory issues such as the impact of algorithmic trading and high frequency trading on the Indian markets. Similarly, more empirical research studies are required to analyze the role of futures trading in price discovery and price risk management in the Indian markets.

To strengthen independent research, the FMC could invite academics and researchers from across disciplines and provide them market data for further research and analysis. This would not only enhance the informed discussions on regulatory matters but, more importantly, would help FMC take informed decisions on policy and regulatory matters.

To conclude, a wide range of policy measures need to be adopted to enhance the regulatory powers and capacity of the FMC so that it can ensure market integrity. Choices between well-regulated and poorly regulated futures markets are eminently political.

To carry out effective market surveillance and complex regulatory obligations, FMC needs better technological tools as well as professionals with domain specialization.

12. THE COMMODITY TRANSACTION TAX

What is a commodity transaction tax?

Commodity transaction tax (CTT) is a tax levied in India on transactions done on the domestic commodity futures exchanges. It is similar to a Financial Transaction Tax (FTT), which is commonly associated with transactions done in the financial sector.

On February 28, 2013, India introduced a transaction tax on the commodity futures trading under the direct tax provisions in the Union Budget 2013-14. CTT is levied at 0.01 percent (Rs.10 for transaction worth Rs.1 lakh). CTT is levied only on non-agricultural commodities futures contracts (e.g., gold, copper and oil) traded in the Indian markets. While the agricultural futures contracts are exempted from CTT. The tax is payable by the seller of futures contract. The finance ministry's rationale for introducing CTT was to bring commodity markets on par with the securities market where a securities transaction tax is being levied since 2004.

India is the second country in the world to introduce a tax on commodity futures trading. In 1993, Taiwan imposed a transaction tax of 0.05 percent on the value of the commodity futures contract.

What are the main benefits of CTT?

Based on the current trading value of non-agricultural commodities in the Indian exchanges, a back-of-the-envelope calculation suggests that CTT (at 0.01 percent) could fetch Rs.15,950 million (about \$300 million) to the cash-starved exchequer every year. This is a substantial amount in the present times when tax revenues are under severe pressure and the government's attempts to reduce fiscal deficit through other measures are not yielding positive results.

The revenue raised through CTT could be utilized in several ways. Since the central government is concerned over the deteriorating fiscal situation, it could use a part of this tax revenue to reduce fiscal deficit. Equally important, a portion of proceeds of CTT should be utilized to enhance the regulatory and supervisory capacities of the Forward Markets Commission (FMC), which is grossly understaffed and underfunded. A part of proceeds could also be deployed to install price ticker boards at local markets and post offices across the country for displaying commodity futures prices. This would help farmers and producers to access information on a real-time basis in their local languages and benefit from the futures price movement.

Apart from revenue potential, CTT would enable authorities track transactions and manipulative activities that undermine market integrity. Currently, large information gaps exist and a centralized database of money flows is almost nonexistent. With the implementation of CTT, the government would be better equipped to track the inflows and outflows of money into the commodity derivatives markets. This could be particularly valuable to the Indian tax authorities as there are no effective mechanisms in place to track the flow of illicit money that it

India is the second country in the world to introduce a tax on commodity futures trading. In 1993, Taiwan imposed a transaction tax of 0.05 percent on the value of the commodity futures contract.

finding its way into the commodity futures markets. The audit trail is considered to be a key factor behind the prevailing opposition against CTT.

Another key benefit of CTT lies in its progressive outlook. It would only affect speculators and non-commercial players who often use algorithmic trading to transact a large number of commodity futures contracts at very fast speeds. In contrast, a sales tax is generally considered to be regressive because it disproportionately burdens poor people.

In addition, the CTT would be a more efficient revenue source than other taxes. It would be collected by the commodity futures exchanges from the brokers and passed on to the exchequer, thereby enabling the authorities to raise revenue in a neat, transparent and efficient manner.

Can CTT trigger a sharp fall in futures trading?

It is too early to judge the impact of CTT on the trading volumes as the tax came into force only on July 1, 2013. There is no denying that the cumulative value of trade during April-December 2013 is lower than the corresponding period of the previous year but it would be erroneous to blame CTT for it as other important factors such as weak domestic market sentiments, the NSEL payment crisis involving the MCX, and adverse price developments in the global commodity markets cannot be overlooked.

During April-December 2014, CTT collection was Rs.3,750 million at the MCX, the country's largest commodity exchange, despite the drastic decline in futures trading volume during this period.

The initial market trends suggest that CTT had no major negative impact on genuine hedgers – consisting of producers, processors and consumers of the underlying commodity – who use futures markets primarily for hedging purposes.

Similarly, there is no evidence to prove that CTT has shifted futures trading to an illegal platform (popularly called 'Dabba' trading), as anticipated by many market participants.

Is CTT a panacea?

No. Despite numerous potential benefits, a levy of 0.01 percent alone cannot fix the myriad problems plaguing the Indian commodity futures markets. CTT should not be viewed as a substitute for effective regulation and supervision of futures markets.

If CTT is used in conjunction with other measures (such as strengthening the regulatory and supervisory capacities of FMC, segregating hedgers and non-commercial traders, and encouraging greater participation of hedgers and producers) it does offer an attractive mechanism to reform the Indian commodity derivatives markets. Hence, it should be part of policy measures to ensure that commodity futures markets function in a fair and orderly manner. In the larger interest of the macro economy, the economic and developmental gains of taxing speculative investments in the commodity futures markets are more than the private gains of speculators and day traders.

Apart from revenue potential, CTT would enable authorities track transactions and manipulative activities that undermine market integrity. Currently, large information gaps exist and a centralized database of money flows is almost nonexistent.

PART III

Chapter 13 deals with a wide range of policy challenges confronting Indian as well as global commodity futures markets. It debunks some of the common myths associated with the role of speculation in the commodity futures trading. This chapter attempts to answer some of the pertinent questions: Why is there such excessive speculation in the Indian markets? How to curb excessive speculation? How to increase the participation of farmers and commercial hedgers? Should algorithmic trading be allowed in India? Should banks and financial players be allowed to trade in Indian commodity futures markets? Are futures markets performing the two important functions of price discovery and price risk management in India? Do futures markets aggravate rise in commodity prices? Should big corporations disclose their positions in commodity futures markets? Whither G20 regulatory reforms on derivatives markets?

For readers' benefit, we have provided a glossary of terms commonly used in the commodity futures trading. A list of national and international organizations (exchanges, regulatory bodies and others) is also given for further information.

13. POLICY ISSUES AND CHALLENGES

Is speculation good for commodity futures markets?

The Forward Market Commission and many analysts claim that speculators are different from gamblers since they do not create risk, but merely accept the risk which already exists in a futures market. According to them, speculators try to assimilate all the possible price-sensitive information, on the basis of which they can expect to make profit. Therefore, it is claimed that the speculators contribute in improving the efficiency of price discovery function of the futures market.

Barring definitional differences between speculators and gamblers, is this a convincing argument in a real world setting? In a futures market, gamblers too assimilate and analyze price-sensitive information, and forecast futures price movement and trade contracts with the hope of making a profit. What is common between speculators and gamblers is that both have short-term horizons, a higher risk taking ability and are hardly interested in the delivery of underlying commodity.

Further, in the absence of strictly enforced guidelines classifying different categories of market participants, it is not an easy task for the market regulator to differentiate among speculators, gamblers and hedgers in commodity futures markets. Consequently, it is difficult to determine whether a trader is buying/selling commodity futures contracts for purely speculative or gambling or hedging purposes? As witnessed in the case of the large commodity conglomerates, a hedger may also engage in futures trading for speculative purposes.

Furthermore, in a real world setting, it would be erroneous to assume that every futures contract involves a hedger on one side and a speculator on the other. The speculators and gamblers trade with each other in the futures markets without any restrictions.

It has often been observed that traders may deny that speculation is their basic business model because of social ills associated with speculation. As pointed out by Lynn A. Stout, "Given the stigma attached to speculation, it's not surprising that most parties to derivatives contracts claim, at least in public, that they use derivatives for hedging and not for speculation."³²

It is widely claimed that speculators provide liquidity to the market, which allows buying and selling without resulting in huge price swings and, therefore, it is difficult to imagine a futures market functioning without some speculators. There is no denying that speculation is prevalent in all markets (spot and futures) in India and elsewhere. Some level of speculative activity is required to maintain a liquid market but when the level of speculation is far in excess of the level required for the attainment of an optimal liquidity in the futures contracts, it could lead to

In the absence of strictly enforced guidelines classifying different categories of market participants, it is not an easy task for the market regulator to differentiate among speculators, gamblers and hedgers in commodity futures markets.

