Report of the Committee to suggest steps for fulfilling the objectives of Price-discovery and Risk Management of Commodity Derivatives Market

DEPARTMENT OF ECONOMIC AFFAIRS
MINISTRY OF FINANCE
GOVERNMENT OF INDIA
NEW DELHI

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COMMITTEE TO SUGGEST STEPS FOR FULFILLING THE OBJECTIVES OF PRICE DISCOVERY AND RISK MANAGEMENT OF COMMODITY DERIVATIVES MARKET

April 28, 2014
New Delhi

To,

Finance Secretary
Government of India
New Delhi-110001

Dear Sir,

The members of the 'Committee for suggesting steps for fulfilling the objectives of price-discovery and risk management of Commodity Derivatives Market' have pleasure in submitting herewith our Report.

D.S. Kolamkar
Chairman

Susan Thomas
Member

C.K.G. Nair
Member

M.S. Sahoo
Member

Usha Suresh
Member-Secretary

Contents

Glossary

APMC	Agriculture Produce Marketing Committee
CFTC	Commodity Futures Trading Commission
CWC	Central Warehousing Corporation
DCA	Department of Consumer Affairs
DEA	Department of Economic Affairs
ECA	Essential Commodities Act, 1955
FCRA	Forward Contracts (Regulation) Act, 1952
FEMA	Foreign Exchange Management Act, 1999
FII	Foreign Institutional Investors
FMC	Forward Markets Commission
ICSI	Institute of Company Secretaries of India
IGIDR	Indira Gandhi Institute of Development Research
IS	Information Share
MCX	Multi Commodity Exchange of India
MoF	Ministry of Finance
NCDEX	National Commodity and Derivatives Exchange
NMCE	National Multi Commodity Exchange
NTSD	Non-transferable Specific Delivery Contract
RMG	Risk Management Group of FMC
SEBI	Securities and Exchange Board of India
WDRA	Warehousing Development and Regulatory Authority

Acknowledgement

It has been over a decade since the commodity futures market was liberalized in 2003. After the subject of commodity derivatives market and the Forward Markets Commission were transferred to the Ministry of Finance in September, 2013, this Committee was set up to examine whether the commodity futures markets has been able to perform its role after a decade of liberalization. There is a vast literature on price-discovery and hedging efficiency in commodity derivatives markets in India and abroad covering different commodities and different time periods.

This Committee has surveyed the literature already available on the subject, carried out quantitative analysis covering maximum period for which data is available in electronic form to see whether the commodity futures market has fulfilled the objectives of price discovery and hedging, and, also held consultations with stakeholders to have a user's perspective. The Committee has observed that, after legal restrictions have been removed, the commodity futures market has made rapid strides in terms of trading volumes, robustness of clearing and settlement, the bouquets of products available for trading and the governance of exchanges. The Committee has recommended further steps mainly to facilitate frictionless arbitrage between spot and futures market which is the key to fulfilling the objectives of price discovery and hedging and greater hedger participation in the market.

I wish to express my special thanks to Secretary, Dr. Arvind Mayaram and Addl. Secretary, Dr. K. P. Krishnan for reposing confidence in me and other members of the Committee for making an objective review of the commodity derivatives market after the subject was transferred to the Finance Ministry after over a decade of liberalization of the market. Each one of the Committee members had distinct expertise and exposure which made the deliberations in the meetings and interaction with stakeholders an enriching experience. I would like to thank all the members of the Committee, especially Prof Susan Thomas and her team of researchers, Mr. Sargam Jain and Ms.Nidhi Agarwal who have diligently processed the vast data and analyzed the results which have formed the basis of the recommendations of the Committee. I would also like to put on record my deep appreciation of the work done by Ms. Usha Suresh and her colleague, Ms. Ritika Narula, from the FMC. Without their diligent assistance and support in obtaining the data from the exchanges, coordinated various meetings and interactions, and provided secretarial support, this committee would not have been able to put out their report as quickly as it did. I also wish to thank the officials from the exchanges and the stakeholders who gave us valuable inputs into the functioning of the markets and the constraints faced by them. Finally, I would like to acknowledge the help received from Ms. Shweta and Mr.Shobeendra Akkayi, officers working in the Ministry of Finance, in organizing the available literature.