³² Lynn A. Stout, *How Deregulating Derivatives Led to Disaster, and Why Re-Regulating Them Can Prevent Another*, Lombard Street 1, No.7, 2009, p.7. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1432654.

spurious price discovery and distortion in spot prices – as witnessed in the case of guar futures trading.

Some level of speculative activity is required to maintain a liquid market but when the level of speculation is far in excess of the level required for the attainment of an optimal liquidity in the futures contracts, it could lead to spurious price discovery and distortion in spot prices



Excessive speculation could lead to spurious price discovery and distortion in spot prices of commodities.

There are plenty of instances in India and elsewhere where unrestrained excessive speculative trading by big players (and their cartels) resulted in massive price rigging and market abusive activities. The policymakers need to acknowledge that rampant speculation may contribute to undue price rise which cannot be justified by demand-supply fundamentals. The adoption of market-based approach to deal with commodity price risk may reinforce price instability and volatility in commodity prices.

Why is there so much excessive speculation in the Indian futures markets?

Table 5: Futures Trade Multiples of Various Agricultural Commodities

(Production and trade volume in lakh MT)

Commodity	2009 -10			2010 -11		
	Production	Trade Volume	Trade Multiple	Production	Trade Volume	Trade Multiple
Gram	74.8	530.4	7.09	82.5	523.6	6.35
Wheat	808.0	31.77	0.04	859.3	26.78	0.03
Maize	212.8	8.41	0.01	158.6	16.36	0.10
Soy oil	15.94	500.62	31.41	16.75	617.15	36.85
Mentha oil	0.35	2.31	6.60	0.28	6.21	22.18
Guar seed	5.93	1,226.69	206.83	-	1,056.04	-
Guar gum	1.17	59.46	50.83	1.32	83.15	63.0
Potatoes	365.77	61.63	0.17	423.39	269.22	0.64
Chillies	12.03	3.68	0.31	12.23	11.31	0.92
Jeera	1.56	26.50	16.95	3.14	42.53	13.54
Cardamom	0.16	0.28	1.78	0.16	0.77	4.91
Pepper ('000 MT)	0.51	19.61	38.44	0.52	42.25	81.25
Rubber (MT)	8.31	5.81	0.70	-	11.8	-

Source: K.G. Sahadevan, "Commodity Futures and Regulation: A Vibrant Market Looking for a Powerful Regulator," *Economic and Political Weekly*, December 29, 2012, p.112.

Even the FMC acknowledges the fact that the bulk of trading in the Indian commodity futures markets is carried out by speculators and non-commercial traders who attempt to profit from buying and selling futures contracts by anticipating future price movements but have no intention of actually owning the physical commodity, while the participation of hedgers (such as farmers, processors, manufacturers, exporters, importers and bulk consumers) is almost negligible.

A recent analysis carried out by K.G. Sahadevan found that major commodities (such as wheat, maize, potatoes, chilies and rubber) with larger production, marketable surpluses and nationwide spot markets are hardly traded in the Indian futures market while narrow commodities (such as guar seed and pepper) generate much larger trade volumes compared to their total production.³³ Table 5 shows that the futures multipliers³⁴ of several commodities including guar seed (206), guar gum (50), soy oil (31) and pepper (38) were much higher than the international market benchmark which ranges from 15 to 28 depending on the commodity.

One of the important reasons which attract a large number of traders to commodity futures is the low margins requirements. In the Indian commodity markets, trading can be done with as low as Rs.5,000. Unlike equity markets where the margins range from 10-25 percent, the commodity markets typically require 5-10 percent margins. For instance, for trading in one lot of 100 gram gold futures contracts would require an approximate margin of only Rs.6,000. In the case of agricultural contracts, the minimum amount required is even less. Besides speculative trading, different grades of the goods and limited accredited warehouses in the country are other important factors behind low deliveries in the Indian futures markets.



The West Texas Intermediate grade crude oil contract is actively traded in the Indian futures markets but there is no remote possibility of delivery of this product in India.

In support of their trading strategies, speculators and non-commercial players often argue that physical delivery does not matter for a commodity futures exchange. They contend that a commodity exchange should focus on purely

For hedging purposes and creating a transparent price formation system, a commodity futures exchange should have linkages with the physical market (along with grading and delivery mechanisms) so that futures markets remain relevant for physical market players.

33 K.G. Sahadevan, "Commodity Futures and Regulation: A Vibrant Market Looking for a Powerful Regulator," *Economic and Political Weekly*, December 29, 2012, p. 107

34 The ratio of futures trade volume to total production of a commodity. The higher the ratio, the higher the intensity of speculation.

financial transactions and stay away from physical market and delivery obligations. However, such market participants sorely miss an important point that for hedging purposes and creating a transparent price formation system, a commodity futures exchange should have linkages with the physical market (along with grading and delivery mechanisms) so that futures markets remain relevant for physical market players. Otherwise, commodity futures exchanges will act like casinos, moving away from their avowed objectives of price discovery and price risk management in an efficient and orderly manner. And thereby defeating the very purpose for which commodity futures exchanges were established.

According to FMC data, close to 99.99 percent of trading in commodity futures exchanges is carried out for speculative purposes with no actual deliveries involved. In particular, the speculators overwhelmingly dominate trading in non-agriculture commodity futures. To illustrate, not a single barrel of crude oil was delivered out of 814 million tonne crude oil futures contracts (worth Rs.29,818 billion or \$473 billion) traded at MCX during 2012-13. Put simply, one can buy crude oil futures contracts even if one does not own any refinery because no barrels of oil would be delivered.

In the case of West Texas Intermediate (WTI) grade crude oil contract, there is no remote possibility of delivery of this product in India. Nevertheless, futures contracts in WTI are traded in large numbers in the markets. This raises a larger policy issue – why has FMC allowed futures trading in such commodities where there is no possibility or even threat of delivering the product which could discourage the pure speculators?

According to Nidhi Nath Srinivas, former Commodities Editor of *The Economic Times*, “Trading in oil and gas futures is almost wholly by pure speculators rather than government-owned oil and gas companies. Ditto is the case with gold and silver. In other words, all these contracts are being traded for the pure kick of making a bet.”³⁵

What needs to be done to rein in pure speculative activities? It is high time that FMC introduces compulsory delivery-based trading system across all futures exchanges and all price-sensitive commodities. What India needs is delivery-based forward trading rather than paper-based futures trading. In delivery-based forward trading, all stakeholders with genuine exposure to the underlying – primary producers, processors, industrial consumers, traders, importers, exporters – can participate in it. In case of delivery defaults, defaulters should be asked to pay a higher penalty than the current 3 percent of the contracted amount.

The rapid expansion of Indian commodity futures markets is posing new regulatory challenges for FMC and the government. The real challenge lies in framing strict rules and their timely enforcement rather than allowing speculative frenzy to go unchecked and then banning the trading as a knee-jerk reaction.

Are futures markets performing the two important functions of price discovery and price risk management in India?

The twin functions viz., price discovery and risk management, theoretically help in the process of price stabilization and safeguard the interests of farmers, ex-

What India needs is delivery-based forward trading rather than paper-based futures trading. In delivery-based forward trading, all stakeholders with genuine exposure to the underlying can participate in it.

35 Nidhi Nath Srinivas, “Drilling into Guar’s Gold Run,” *The Economic Times* blog, May 10, 2012.

porters and others stakeholders. Price discovery occurs in all markets (spot as well as futures).

Price discovery is a continuous process of arriving at a price at which a person buys and another sells a futures contract in a commodity exchange. Competitive price discovery is a major economic function of the futures market and, indeed, a major economic benefit of futures trading. In this process, all the available market information is continuously transmitted into future price, providing an indicator of supply and demand.

On the other hand, risk management function is the transfer of price risk from a hedger to a speculator. However, it is cumbersome to test empirically whether the risk management function actually works when there is less or no physical transaction of commodities in futures markets, as in the case of India.

Although there are numerous empirical research studies on whether commodity futures markets facilitate price discovery and price risk management in the developed countries, but such studies are very limited in India. The problem is further compounded by the fact that many empirical studies and research reports in India are sponsored by commodity exchanges, broking firms and other interested parties. This raises questions concerning the reliability of such studies.

Nevertheless, there is evidence to prove that the price discovery function has largely remained limited to a few agricultural commodities and that too depending on the timely regulatory actions by FMC. An empirical study of future and spot prices of four agricultural commodities (castor, cotton, pepper and soya) during 2007-08 found that the futures market in those commodities were not efficient, which implies that “the futures exchanges fail to provide an efficient hedge against the risk emerging from volatile prices of those commodities.”³⁶

“It is quite obvious that price discovery does not occur in agricultural commodity futures market. The difference between the futures prices and the future spot prices is an indication of inefficiency arising from the underdeveloped nature of the market,”³⁷ concludes the study.

Another study assessing the benefits of mentha oil futures to the farmers of Uttar Pradesh found that the prices rose almost 90 percent in 2006 (after futures trading began in April 2005) despite the fact that there was no decline in the supply of mentha oil because the production witnessed a significant increase during 2004-06.³⁸

After analyzing the efficiency of wheat futures trading in terms of price transmission, price discovery and extent of volatility during 2009-10, a recent study found that spot market prices adjust faster and dominate in the process of price discovery and there is persistence of volatility in spot prices.³⁹

The price discovery function has largely remained limited to a few agricultural commodities and that too depending on the timely regulatory actions by FMC.

36 R. Salvadi Easwarana and P. Ramasundaram, “Whether Commodity Futures Market in Agriculture is Efficient in Price Discovery? – An Econometric Analysis,” *Agricultural Economics Research Review*, Vol. 21 (Conference Number), pp. 337-344, 2008.

37 Ibid.

38 K.G. Sahadevan, “Mentha Oil Futures and Farmers,” *Economic and Political Weekly*, January 26, 2008, pp. 18-23.

39 R. Sendhil, Amit Kar and others, “Testing the Efficiency of Indian Wheat Futures,” *International Journal of Economics and Management*, 7 (2), 2013, pp. 408-430.

What about price discovery in non-agricultural commodities which constitute 88 percent of total futures trading in India? As pointed out by Nidhi Nath Srinivas, “The prices of gold, silver, crude oil and natural gas are discovered on the exchanges in London, Dubai and New York. Their contracts in India simply mirror the trends in the overseas markets. In fact, if you ignore the currency fluctuation, you will discover perfect co-relation between NYMEX (New York Mercantile Exchange) and MCX prices. So whether trading volumes rise or fall in Mumbai makes no difference to the price discovery overseas.”⁴⁰ To illustrate why domestic factors are of no or little consequence, take the case of natural gas futures contracts traded in the Indian markets. The daily average turnover in natural gas futures at MCX during February 1-7, 2014, increased 117 percent than the corresponding period in the previous year due to a record cold wave in the US and Europe.⁴¹

The price discovery occurs through collective assessment of large number of individual market participants about the direction and price trends of a commodity in future. Such assessment is generally based on the participant’s internal knowledge about the likely production, crop size, weather projections, etc. However, the real price discovery may not happen if the information flows in the market are not efficient. For instance, take the case of guar farmers. In the wake of steep rise in the prices of guar seed and guar gum products during October 2011-March 2012, the guar farmers bought seeds, fertilizers and other farm inputs at a very high cost in the expectations that the prices will continue to rise. Thousands of guar farmers in India found themselves trapped when the prices fell below their expectations in 2013.

Furthermore, problems like excessive speculation by traders, cartelization, limited participation of farmers and hedgers also pose a threat to efficient functioning of the commodity markets.

Speculative trading of commodities by financial players (and their cartels) can have a major impact on the price volatility in the commodity markets. The speculators’ only motive is to make a profit by trying to move the prices in their favor. This can result in volatile price behaviour which could actually harm the interests of producers, users and exporters of commodities. It has been observed that futures trading in several agricultural commodities (e.g., guar, urad and mentha oil) has not been effective in price risk management. Rather, it increased spot price volatility in the underlying commodities and harmed the economic interests of producers, users, processors and exporters.

Persistence of volatility in the futures markets, as a whole, has been observed despite strict regulatory actions by FMC on certain contracts. After the suspension of guar contracts in March 2012, for instance, speculators moved to other narrow agricultural commodities (such as cardamom, pepper, soya bean, gram, potato, methna oil and mustard seed) where the potential for price manipulation and cartel-like activities was considerable because of limited domestic production and non-availability of precise and timely data. As pointed out by Tulsī Lingareddy, a commodity market observer, “Whenever the volatilities rise, the FMC directs the exchanges to impose high margins and restrict open positions on those commodities, then the volume shifts to other commodities in which

Futures trading in several agricultural commodities (e.g., guar, urad and mentha oil) has not been effective in price risk management. Rather, it increased spot price volatility in the underlying commodities and harmed the economic interests of producers, users, processors and exporters.

40 Nidhi Nath Srinivas, op.cit.

41 Dilip Kumar Jha, “MCX Volumes Grew on Huge Trading Interest in Natural Gas,” *Business Standard*, February 12, 2014.

high speculative activity is feasible with small market size. If one observes the pattern, initially the volumes and thereby the volatilities were concentrated only in guar seed, following regulatory measures they moved to urad and tur, then to mentha oil, then to spices over a period. Thus, the futures trading in these agri-commodities did not play its role of price risk management, rather it increased the risk through rise in volatilities.”⁴²

From a regulatory policy perspective, the government should not allow futures trading in the narrow agricultural commodities which do not meet the suitability requirements such as adequate production, marketable surplus, homogeneity, and timely data and forecasts. Other important factors contributing to the inefficient functioning of futures market include low market depth, lack of effective participation of hedgers and farmers, fragmented nature of spot markets and poor grading and physical delivery infrastructure. These policy constraints defeat the very purpose for which futures markets were initiated.

What policy reforms are needed to encourage the participation of farmers and commercial hedgers?

The participation of farmers and commercial hedgers in commodity futures markets is extremely limited. According to market estimates, not even 2,000 farmers in India are directly participating in the futures markets.

Farmers (especially large farmers) and those who have access to the necessary skills, information channels and financial means can benefit directly from futures market by entering into futures contracts to sell their produce at a pre-decided price at a future date or indirectly by growing crops based on the expected future price disseminated through the exchange. However, both these benefits have not been passed on to Indian farmers till date. Lack of education, awareness and trust are among the most prominent reasons. Moreover, ban on sensitive agricultural commodities has further weakened the confidence of farmers in the futures markets, which are widely perceived as “satta bazaar” (gambling market) in the farming community.

The FMC and commodity futures exchanges should undertake new policy initiatives if they wish to increase the participation of farmers and commercial hedgers in the Indian commodity futures markets. First, price ticker boards – displaying futures and spot prices in the local language on a real-time basis – could be installed at local mandis, post offices, bank branches and community places. The dissemination of prices would immensely benefit farmers to take appropriate decisions during pre-sowing and post-harvest period.

Second, the FMC should help launch micro and mini contracts (with small trading lots and tick size) across all agricultural commodities to encourage the direct participation of farmers and small traders. Algorithmic trading should be barred in this segment. Many research studies have also suggested this policy but it appears that the exchanges and the market regulator are not keen to implement it.

Third, the government should allow farmer cooperatives and agricultural marketing federations (such as IFFCO and NAFED) to act as aggregators and hedge positions in futures exchanges on the behalf of their farmers. It is, of

From a regulatory policy perspective, the government should not allow futures trading in the narrow agricultural commodities which do not meet the suitability requirements such as adequate production, marketable surplus, homogeneity, and timely data and forecasts.

42 Tulsi Lingareddy, “Two Decades of Reforms: Commodity Derivatives Market,” *Alternative Economic Survey, India: Two Decades of Neoliberalism*, Daanish Books, 2010, p. 259.

course, necessary for such federations to first gain adequate knowledge of the functioning of futures market.

Fourth, the governments (both centre and state) should work on a war footing to remove bottlenecks such as fragmented spot markets, lack of road connectivity, insufficient number of accredited warehouses, grading facility, and other infrastructure inadequacies that restrict the participation of farmers in the futures markets.

Fifth, the FMC should develop strict classification criteria to segregate market players into two major categories – commercial hedgers and non-commercial traders – across all commodity futures exchanges. There should be mandatory data reporting of participation by market players (category-wise) and their market positions. In the US markets, for instance, the Commodity Futures Trading Commission provides weekly reports on trader positions with a breakdown of aggregate positions held by commercial traders (hedgers), non-commercial traders (large speculators) and non-reportable (small speculators).

Strict regulations should be imposed to limit speculative trading in the futures markets. For instance, higher position limits should be imposed on speculative trading positions by the FMC and exchanges.