D. S. Kolamkar

28th April, 2014

Chapter 1

Introduction

1.1 The Committee

The *Committee to suggest steps to fulfill the objectives of price discovery and risk management in commodity futures markets* was set up on 26th December 2013. Shri D.S. Kolamkar, (Senior Economic Adviser, Ministry of Finance) was appointed as the chairperson of the committee, with Dr.C.K.G. Nair (Adviser, Ministry of Finance), Shri M. S. Sahoo, (Secretary, ICSI) and Dr. Susan Thomas (Faculty, IGIDR, Bombay) as members. Ms. Usha Suresh (Economic Adviser, FMC) was appointed as Member Secretary.

1.2 Scope of study

The Committee was asked to examine whether, after over a decade of liberalization of legal/regulatory framework and reforms in exchange architecture, the commodity futures market has fulfilled the basic objectives of price-discovery and price-risk management, and if not, the constraints which impede the futures market from achieving these objectives. The Committee was mandated to suggest ways to remove the constraints. A copy of the Office Memorandum dated December, 26, 2013 constituting the Committee and containing its Terms of Reference is included here as Annexure.

1.3 Methodology

The Committee held six meetings, including interaction with various stake-holders. These included market participants, the Chairman and Members of the Forward Markets Commission (FMC), Chairman, Warehousing Development and Regulatory Authority (WDRA), and Managing Director, Central Warehousing Corporation.

In order to understand the performance of commodity futures markets in price discovery and risk management, the Committee used a two fold approach:

(1) discussions with the stakeholders, and (2) extensive analysis of the existing research literature and a quantitative analysis on a sample of commodities.

For the quantitative analysis, the Committee selected a sample of eight commodities which were considered strategically important for the economy, with six agricultural commodities and two non-agricultural commodities. These are: Soya Oil, Pepper, Rubber, Castorseed, Wheat, Sugar, Gold and Crude Oil.

Among the agricultural commodities, sugar and wheat are commodities for which the Government of India sets a Minimum Support Price (MSP) each year.[1]

Two other commodities (castorseed and soya oil) are part of the oils and oilseeds category, which are covered under the Essential Commodities Act, 1955, along with wheat and sugar. Each of these will potentially place constraints on market participants in their transactions on the spot commodity. The two non-agricultural commodities are crude oil and gold, where there are large global markets.

The data for the analysis included daily information on prices, traded volumes, open interest and patterns in participation. This was obtained from three commodity exchanges: MCX, NCDEX and NMCE. The analysis was done for the full period that the markets have been operational - from 2003 to the present. The detailed analysis is available as a working paper at the Finance Research Group, IGIDR (Aggarwal *et al.,* 2014).

Out of both the meetings and the analysis, the Committee drew a set of inferences about what could be the key impediments to an efficiently functioning commodity futures markets. From these, the Committee suggests policy directions that could address these impediments.

The report is structured as follows: Chapter 2 starts with a brief background of the reforms in the commodity derivatives markets beginning 2003. Questions about the effectiveness of the commodity derivatives after the reforms are in Chapter 3, followed by an analysis to answer these in Chapter 4. Chapter 5 presents the committee's recommendations for next steps in the development of India's commodity derivatives markets.

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[1]In the case of sugar, the Central Government sets "Fair and Remunerative Price" and the State Governments set "State Advised Prices". Being higher of the two, the latter become effective prices at which the sugar mills in respective states have to procure sugarcane.

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Chapter 2

Background

After many decades of restrictive policies, India started moving towards having commodity futures trading in the late 1990s. Many developments have taken place in this regard, starting from legislative changes to infrastructure development in the markets trading the commodity derivatives.

2.1 Legislative changes

The legal framework for commodity derivatives markets were set in place with the Forward Contracts (Regulation) Act 1952 (FCRA) under which the commodity futures markets function even today. The Forward Markets Commission (FMC) was established in 1953 under the FCRA with responsibility to exercise oversight over the commodity futures market as the regulator of these markets.

In 2003, the Government removed prohibitions on both futures trading as well as Non-transferable Specific Delivery (NTSD) contracts in all commodities. Option trading in all commodities remains explicitly prohibited under section 19 of the FCRA. However, forward trading in commodities can be permitted or prohibited by notifying the commodities under section 15 or 17 as the case maybe , without any amendment to the FCRA. The Government issued notifications, one of which was to rescind the notifications issued for as many as 100 commodities. Other notifications were issued under section 15 to permit futures trading through recognized associations in which futures trading was to be permitted.