The FMC could create a special category of commercial hedgers in the Indian commodity exchanges. To ensure the genuineness of commercial hedgers, a system of regular monitoring and surveillance of their market positions and trading accounts should be developed and strengthened by exchanges and FMC. This policy would enable FMC to impose additional margin requirements and specific regulatory measures on speculators to curb their dominance in the futures markets.

As an incentive, the commercial hedgers could be given certain exemption from the payment of initial/additional/special margins to reduce their costs. If hedgers make an upfront payment for commodities, they could also be exempted from the payment of risk and delivery margins.

To what extent should algorithmic trading be allowed in commodity futures markets?

Algorithmic trading is based on a technology-driven pre-programmed complex mathematical model that allows execution of orders (without human intervention) by computers to benefit from changes in prices of commodities, stocks and currencies. The buy or sell orders are executed by computers not in seconds, but in microseconds. Given the short-term nature of trading strategies, algo traders prefer to locate their servers at the commodity futures exchanges to benefit from the advantage of valuable microseconds. High frequency trading (HFT) is a genre of algorithmic trading which involves execution of orders at a very high speed to benefit from the smallest price movements in trading. HFT firms invest heavily in technological infrastructure and hire highly skilled professionals.

Since 2011, algo trading has been swiftly gaining ground in the Indian stock and commodity markets. The exact market share of algo trading in commodity futures market is not publicly known but market analysts estimate that around 20 percent of daily volumes at MCX and 12 percent at NCDEX are generated by algo trading.

The government should allow farmer cooperatives and agricultural marketing federations (such as IFFCO and NAFED) to act as aggregators and hedge positions in futures exchanges on the behalf of their farmers.

NSEL Debacle has Damaged the Prospects of Fungibility of Warehouse Receipts

The Rs.55-billion payment crisis that has engulfed the National Spot Exchange Limited has hit the prospects of reforms in warehousing and collateral management sector badly. In order to increase availability of foodgrain and vegetables, the Ministry of Finance had directed its food counterpart to take steps to reduce post-harvest crop losses. Another issue that caught the ministry's eye was reducing transportation cost by selling commodities in the region of production or selling on a nationwide online platform by allowing their trade through negotiable warehouse receipts (WR). Commodities' delivery, however, was mandated from local warehouses of buyers' closed vicinity. While NSEL was the preferred option by the Ministry of Food at one point, the payment crisis has raised several questions on WR's tradability on a nationwide basis.

Fungibility of Warehouse Receipts

As a normal practice in the Indian agriculture sector, farmers sell their produce at throw away price during the peak harvesting season normally to arhatiyas (middlemen and stockists) who, in turn, sell the commodity after negligible cleaning to stockists at a hefty margin. Stockists take full advantage of their holding capacity and monetary muscle by selling the same commodity during lean season to retailers with huge profits. In the entire cycle, therefore, the cost of produce goes up 10-12 times between farmers and end-users.

Hence, farmers get only a tenth of what consumers pay. In abnormal circumstances, when prices of any commodity rises, farmers do not reap the benefits. The entire profits are gobbled by arhatiyas, who understand markets very well and play accordingly. Since farmers in most cases borrow from banks and local moneylenders to buy seeds and fertilizers during sowing time, they do not have any option but to sell, even at throw away prices, their produce during harvesting period (often termed as distress sale) in order to repay loans. Now, even in case of pinching commodity price for consumers, for example onion was sold at Rs.100 a kg in 2013, farmers received merely Rs.4-5 a kg due to their financial weakness and poor holding capacity resulting into distress sale.

Being voluminous, agricultural commodities cannot be transported for long distances due to high transportation cost. Therefore, their supply is restricted in the closed vicinity of their production centre. Even in case of acute shortage in the other region, only a small portion is supplied. Farmers find it difficult to manage post-harvest crop for deteriorating quality due to the lack of knowledge, resources and public facilities to store crops. An ASSOCHAM study has estimated that nearly 40 percent of annual production of foodgrain is lost because of poor storage capacity. There is an urgent need to enhance the storage facilities to keep pace with the marketable surplus. The lack of storage facilities is a well-known problem in India and which has not been adequately addressed by the central and state governments.

The government decided to allow new participants in issuance of warehouse receipts and allow its tradability on a nationwide spot exchange. Being spot trade, it was decided to make them tradable at spot exchange. NSEL was understandably the preferred option due to its access to the entire country. The other exchanges were not so familiar to traders. But the financial fraud at NSEL has badly hit WR's fungibility.

Banks Unhappy

In order to achieve the priority sector lending target of 18 percent in agriculture sector, banks were enthusiastic about their collateral management business. In the process of collateral management, banks normally take full control of quality and quantity of agricultural commodities against which they lend to farmers in order to avoid distress sale. Banks also advise farmers for selling of commodities at an opportune time, and then recover their dues from the sale proceeds, with permission of the original owner. In the meantime, banks ensure quality and quantity of farmers' produce in co-ordination with a warehousing company. Banks normally allow storage of agricultural commodities in a warehouse of their choice, where they can inspect goods periodically.

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With the fallout of NSEL and waning prospects of WRs' tradability, banks are finding it difficult to achieve priority sector lending targets in the agriculture sector.

Lean Interest in Warehousing Sector

The rising cost of land and construction has made erection of warehouses a costly affair. In addition, installing machinery for cold storage has also proved a tough task due to lack of infrastructure. As a result, even with 100 percent space occupied in warehouses and cold storages, it may take at least eight years of gestation period for this business to turn profitable. The Food Corporation of India (FCI) – the public sector grain procurement agency – has ensured eight years of full occupation of warehousing space to encourage investment in this sector. Until a concrete and reliable option is worked out, the fungibility of WRs would continue to remain a challenge for the private sector as well.

– Dilip Kumar Jha



Since 2011, algo trading has been swiftly gaining ground in the Indian stock and commodity markets.

The proponents of algo trading claim that it provides liquidity to the market and also contributes higher revenues to the exchanges due to increase in trading volumes. In the aftermath of global financial crisis, however, serious questions have been raised whether algo and HFT traders supply liquidity at times of market stress. Even though it is legal, algo trading gives unfair advantage to big and sophisticated market players who can out-trade small traders because they can afford expensive technology and highly skilled professionals. Besides, high trading volumes generated by HFT firms can move the market away from fundamental value and thereby weaken the price discovery process. The market regulators are also concerned that fast and automatic operation of algorithms by HFT firms may increase price volatility in both normal and turbulent market conditions.

Of late, algo trading and HFT firms have come under regulatory scanner due to frequent flash crashes in the financial markets. A flash crash is a very rapid fall in the prices of securities, taking place in a short period (often within a few seconds). A report by the International Organization of Securities Commissions (IOSCO), an international body of securities regulators, concluded that the use of algorithms and HFT technology was a contributing factor in the flash crash event of May 6, 2010, when the Dow Jones Industrial Average plunged about 1,000 points after a large mutual fund sold 75,000 shares of stock worth about \$4.1 billion via an

automated execution algorithm. “The events of May 6 have clearly shown that, in a context of deteriorating market conditions, a shock in one market can trigger destabilizing effects on the liquidity and price formation processes of related markets. This clearly threatens both the integrity and the efficiency of the markets,” states the IOSCO report.⁴³ The flash crash intensified the liquidity crisis, thereby causing a massive systemic disruption in the US financial markets. A report jointly by CFTC-SEC Advisory Committee also acknowledged: “The events of May 6 demonstrated that even in a single market setting such as a futures market, liquidity problems can arise from unexpected imbalances in the book of orders. Given the speed of order placement and cancellation, these imbalances can arise quickly, and their impact can be far-reaching.”⁴⁴

In India, a flash crash sent the National Stock Exchange’s index into a tailspin on October 5, 2012. The NSE’s Nifty plunged nearly 900 points (15.5 percent) due to ‘erroneous trades’ executed via algorithms by an institutional investor (Emkay Global Financial). The flash crash triggered stop-losses for many investors for no fault of theirs. As per market regulator SEBI’s rules, circuit breakers were supposed to be triggered at a 10 percent rise or fall in the index. But the trading on NSE only came to a halt when the index went down 15.5 percent.

Both these recent incidents of flash crash in the financial markets show that algo trading, if misused by design, or by default, could generate significant systemic problems.

The FMC had banned algo trading in micro and mini contracts from January 1, 2013, onwards. The micro and mini contracts (with small trading lots and tick size) were primarily launched to benefit small traders who could not order large size contracts. But the FMC found that only large traders availed the benefit of algo trading as almost 95 percent of the trading volume in such contracts was generated through bulk orders executed through automatic trading. Consequently, the FMC banned algorithmic trading in such contracts.

It is surprising to note that after a year of suspension, the FMC again allowed algo trading in micro and mini contracts in January 2014 with new regulatory guidelines such as limit of 20 orders per second by a user, a daily order-to-trade ratio with economic disincentive, and that commodities exchanges would submit a monthly report on algorithmic trading.

The new regulatory guidelines for algo trading would only be meaningful if the FMC and commodity exchanges have the wherewithal and preparedness to ensure that these would be followed in letter and spirit. Given the fact that algo trading could potentially destabilize futures markets, the FMC should reconsider the use of such trading strategies which act as a barrier to fair and equitable trading. No wonder some experts argue for a complete ban on algorithmic and high frequency trading.

Even though it is legal, algo trading gives unfair advantage to big and sophisticated market players who can out-trade small traders because they can afford expensive technology and highly skilled professionals.

⁴³ *Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency*, Technical Committee Consultation Report CR02-11, IOSCO, July 2011, p. 41.

⁴⁴ *Recommendations Regarding Regulatory Responses to the Market Events of May 6, 2010*, Joint Advisory Committee on Emerging Regulatory Issues, SEC-CFTC, February 2011, p. 13.

Should banks be allowed to trade in commodity futures markets in India?

The proponents of banks' direct entry into commodity trading argue that this move would enable banks to hedge their exposure to agricultural lending that arises from price fluctuations. In reality, however, banks in India lend money to farmers (and commodity traders) but they do not have any direct exposure to commodities. Following the same logic, should banks get directly involved in building bridges, airports, highways, dams and power plants since they have large exposures in the infrastructure sector?

At best, banks could advise borrowers to hedge their price risk in the futures markets rather than hedging themselves. By acting as a trader/broker in the commodity derivatives market, banks would be moving away from their core competence — lending money to individuals and businesses. Unfortunately, that is what happened with the banking sector in the US and the EU.

It needs to be emphasized here that 80 percent of farmers in India are small farmers (owning less than two hectares of land) and not even 0.001 percent of farm borrowers in India directly trade in commodity futures exchanges.

Further, there is no justification in allowing non-banking financial players such as mutual funds, insurance companies and foreign institutional investors (FI) in the agricultural commodity markets since they have no direct exposure to farm loans and the farming community in India.

By and large, Indian banks (public and private) lack market knowledge and the expertise to benefit from trading in commodity futures, and would be exposed to volatile risks. The Reserve Bank of India has also expressed concern at the risks posed to domestic banks that lack the expertise and skilled manpower to deal with such risky trading instruments.

Commodity exchanges are supportive of allowing banks in the futures trading, as higher trading volumes would boost the revenues of exchanges. The real beneficiaries are likely to be big foreign banks that have considerable international experience and expertise in dealing with and benefitting from futures trading. These banks, hedge funds and FIIs could also benefit immensely from algorithmic trading and other advanced trading tools. Already, foreign banks dominate the equity derivatives market in India. Most of these products are financial in nature with no actual bank lending involved.

Rather the entry of banks into commodity futures trading could turn out to be a risky proposition. Since the commodity futures market in India is still in a nascent stage of development, the existing regulatory environment cannot handle the sudden entry of big financial players such as banks and institutional investors. Given the fact that the FMC is unable to effectively monitor and supervise existing non-financial players, it would require considerable time, resources and technical expertise to deal with the high trading volumes that the entry of banks into commodity trading would bring about.

In a country of shortages, the massive flow of speculative funds from banks and financial institutions may damage the interests of producers and consumers of commodities.

In addition, this policy move is contrary to the positions that India has taken at

Indian banks (public and private) lack market knowledge and the expertise to benefit from trading in commodity futures, and would be exposed to volatile risks.

the G20 and other international forums. India has always been at the forefront of international discussions seeking greater regulation, market transparency and the orderly functioning of volatile commodity markets, especially oil. In September 2011, the then finance minister, Pranab Mukherjee, strongly urged the G20 to address the issue of “excessive financialization” behind the increase in the level and volatility of global oil prices. At the G20, India has backed the International Organization of Securities Commissions’ (IOSCO) ongoing work on improving the regulation and supervision of futures and physical commodity markets at the global level.

In the wake of the financial crisis, developed countries such as the US and the UK are taking corrective steps to rein in “casino banking”, which resulted in over-financialization of the real economy. One of the key lessons to learn from the global financial crisis is to avoid financialization of commodity futures markets. At a time when many countries are rethinking the benefits of over-financialization, why should India allow a large influx of speculative capital into its commodity futures markets?

Do futures markets aggravate rise in commodity prices?

The empirical research on whether futures markets accentuate rise in commodity prices is still at a nascent stage. There are contrary views among economists, farmers and policy makers on this highly controversial issue in India and elsewhere.

There is a growing but still limited research on the extent of volatility in commodities that are traded in futures market, with more varied methodologies being used.

There is some research on the extent of volatility in commodities that are traded in futures market. Some studies saw no impact, others found a few or real impact. Almost all the studies came with inconclusive results regarding the impact of futures trading vis-à-vis inflation. Inter alia, weight of traded commodities in the wholesale price index calculation (an indicator of inflation in India), non-availability of price data during ban period for the standardized commodity, multi-faceted behaviour of prices in different markets across traded commodities and the complexity in understanding and applying a standard econometric model that captures the price dynamics of agricultural commodities (generally these sophisticated tools were used only in financial/stock markets) were the major reasons behind the inconclusive result.

The role of commodity derivative trading in fueling unreasonable higher prices and inflation has been a debatable issue historically. The rising volumes in commodity markets, along with persistent surge in commodity prices, has led to suspicion among various stakeholders that excessive speculation in commodity exchanges is responsible for such inflationary trends. The suspicion became more pervasive after 2008 in the wake of worldwide inflationary pressures in food and energy sectors when US Commodity Futures Trading Commission and the Indian Expert Committee on Futures Trading investigated the role of commodity derivative trading leading to price rise.

However, there is reason to believe that speculators may get attracted to opportunities offered by the upward trend of a commodity price and could strengthen the trend by higher demand for futures and push the futures prices further up from its true equilibrium.

There is a growing but still limited research on the extent of volatility in commodities that are traded in futures market, with more varied methodologies being used.

In principle, commodity prices, whether in the physical market or the futures market, should move on the basis of demand-supply fundamentals. If supply is higher than demand, prices would decline or would not spike. If supply trails demand, prices will rise. In the physical market, imbalance is created by factors such as changes in production, quality, trade and tariff policies, and so on. Weather is a crucial determinant of agricultural production and quality. Nevertheless, the entry of large-scale speculative capital can exaggerate the price action. Particularly in the current context of financial globalization, speculative capital can trigger a disproportionately larger impact on commodity prices, substantially unrelated to hedging and market fundamentals.

What should be the government's policy towards regional commodity exchanges?

Since 2004, New Delhi has actively encouraged the establishment of national commodity exchanges over the regional ones on the grounds that national exchanges have technological edge, strong financial backing and better corporate governance norms. However, the recent payment crisis at NSEL, coupled with the conflicts of interest among directors at MCX and NCDEX, highlights a wide range of corporate governance failures, including lack of transparency, integrity, compliance and ethics.

The national commodity futures exchanges were supposed to act as non-profit, non-partisan, transparent, self-regulated and disciplined agencies. In reality, the owners and board members of national exchanges failed to perform their duties towards protecting the interests of shareholders, in complete violation of corporate governance rules. From a wider public policy perspective, the national exchanges should be not-for-profit to ensure that they serve the interest of the public at large rather than that of the owners and management.

Given the adverse experience with national exchanges, the new policy thrust should be to create new regional exchanges and strengthen the existing ones through technology upgrades and building inter-linkages among them. Currently, most of the regional exchanges are geographically dispersed and deal mostly with agricultural contracts. They have weak financial and organizational strength and are likely to disappear unless support from government is forthcoming. The farming community may prefer to deal with regional exchanges since futures contracts can be tailored to suit local conditions.

Should large companies disclose their positions in commodity futures markets?