There also continued to be interventions in the continuity of commodities futures trading. *Table 2.1* lists the commodities where trading in futures contracts were suspended between 2003 and 2014

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Table 2.1 Suspensions in commodity futures trading after 2003

Commodity	Trading suspended on	Suspension revoked
Tur, Urad	23rd Jan 2007	Suspension continues (86 months)
Rice	27th Feb 2007	Suspension continues (85 months)
Wheat	27th Feb 2007	14th May, 2009 (27 months)
Chana, Soya oil, Rubber, Potato	7th May 2008	30th Nov, 2008 (6 months)
Sugar	26th May 2009	30th Sep, 2010 (16 months)
Guar seed and Guar gum	27th Mar 2012	10th May, 2013 (14 months)

2.2 Market reforms

Once the legal framework was in place, the Government also undertook reforms in the structure of the markets, and the governance at the exchanges. The exchanges that were in place before the reforms process were not-for-profit, mutualised associations or companies. Trading members had both ownership as well as trading rights. The management was also in the hands of the members. While pay-in and pay-out was routed through exchanges, they did not act as the counterparty to each contract.

The reforms brought in a new class of modern exchanges. These were all set up by for-profit companies that complied with the separation of ownership, management and trading rights. With these professionally managed exchanges, also came a slew of changes to the trading, clearing and settlement practices in the markets as follows:

Trading: Prior to the reforms, exchanges were focused on a single contract trading a specific grade of the commodity. Trading was highly localised, catering to interests in a specific geographical region. Trading took place using the open-outcry method, which could not easily cater to the trading needs of players located at distant places. Price transparency was low, being restricted to the exchange where the trading took place.

The exchanges that were licensed after 2003 had to provide trading using electronic platforms that have an all-India network. This enabled the pooling of demand and supply of order-flow much wider than the local region. Prices were disseminated nationally as well.

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Clearing and risk management: Since the newer exchanges permitted anonymous trading on a central national platform, they also adopted the risk management practices such as having a central clearing corporation with trade settlement guarantee. With electronic trading and clearing, the exchanges are able to monitor and manage risk to the market using the system of initial margins and mark-to-market margins. This led to a considerable reduction of market closures due to counterparty defaults in the market.

Settlement processes: Except where delivery infrastructure is under-developed, commodity futures in India are generally permitted as physically settled contracts, with commodity warehouses playing a critical role in the settlement process.

After these reforms, the trading volume across the national exchanges has increased from Rs.1,294 billion in 2003 (USD 29 billion) to Rs.181 trillion in 2013 (USD 3.33 trillion), as can be seen in *Table 2.2*. Prices that are produced on commodity futures exchanges have begun to be used by spot market participants in many situations.

Table 2.2 Total Traded Volumes (USD billion)

Market	2003	2008	2013
Commodity derivatives	29	1019	3330
of which			
Agriculture	28 (96%)	244 (24%)	400 (12%)
Non-agriculture	1 (4%)	775 (76%)	2930 (88%)
Equity derivatives	92	3281	5793
Equity spot	128	890	498

Source: FMC; and *Indian Securities Markets Review, 2002-2003 and Fact Book, 2013, NSE.*

Chapter 3

Questions

While turnover on commodity futures trading has grown a great deal, this does not, in itself, ensure that the commodity futures markets are adequately performing their economic functions.

At this juncture, it is important to go back to the foundations, to revisit the economic purpose of commodity futures:

1. To what extent are commodity futures markets in India delivering on the economic objectives of price discovery and hedging?
2. If there are shortcomings, how can they be addressed?

Chapter 4

Evidence

4.1 The role of commodity futures markets in price discovery

The role of commodity futures markets in price discovery consists of anticipating the future spot price, which shapes resource allocation. In agriculture, the two most important decisions are the sowing decision and the storage decision.

Generally for a kharif crop, a producer makes a decision about sowing x or y in June. His decision is shaped by the price of the futures for October expiration, which is visible in June. The futures price supports calculations about profitability, and helps the producer decide what to sow.

In this role, the price produced by commodity futures exchanges is a public good: the producer can look up the price in a newspaper or on a website. FMC has installed a large number of price ticker boards in a large number of APMC mandies. The prices are also telecast/broadcast on many TV/radio channels. The producer does not need to directly participate in commodity futures trading in order to benefit from the price discovery that takes place on the exchange. There can be an entirely distinct business of information-based traders and arbitrageurs, who forecast the spot price in October and trade in the June futures contracts, and thus make the futures price.

In the storage decision, the allocative decision is which, x or y commodity should be stored. In October, at harvest time, when this decision is being made, the futures market can support the decision making by reporting the March expiration prices of x and y. Observation of the March price would help calculate whether it is more profitable to store *x* versus *y*. The arbitrageurs, who make the storage decision, perform the economic function of holding goods across time.

When futures markets work well, they anticipate future prices efficiently. Through this, they shape the two key allocative decisions, of allocating farm land and allocating storage.

4.1.1 Methodology for measurement

The question of price discovery pertains to the response of prices to the arrival of news and information. If there are multiple markets for the price of a certain commodity, price discovery answers which is the market whose price responds faster than prices in other markets to the arrival of news about the commodity. Between markets with leverage (such as the futures markets) and markets without leverage (such as the spot market), it is assumed that the prices in the former respond to information before prices in the latter. This is because traders require lower amounts of capital to trade in futures than in the spot. However, this has not always been observed to be true in practice, not just in India but all over the world.

The evidence in the literature on the performance of the post-reform Indian commodity derivatives exchanges is relatively sparse. Most of these focus on the linkage between the futures prices and prices from the underlying spot market. There are two sets of results that emerge from these studies based on the period of data used. Research that focus on the early period of these exchanges find that the linkage between the futures and spot prices is weak, while those that focus on the later period of these exchanges find that the futures lead spot prices (Kumar, 2007;Easwaran and Ramasundaram, 2008; Elumalai et *al.,* 2009; Jabir and Gupta, 2011; Inoue and Hamori, 2012).

However, this literature has several limitations. Most papers focus on the period immediately after the reforms, i.e., before the markets are well established and the changes in the reforms are assimilated by participants. Secondly, several studies focus on one or a few commodities rather than a basket of commodities representative of the overall market. Finally, most of the analysis only focus on the relationship between the futures and spot prices. Few address the question of the use of these markets for managing the risk of the user to the underlying commodity volatility.

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In new work done on behalf of the committee, Aggarwal et *al.* (2014) address these issues. The analysis is done on the full period during which the new exchanges were operational, and spans both agricultural and non-agricultural commodities. They measure the quality of price discovery by the futures markets using a measure called the *Information Share* (Hasbrouck, 1995)

This measure captures the relationship between futures and spot prices as the fraction of news and information that arrives about the commodity is first discovered in the futures market. The measure takes a value between 0 and 1, in such a way that the sum of the information share of the futures and the spot price equals 1. When there is no information discovered in the futures price, the information share of the futures market is 0. This implies that the information share of the spot market will be 1. Typically, we consider that a given market dominates price discovery if the value of the information share of that market's price is higher than 0.5.

4.1.2 Results

The detailed analysis is presented in Aggarwal et *al.* (2014). The main finding is that the information share of the futures markets for all the commodities are higher than 0.5. This implies that, when information about the commodity arrives, the futures prices dominate the spot prices in reflecting that information, whether they are agricultural or non-agricultural commodities.

Table 4.1 reproduces the values of the information share from the paper. The first column of data in the Table is the information share values calculated for the full period. Crude oil futures has the highest value, with 94% of the information share. The lowest is pepper with 50 % of the information share - here, the futures and the spot market have an equal share of the information arrival about the commodity.

Table 4.1 Information share of the futures(%)

	Period I	Period II
Castorseed	0.66	0.65
Pepper	0.50	0.52
Rubber	0.66	0.64
Soya Oil	0.65	0.58
Sugar	0.56	0.35
Wheat	0.88	0.86
Crude Oil	0.94	0.95
Gold	0.56	0.74

Period 1-Information share for the full period(2003-2013)

Period II- Average of multiple (2003-2013) two-year periods

These values depict the average behaviour of the relationship between the futures and the spot prices. However, we know that there are several instances during this period where the futures markets were suspended from trading (except crude oil and gold). During these periods, the spot prices would have been the sole markets for discovering prices. The paper captures the dynamic nature of the relationship between futures and spot prices by calculating the information share measure for two-year periods at a time, rolling forward by a month. This shows what the information share for a given commodity would be for (say) at the start of the trading period in 2003-2005 compared to the information share during the last two years in 2011-2013.