Many large non-financial corporations in India are actively involved in trading in commodity futures market but their hedged and unhedged positions are not properly disclosed in the balance sheets. The Companies Act requires every company to conduct an annual general meeting and provides an effective mechanism for shareholders to participate and vote at the general meetings. Apart from this, provisions for investor awareness require continuous dissemination of information to the shareholders in the form of corporate documents such as annual reports, minutes of general meetings and board meetings, auditor's report and board's report. The basic premise is that shareholders have a right to know about a company's risk exposures, its plans and strategies for bearing or mitigating those risks, and the effectiveness of its risk management strategies. Only through clear and complete disclosure in the balance sheet can investors evaluate a company's potential risk and expected outcomes.

From a wider public policy perspective, the national exchanges should be not-for-profit to ensure that they serve the interest of the public at large rather than that of the owners and management.

But more often than not, companies try to make inadequate or insufficient disclosures about vital parameters such as size, profitability, international listing or return on total assets (ROTA). Privately-owned and small companies have been given a lot of latitude in the existing laws and are not required to disclose detailed financial and operating information.

A related problem is that of large unhedged forex exposures on corporate books. Unhedged forex exposure poses a risk not only for the company's balance sheet, but also for the financing bank and the overall financial system. On a number of occasions, large unhedged forex exposures on the corporate books have turned non-performing. Even a hedged position can suddenly become unhedged in adverse market conditions, inflicting substantial losses to the corporate world. The hedging activity disclosures can help shareholders assess derivatives instruments' use and risk exposure and effectiveness of such strategies.

Should India implement international regulatory reforms initiated by the G20?

In the wake of the global financial crisis, the G20 took several decisions to reform derivatives markets, including commodity and OTC derivatives markets. A number of developed countries (including the US and the UK) are currently taking corrective steps based on these G20 decisions. India, as a member of the G20, should also take steps to implement some of these regulatory reforms in the domestic future markets.

Firstly, the G20 agriculture ministers adopted an Action Plan on Food Price Volatility and Agriculture in June 2011. Secondly, at the G20 summit in November 2011, the leaders endorsed 19 Principles on the Regulation and Supervision of Commodity Derivatives Markets proposed by IOSCO. Thirdly, they also agreed on the objective "that market regulators should be granted effective intervention powers to prevent market abuses. In particular, market regulators should have and use formal position management powers, among other powers of intervention, including the power to set ex-ante position limits, as appropriate." The use of 'ex-ante' position limits would prevent position limits from being set only after problems have occurred and would moreover not be only dependent on decisions by regulators or exchanges, as is the case with 'position management.'

Apart from this, the G20 also dealt with agricultural commodity derivatives that are traded over-the-counter. Since all OTC derivatives markets were only lightly regulated before the financial crisis of 2008, and as they were considered to have contributed to systemic risk during the crisis, the G20 leaders agreed in 2009 on international objectives for their regulation and have since re-committed themselves to these objectives. The main objectives were to improve the transparency of these markets, to mitigate systemic risk, and to prevent market abuse. To achieve these objectives, G20 members committed themselves to accomplishing the following by the end of 2012:

- All OTC derivatives contracts should be reported to trade repositories;
- All standardised OTC contracts should be cleared through central counterparties (CCPs);
- All standardised OTC contracts should be traded on exchanges or electronic trading platforms and subject to central clearing;

In 2010, the Financial Stability Board (FSB) produced 21 recommendations for the reform of OTC derivatives markets.

- The non-centrally cleared OTC contracts will be subject to higher capital requirements (and minimum margining requirements).

In 2010, the Financial Stability Board (FSB) produced 21 recommendations for the reform of OTC derivatives markets. The FSB has been put in charge of monitoring the implementation of these recommendations via regular progress reports.

Nevertheless, the question remains whether these measures are sufficient to rein in “casino banking,” which resulted in over-financialization of the real economy. One of the key lessons to learn from the global financial crisis is to avoid financialization of commodity futures markets.

GLOSSARY

- **Arbitrage** — The simultaneous buying and selling of an asset (commodities, currencies and financial instruments) in two different markets in order to profit from a difference in the price. For instance, if the prices of sugar contracts are higher on ACE exchange than in NCDEX exchange, then a trader can buy sugar contracts from NCDEX and sell at ACE. Arbitrage is considered as riskless profit for the trader. It is important to note that even when two markets have different prices for the same goods, there is not always an arbitrage opportunity due to transaction cost involved in selling and buying.
- **Ask Price** — The lowest price at which a dealer is willing to sell a commodity.
- **Assayer** — An authorized entity (person/institution) that certifies and grades the commodities that are delivered in exchange accredited warehouses.
- **At-the-Market** — An order to buy or sell a contract at the best available price upon reaching the trading venue (trading floor or electronic platform).
- **Back Months** — Delivery months for futures contracts other than the front or spot month.
- **Backwardation** — A condition when markets quote a lower price for a more distant delivery date and a higher price for a nearby delivery date. Backwardation results when the difference between the forward and spot price is less than cost of carry or when the asset is not ready for delivery or purchase. This invariably happens because of shortage caused by excess demand as compared to supply. For instance, if the castor seed contract is quoted at Rs.4,680 per tonne for March 2014 and Rs.4,225 per tonne for May 2014, the backwardation would be Rs.455 per tonne.
- **Badla** — The carry forward system in India is popularly known as badla. Badla is the charge that the trader pays for carrying forward his position. A badla transaction involves margin money and interest charges. By using badla, a trader can take a position without actually taking delivery of a stock.
- **Bandhani** — An Indian form of trading in which the contract price is not allowed to go beyond floor and ceiling prices, set on the first day, throughout the life of the contract, thus restricting excessive volatility.
- **Basis** — Basis is price difference between a spot contract and futures contract for a commodity.
- **Bear** — An expression for a person who expects prices to decline.
- **Bear Market** — An expression for a market in decline over a period of time.
- **Bear Spread** — A trading strategy design with a simultaneous purchase and sale of two different contracts with the intent to benefit from a decline in prices.
- **Bid-Offer/Ask Spread** — The difference between the price of the commodity which is available for purchase and sale in the market. Bid will be lower of the two prices and offer price will be higher for any contract. Also known as impact cost. The spread will be higher in case of illiquid contracts and vice versa.
- **Bid Price** — The highest price at which a dealer is willing to buy commodities.
- **Bourse** — An organized set-up, building or specified place where trading of commodities, stocks and financial instruments takes place.
- **Bull** — An expression for a person who expects prices to rise.
- **Bull Market** — A term to describe a market in which prices are expected to rise over a period of time.

- **Bull Spread** — A trade design with a simultaneous purchase and sale of two contracts with the intent to benefit from a rise in prices.
- **Bullion** — Gold or silver in bulk rather than in value.
- **Buying Forward** — Buying commodities at a specified price for delivery at a future date.
- **Calendar Spread** — The simultaneous purchase and sale of contracts within the same market, but with different delivery or expiry dates.
- **Call Option** — It is the right to buy the underlying asset at a specified price on or before a particular day by paying a premium.
- **Cash Commodity** — The actual physical product on which a futures contract is based. This product can include agricultural commodities, financial instruments and the cash equivalents of index futures.
- **Cash/Spot Market** — The marketplace in which goods are bought and sold on cash basis. The buyer pays the agreed amount of cash to the seller and the seller delivers the goods to the new owner. The price of a commodity in the cash market is generally lesser than its price in the futures market due to absence of carrying, insurance and storage costs till a specified date in the future.
- **Cash Price** — The marketplace price for the immediate physical delivery of a commodity.
- **Cash Settlement** — A way of settling a futures contract which involves an exchange of cash value rather than a tangible product. Often applied to financial instruments such as a stock index and in case of commodities when delivery is not possible or the buyer is not interested in taking a delivery.
- **Circuit Breaker** — A regulatory tool designed to keep commodity market prices from spiraling out of control. Commodity exchanges have circuit filters in place wherein if the price of any commodity fluctuates either way beyond its set price limit, it will fall in the circuit breaker category and trading in that commodity will be halted for a certain period.
- **Circular Trading** — An illegal practice when a closely knit group of brokers and traders resort to buying and selling among themselves to push up the commodity futures price. Since there are no genuine intentions to trade, circular trading creates artificial volume.
- **Clearing Member** — A member of an exchange clearing-house responsible for the financial commitments of its customers, i.e. trading members. All trades of a non-clearing member must be registered and eventually settled through a clearing member.
- **Close Out Price** — This is the rate at which settlement of short delivery of commodities is completed.
- **Closing Price** — The price at the end of the day's trading on a commodity market.
- **Commission** — The fee charged by the broker or clearing firm for executing an order.
- **Commodity** — A physical substance, such as foodgrain and metals, which is interchangeable with other products of the same type.
- **Commodity Exchange** — A commodity exchange is an association, or a company or any other body organizing futures trading in commodities.
- **Commodity Spreads** — Commodity spreads measure the price difference between two different contracts, usually futures contracts.
- **Contango** — A scenario where the futures price of a commodity is higher than the expected spot price. It is opposite of backwardation.