The average value of the information share in these 2-year windows are presented as the last column of *Table 4.1*. Over these shorter-term horizons also, on average, the futures markets dominate price discovery with a higher information share than the spot prices. Only in the case of sugar does the average value of the information share drop to 0.35. For sugar, the information share of the futures prices dropped significantly after the 2-year ban on the futures in 2009, and has remained below 0.5 since then.

This evidence suggests that news and information gets captured first by the futures markets in India whereafter this information transmits to the spot market prices after, i.e., the futures price leads spot price in most cases.

4.2 The role of commodity futures markets in hedging

The role of commodity futures in hedging consists of providing a financial payoff that maximally offsets fluctuations of the spot market.

One manifestly apparent application is the risk management of a producer, who may choose to sell October futures when sowing in June. Also, if a producer is not hedged, this increases credit risk in the eyes of a lender, and the lender may choose to reduce risk by taking positions on the futures market.

Once the foundations are laid, more complex applications can emerge, as long as the foundations of financial law and regulation are sound. Agricultural loans can bundle hedging with futures contracts. Governments can use commodity futures when socialising risk management is thought desirable; this is generally cheaper and less market-distorting when compared with the traditional technology of socialised risk management of holding buffer stocks at high economic cost.

4.2.1 Methodology for measurement

Hedging effectiveness measures how much the volatility of the commodity reduces when it is held simultaneously with a futures contract. Like the information share, hedging effectiveness also takes a value between 0 and 1. It is 0 when there is no hedging benefit at all, and 1 when the futures is a perfect hedge - there is 100% risk reduction.

For example, a farmer who has sown wheat faces the risk that the wheat price will be lower when he is ready to sell it in the market. He can reduce this risk by selling a futures contract. If the grade of wheat to be delivered for the futures contract is the same wheat that the farmer has sown, then at harvest time, he can deliver the wheat against the futures contract. Since the price that he will receive for the wheat is the original price at which he sold the futures contract, the farmer faces zero risk of wheat prices between sowing and sale in the market. In this case, the hedging effectiveness takes the value 1 because the variance of the hedged portfolio - wheat and futures contract - is zero.

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Hedging effectiveness is closely related to the *basis risk* of the futures contract. The basis is calculated as the difference between the futures price and its spot price and should be close to zero, as the contract nears expiry, if the futures and spot price track each other. Basis risk is calculated as the variance of the basis. When the basis risk is small, the futures contract can be used to hedge the spot price volatility.

4.2.2 Results

The detailed results for hedging effectiveness are presented in Aggarwal et *al.*(2014). The main finding is that the hedging effectiveness is low for all the eight commodities studied. These results are presented in *Table 4.2*. The reduction in variance that is obtained from holding the futures is low on an average across the different commodities. It is highest in rubber futures contracts, where the price risk can be reduced by 61%. The second highest is soya oil, where the price risk can be reduced by more than half, at 53%. Variance reduction is least for crude oil and sugar, where the reduction is only 2 and 8 percent of the commodity risk.

Table 4.2 Hedging effectiveness of the commodity futures

	Hedging effectiveness	Correlation between Futures and Spot
Castorseed	0.34	0.52
Pepper	0.27	0.32
Rubber	0.61	0.69
Soya oil	0.53	0.58
Sugar	0.08	0.18
Wheat	0.11	0.25
Crude Oil	0.02	0.15
Gold	0.16	0.39

The results for basis risk, drawn from Aggarwal et *al.* (2014), suggest that basis risk has been high for most of the eight commodities. This can be seen in *Table 4.3*, which presents the volatility of spot prices and the basis risk of the futures for these commodities. We find that the basis risk is lower than the price volatility only for castorseed, rubber and soya oil. Rubber and soya oil are also the commodities where there is a reduction in the variance by using futures contracts (as seen in Table 4.2).

Table 4.3 Basis risk of the futures (daily, in %)

	Spot price risk	Basis risk
Castorseed	1.36	1.32
Pepper	1.04	1.46
Rubber	1.68	1.62
Soya oil	0.88	0.76
Sugar	0.71	1.12
Wheat	0.87	1.22
Crude Oil	2.12	2.59
Gold	1.00	1.11

4.3 Implications of this evidence

The above evidence suggests that the futures market is faring relatively well on price discovery and relatively poorly on hedging effectiveness. Hence, the focus of policy makers should be on improving hedging effectiveness, i.e. reducing basis risk.

The key element of the marketplace which reduces basis risk is arbitrage. A vibrant ecosystem with a large number of sophisticated arbitrageurs will give reduced basis risk. The work of arbitrageurs is, however, impeded by the transactions costs that they face. When the ecosystem supports frictionless trading, the arbitrage will take place seamlessly and deliver the highest possible hedging effectiveness. This takes us to the following issues, several of which were raised in discussions with market participants as well:

Participants: The largest possible range of market participants should be present in the market. With a greater number of eyeballs, arbitrage opportunities will be detected and removed. With a larger number of participants, the required rate of return that is implicit in the futures price will be lower. It was suggested during discussion with the stakeholders that both push and pull factors reduce the participation of potential Indian corporate hedgers in Indian futures market. While regulatory margins push them away

from Indian commodity exchanges, the extremely easy compliance requirement prescribed by RBI helps them to hedge on foreign commodity exchanges and in OTC markets.

Contract design: The best arbitrage is obtained with a relatively narrowly defined commodity in terms of grade and location. There is an inevitable tension here: A tightly defined grade and location results in efficient pricing and high hedging effectiveness, but is a useful contract for only a subset of the market. The solution lies in two parts: (a) Having multiple contracts, and (b) Establishing cash-settled futures trading on indexes constructed out of multiple contracts. As an example, there might be five different wheat contracts (with variation by grade and location), each of which has efficient pricing, and then futures trading on a wheat index that is constructed out of the five underlyings.

Commodity index trading will only be possible once the FCRA is amended. Hence, this second stage lies somewhat in the future. However, the first stage - that of establishing multiple contracts - can take place today. However, hedging effectiveness may be assessed while allowing multiplicity of contracts in the same commodity. Index trading, as and when permitted would also help producers to hedge weather/climate risk.

Frictions of trading on the commodity futures market: Arbitrageurs suffer from numerous frictions. Reducing all these frictions will reduce the costs faced by arbitrageurs and thereby foster greater pricing efficiency and hedging effectiveness. Capital costs include the one-time cost of setting up the business, fees, taxes and margin requirements. Margins have to be paid upfront by the arbitrageur and maintained during the life of the position. These impose significant capital and liquidity requirements on the arbitrageur while the arbitrage is on. Given the size and the type of participants that are permitted to trade on these markets, the access to capital in these markets tend to be at a high cost. Commodity derivatives markets also suffer from high unpredictability of these liquidity requirements. In addition to the price volatility based margins, there are regulatory margins which may be charged either on sellers or buyers of futures.

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(shorts or longs). The aggregate value of the margins not only change from time to time, but may differ between shorts and longs . The high costs of capital and the high unpredictability of margin requirement drive up the cost of doing arbitrage.

Arbitrageurs pay impact cost, which is the transaction cost in the market, which are driven by the liquidity of the market. The more illiquid the markets, the higher these transactions costs, which in turn lead to higher cost of doing arbitrage. A program of market development, including allowing of algorithmic trading, albeit with necessary safeguards, will give reduced impact cost[2] and thus improved arbitrage. The FMC would need to acquire capacity to evaluate innovations proposed by the exchanges.

Inventory holding in cash-and-carry arbitrage: Cash and carry arbitrage in-volves buying goods on the spot market today and simultaneously selling them on a futures market. This requires legal certainty that holding inventory is not considered hoarding and violative of some laws when offsetting (sales) position is held in futures market.[3]

In addition, this requires a sophisticated warehousing industry and assaying facilities which will store goods, preserve and protect them, and reliably yield deliveries at a future date without any issue of ownership, quality and quantity.

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[2]As an example, Aggarwal and Thomas (2014) find that greater algorithmic trading gave reduced impact cost on the Indian equity market.

[3] The two Acts that influence the ability of market participants to hold inventory are the ECA, 1955, and the Prevention of Black-marketing and Maintenance of supplies of Essential Commodities Act, 1980 (ECA-PBM, 1980).

After 2003, the Central Government has issued orders under the ECA, 1955, to retain control on the ability of traders to freely manage inventory of pulses, edible oils and oilseeds, rice, paddy and sugar. The ECA, 1955, contains provisions for the regulation and control of production, distribution and pricing of commodities which are declared as essential. The enforcement of these provisions lies with state governments and Union Territory administrations. The list of commodities are reviewed at some frequency.