- **Contract** — A legal agreement to buy or sell something according to the specifications set forth by the exchange between buyer and seller.
- **Contract Grades** — Qualities or class of a commodity which conform to the levels set forth within the body of the contract.
- **Contract Month** — The month in which contract expires or delivery is to be made in accordance with the terms of the futures contract. Also referred to as Delivery Month.
- **Contract Size** — The amount of the particular commodity specified within the contract.
- **Convenience Yield** — The premium obtained by holding an underlying physical asset rather than the contract or derivative product. It plays a crucial role in the explanation of the relationships between spot and futures prices in commodity markets.
- **Convergence** — The tendency for prices in spot markets to be similar to futures prices when the delivery dates of the contract approach.
- **Correction** — A temporary change in prices during a significant price trend.
- **Cost of Carry** — The costs (such as storage and insurance) associated with holding the physical commodity until the delivery date. For futures contracts that require physical delivery, the cost of maintaining, storage, delivery and transportation of the product is also included in the carrying costs. Usually, the difference between the cash price and futures price is called the cost of carry. Also known as carrying cost.
- **Counterparty** — A legal term for the other party in a financial transaction. For a buyer of the contract, the seller is the counterparty, and vice versa.
- **Cover** — An action to offset a short position within a portfolio which can be done by buying the particular asset on which an investor has taken short positions.
- **Crop Year** — A term for the time period between one harvest and the next in agricultural commodities.
- **Cross-hedging** — Hedging or reducing the price risk associated with commodity using a different but related futures contract. It is used when there is no futures contract for the same commodity and the prices of the commodity to be hedged are correlated with some other contract traded on the exchange (e.g., using soybean meal futures to hedge fish meal).
- **Curb Trading** — An illegal trading takes place outside the purview of exchanges and after official trading hours. Unofficial agreements of the previous day are converted into an official transaction by putting the trade price and quantity agreed by the seller and buyer officially into the NSE and BSE system.
- **Current Delivery Month** — The futures contract which matures and becomes deliverable during the present month, also called Spot Month.
- **Dabba Trading** — Dabba trading is an illegal, parallel market where commodities are traded without any rules and regulatory framework. The brokers and speculators illegally place bets on commodities without paying any fees and settle their transactions in cash outside the exchanges. Since transactions and client details are not reported, dabba trading is one of the major contributors to unaccounted illicit money in the Indian economy. Further, counterparty risk is also high in such transactions.
- **Daily Price Limit** — The maximum price movement allowed above or below the previous session's settlement price. The limits are imposed by the exchange to curb excess volatility.
- **Day Order** — An order to buy or sell by a trader which is valid only for the trading session in which it is placed and it expires at the end of that session.

- **Day Trader** — A trader who buys or sells a contract and offsets the position within the same trading session.
- **Day Trading** — Taking positions several times a day to capitalize on price movement within one trading day and by squaring off before the end of the current trading day.
- **Delivery** — The tender and receipt of the actual commodity or in the case of agricultural commodities, warehouse receipts covering such commodity, in settlement of a futures contract.
- **Delivery Price** — The price agreed upon and equal to the forward price at the time the contract is entered into.
- **Electronic Trading Facility** — A trading venue which operates solely via telecommunication, internet or electronics rather than floor trading.
- **Exchange** — The central marketplace which has been designated as the location on which contracts are traded.
- **Exchange Traded Option** — The option contracts bought and sold on organized exchanges. These options are standardized as to the amount and exercise price of the underlying asset, the nature of the underlying asset and the available expiry dates.
- **Forward Contract** — A forward contract or forward is a non-standardized agreement between two parties to buy or to sell an asset at a specified future time at a price agreed upon today.
- **Forward Price** — The forward price is the agreed upon price of a contract traded in the forward market.
- **Fundamental Analysis** — The study of the underlying supply and demand issues as they may relate to the futures price.
- **Futures** — A contractual agreement to buy or sell a fixed quantity of a particular commodity at a pre-determined price in the future. The primary difference between futures and forwards is that futures are traded on the exchange and are standardized contracts. Further, futures are different from options as options give the holder the right to buy or sell the underlying asset at expiry while the holder of a futures contract is obligated to fulfill the terms of his contract.
- **Futures Market** — A market platform where participants buy and sell commodity future contracts for a specified future date. The contracts traded on futures exchanges are always standardized.
- **Hedging** — A strategy used to limit or reduce the chances of a loss in the event of fluctuations in prices of commodities, currencies, or securities. It involves taking equal and opposite positions in futures markets so that losses arising from the spot markets can be set off from the gains of future markets.
- **High Frequency Trading** — It involves the use of powerful computers to transact large number of orders at very fast speeds. High-frequency trading strategies are characterized by a higher number of trades and a lower average gain per trade. Typically HFT traders quickly analyze market conditions in different markets before placing their orders.
- **Historical Volatility** — A statistical measure of the rate of price change of a futures contract over a specified period in the past.
- **Initial Margin** — The funds required within an account when a position is initiated.
- **ISIN** — The Commodity Identification Number by which each commodity along with its specific details is uniquely represented.
- **Leverage** — In finance, leverage (also known as gearing) involves buying assets by borrowing funds on the assumption that the income from the assets will be greater than the cost of borrowing. But leverage can magnify gains or losses on the investment and therefore not suitable for all investors. Leverage can be created through

futures, margin and other financial instruments. In the futures market, margin refers to the initial deposit of money required to enter into a futures contract. With a leverage ratio of 50, for instance, an investor with a margin deposit of \$1,000 can initiate a trading position of up to \$50,000. Leverage allows an investor to increase the potential large gains but also large losses on a position if the market moves in the wrong direction. In other words, leverage magnifies both gains and losses.

- **Liquid Market** — Any market where buying and selling can be easily conducted with minimal effect on the price or where large number of buyers and sellers are present offering and willing to buy the same commodity.
- **Locked Limit** — A market which has reached the maximum price movement allowed above or below the previous session's settlement price.
- **Long** — A term describing someone who holds or buys a contract with the intention of selling later at a profit.
- **Maintenance Margin** — It is the minimum price level to which an account with an open position can fall without being required to deposit additional funds. It is required in case the investor is using leverage or borrowed funds to buy or sell a commodity.
- **Margin** — The participants trading on the exchange (i.e., buyers and sellers) are required to maintain funds or other collateral with the exchange to ensure trust and credit worthiness of the players involved. The margin money fluctuates with the change in prices of the contracts on which they have taken positions. It is assumed that parties with low margin may not be able to fulfill their obligations arising from the contract. Hence, they are asked to increase their margin amount or debarred from trading till they do so.
- **Margin Call** — A request to bring account deposits up to initial margin levels, normally due to adverse price movements within positions which cause the account to drop below maintenance margin levels.
- **Market Depth** — It refers to a futures contract's ability to withstand the execution of large or small market orders without affecting the price.
- **Market Maker** — A market maker is a trader/company which ensures liquidity for other market participants by simultaneously quoting both bid and offer price for the same commodity throughout the trading session. In any financial market, there are several segments with limited number of potential buyers and sellers which makes such investment unattractive to investors. In such cases, market-makers provide liquidity to such investments by buying or selling the stock at a quoted price.
- **Market Order** — An order to buy or sell a contract at the best available price when the order enters the trading venue.
- **Mark-To-Market Margin** — It helps to determine the fair price or value of a security, portfolio, or account representing its current market value rather than its book value.
- **Minimum Tick** — The smallest possible price movement up or down for a contract.
- **Nearby Delivery Month** — The nearest month of maturity for a futures contract.
- **Non-deliverable Forward** — These contracts are used by international investors to bet on currencies in the overseas markets. These deals are off-balance sheet and are always settled in cash. There is no physical settlement of two currencies at maturity.
- **Offer Price** — The lowest price at which a dealer is willing to sell a commodity.
- **Open Interest** — The total number of outstanding contracts on a commodity exchange that are held by market participants at the end of the day. It is the total number of futures or option contracts that have not yet been exercised (squared off), expired, or fulfilled by delivery. Open interest is used to measure trends, reversals and the flow of money into the futures market. For each seller, there must be a buyer of that contract, thus a seller and a buyer combine to create only one contract.

- **Open Position** — A long or short trading position that is not yet closed.
- **Opening Price** — A price or price range which occurs at the beginning of the trading session.
- **Options** — A contract offering the buyer the right, but not the obligation, to buy or sell a security or financial asset at an agreed-upon price during a certain period of time or on a specific date.
- **Over-the-Counter Options** — These result from private negotiations financial institutions and corporate clients. The two parties, i.e., bank and a client, deal directly with each other and the terms of the option contracts are tailored by a financial institution to meet the specific needs of a corporate client.
- **Physical Market** — A commodity market where commodities are bought, sold and delivered at the end of the transaction. Also called cash market or spot market. It is the opposite of a futures market, where commodities may or may not be physically delivered at the expiry of the futures contract - the two parties might just square off and settle the gain or loss.
- **Position** — The amount of contracts held by a trader in the futures market.
- **Price Discovery** — It is a continuous process of arriving at a price at which a person buys and another sells a futures contract (commodity/asset) in a commodity exchange.
- **Put Option** — The right to sell the underlying asset at a specified price on or before a particular day.
- **Securities** — All kinds of tradable asset, financial instruments or electronic book entries, negotiable instruments or bearer certificates which entitle the holder to rights transferred by the issuer or an intermediary like shares, equity, currency, bonds, stocks and debentures.
- **Settlement Date** — The date on which a futures contract must be fully paid for and delivered.
- **Settlement Guarantee Fund (SGF)** — The SGF is primarily an investor protection tool. All recognized commodity and stock exchanges in India are supposed to maintain an SGF in order to guarantee performance of all contracts executed on the exchange platform. In case of default by any of the members, this fund is to be used for timely compensation pay-out to the victims. The SGF ensures the settlement with the victim is not held up on account of failure of trading members to meet their obligations; at the same time other stakeholders who have completed their part of the obligations are not affected. The SGF is mainly from the security deposit and contribution from the exchange members. This amount is held in the form of cash, fixed deposit receipts and bank guarantees.
- **Settlement Price** — In futures markets, this is the price that is set by the exchange at the end of each trading day and which is used by the clearing house to market open positions and assess margin calls.
- **Short Position** — When the price of a commodity or share is expected to fall, people sell it with the intention of buying it later at a cheaper price and making delivery. This strategy called the short position.
- **Short Selling** — A strategy in which a speculator sells a commodity that he does not own in order to profit from a falling market. In the spot market, one should own a commodity before selling it. But in the commodities futures market, a seller may sell a commodity that he does not own because of the belief that its price will fall. Then, at a later date, he may buy it for delivery purposes. Short selling is a risky technique.
- **Speculator** — A trader who takes long or short position in the market with the intention of making profits.
- **Spot Market** — A market in which commodities are bought and sold for cash and immediate delivery.
- **Spot Price** — The current price at which a particular security can be bought or sold.
- **Spread** — The difference between current bid and offer (ask) prices for a commodity.

- **Stop Loss Order** — A stop loss order is an order to sell a security which an investor holds when it touches a certain price. It gives the buyer protection against adverse price movements. Stop loss order is automatically triggered when prices reach the investor quoted level where he considers it better to sell the security rather than holding it.
- **Swaps** — A swap is an agreement between two parties to exchange cash (flows) on or before a specified future date based on the underlying value of commodity, currency, stock or other assets. Unlike futures, swaps are not exchange-traded instruments.
- **Systematic Risk** — The risk that is common to the entire market with wide ranging effects and cannot be eliminated with diversification.
- **Technical Analysis** — An approach adopted by investors in which future price forecasts are attempted based on analysis of patterns past price changes, rates of change, and changes in volume and open interest without regard for the fundamental factors.
- **Theory of Normal Backwardation** — It focuses on the balance between traders' positions and the risk management function of the derivative market.
- **Tick** — The minimum price change in a market.
- **Trader** — A firm or individual who trades for his own account is called a trader.
- **Unique Client Code** — This code is allotted to all members of exchange that will tell you about all details of clients.
- **Variable Price Limit** — A schedule for limit price as determined by the exchange which varies from the normal allowable price movement.
- **Visible Supply** — The available commercial stocks of a commodity.
- **Volatility** — Technically, it is an uncertain movement of a random variable (commodity price) over time.
- **Volume of Trade** — The number of contracts traded during a specified period of time.
- **Vyaj badla** — Vyaj badla is a two-way carry-forward transaction and financing mechanism in which the money is provided to carry forward deals. The second phase of the transaction is a sale transaction at the closing price plus badla or financing charge in the next settlement.
- **Warehouse Receipt** — It is a document which is provided against the delivery of goods in a warehouse. It specifies the grade and quantity of commodities. It is issued when delivery takes place on a commodity exchange.



USEFUL LINKS

Organization

Ace Derivatives and Commodity Exchange Limited
Austrian Futures and Option Exchange
Bullion Desk
Central Warehousing Corporation (CWC)
Chicago Board of Trade
Chicago Board Options Exchange
Chicago Mercantile Exchange
China Financial Futures Exchange
CME Group
Coffee Board of India
Commodity Futures Trading Commission (US)
Da Lian Commodity Exchange
Department of Agriculture & Cooperation
European Securities and Markets Authority
Forward Markets Commission
G20
International Organization of Securities Commissions
International Swaps and Derivatives Association
Kuala Lumpur Commodity Exchange
London Commodity Exchange
London Metal Exchange
Ministry of Consumer Affairs
Ministry of Finance
Minneapolis Grain Exchange
Multi Commodity Exchange of India Ltd.
National Commodity & Derivatives Exchange Ltd.
National Spot Exchange Limited
National Institute of Agricultural Marketing (NIAM)
National Multi Commodity Exchange of India Limited
New York Commodity Exchange
New York Mercantile Exchange
Price Dissemination Project
Reserve Bank of India
Securities and Exchange Board of India
The Agricultural Futures Exchange of Thailand
The Commodities and Futures Exchange
Tokyo Financial Exchange
Tokyo Grain Exchange
Universal Commodity Exchange Limited
Warehousing Development and Regulatory Authority
World Gold Council
Zhengzhou Commodity Exchange

Website

www.aceindia.com
www.wbag.at
www.thebulliondesk.com
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www.gold.org
www.english.czce.com.cn

Skyrocketing food prices in 2007 and 2008 sparked riots in more than 40 countries and provoked a heated debate in academic and policy circles regarding the role of commodity futures markets in aggravating food price rise. In India, too, the government banned futures trading in several agricultural commodities in 2008 to control food inflation.

The Guide explains the rapidly changing and complex world of commodity futures markets with special emphasis on the Indian markets. It connects the dots, showing how the futures markets operate in India and globally. The Guide aims to enhance the layman's understanding of the intricacies of commodity futures markets in a historical and theoretical context.

The Guide provides concrete examples to show how the Indian commodity futures markets are manipulated by a few big players who enrich themselves at the cost of farmers and small traders. It reveals how systemic corruption and frauds take place frequently in the Indian markets due to inherent weakness of the institutions responsible for making and enforcing regulations. In gripping detail, it describes some of the recent scandals that have shaken the public's trust and confidence in commodity markets.

With chapters spotlighting how specific frauds were perpetuated in the Indian and global markets, the Guide provides well-documented evidence of how the commodity futures markets are moving away from their avowed objectives of price discovery and price risk management in an efficient and orderly manner. It offers specific policy recommendations to improve the regulation and supervision of commodity futures markets.

Written from a public interest perspective, the Guide attempts to engage citizens, farmers, parliamentarians, market practitioners, policymakers, academicians and journalists with an interest in the area of commodity derivatives markets in general and Indian markets in particular.

“One major obstacle to governments being held accountable for acting on financial speculation on food markets is that this area largely escapes democratic scrutiny, due to its technical nature, its specific jargon, and the fact that most experts are linked to the financial services industry. *A Beginner's Guide to Indian Commodity Futures Markets* aims to correct this: I welcome its publication as a tool to encourage this much-needed public debate.”

– **Olivier De Schutter, Former UN Special Rapporteur on the Right to Food (2008-2014)**

“The Guide provides useful insights into the workings of commodity futures markets. In easily understandable language, it seeks to educate the people on how to steer clear of this dangerous financial bobby trap. It shall be of interest to anyone interested in commodity derivatives trading which has become a virtual casino.”

– **Kamal Nayan Kabra, Chairman of the Forward Markets Review Committee (1993-94)**