For example, the Government issued orders on 15th Feb 2002 and 16th June 2003 allowing dealers to freely trade and store specified foodstuff. However, they retained these provisions in the ECA, relating to wheat and pulses, through the Removal of (Licensing Requirement, Stock Limits and Movement Restriction on specified foodstuff's), Amendment Order 2006, which was notified on 29th Aug, 2006. Similarly, the freedom to trade edible oils and oilseeds, rice, paddy and sugar, have been curtailed by the retention of the provisions in the Central Order, 2002, which are valid till 30th October 2011. Wheat was removed from this list on 1st April, 2009. Wheat is the only commodity which has been de-controlled since 2009.

State Governments control the ability of traders to store commodities under the ECA- PBM (1980), which gives them the power to detain persons “whose activities are found to be prejudicial to the maintenance of supplies of commodities essential to the community”. The existence of such discretionary powers increase the risks to arbitrage activity, which in turn increases the basis risk and reduces the hedging effectiveness of commodities futures.

Towards this, FMC and DEA need to collaborate with WDRA and Department of Food on a program of building a sophisticated warehousing sector.

Modern methods of arbitrage: There are many complex aspects to effectiveness in arbitrage. This requires capable firms, armed with long-term capital and organisational capability, including access to sources of price-sensitive information/data/analysis who will invest in trading in both futures and spot markets whenever opportunities arise.

Building up of organisational capability: Arbitrage must just not be a hobby of a few individuals on the market. It must be of the professionals of large and capable firms who have departments and large-scale capital working on arbitrage. This requires sustained investments by financial firms through which process manuals, IT systems and human capital is built up in arbitrage departments. In order to justify these investments, the Indian State must reduce regulatory and legal risk. Knee-jerk reaction of suspending trading by attributing inflation to speculation in futures market, similar sudden issuance of regulations or enforcement strategies generate mistrust in the eyes of financial firms who then hold back on investing in organisational capability.

The role of FMC: FMC must focus on market failures - market abuse, consumer protection and micro-prudential regulation. It must ensure that critical financial infrastructure is run by professional teams of staff that are deemed fit and proper. Apart from this, it must leave business decisions that are best made by exchanges and financial firms to these agencies.

Building up of regulatory capacity: In order for the FMC to play the quasi legislative, executive and quasi judicial roles expected in the IFC, the regulatory capacity at the FMC need to be strengthened. The institution has to be transformed to be able to supervise and monitor both the financial market participants, the institutions linking to the underlying markets as well as supervising and monitoring the financial market institutions. This requires a significant build up of human capital and systems capabilities in these areas alongwith its statutory empowerment.

Chapter 5

Recommendations

Drawing on the analysis in the preceding chapters, the Committee recommends:

1. Transactions costs on the futures market are an impediment to arbitrage. FMC should pursue a program of market development, including promoting a diverse array of firms as members in order to improve market liquidity.
2. One way to reduce the cost of capital for the commodities trader is, to make banks and other financial institutions an integral part of trading in commodity derivatives. A number of policies and regulatory restrictions restrict banks and other financial institutions from participating in futures markets. Restrictions on banks under the Banking Regulation Act and other RBI regulated entities need to be removed so as to deepen and widen the participation in these markets.
3. Foreign financial firms (both intermediaries and end-users) should be permitted to participate in commodity futures trading. The existing system of limits on open interest and risk management provides adequate safeguards against the risk of allowing foreign participation in Indian markets.
4. High warehousing and assaying cost adds to the transaction cost of hedgers. While use of scientific storage and grading etc. should be encouraged, one way to do so is to provide these services at low price.
5. Modernisation and professionalisation of warehousing is a critical policy priority that will reduce the frictions faced in arbitrage. The Ministry of Finance should engage with the WDRA and the Department of Food to pursue a work program to assist the emergence of high quality warehouses, negotiability of warehouse receipts, and spot market trading in warehouse receipts. A robust and liquid market in warehouse receipts would facilitate and encourage credit market

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participation in commodities derivatives in the form of loans against warehouse receipts.

6. Government should exempt arbitrageurs from the restrictions on holding inventory under the ECA, 1955.
7. In order to assist the development of organisational capability of firms operating in the commodity futures ecosystem, the government should stop the suspension of trading in an abrupt and unreasoned manner.
8. FMC should voluntarily adopt the regulatory governance of the draft *Indian Financial Code,* so as to reduce legal and regulatory risk in the eyes of financial firms, and thus assist the development of organisational capability in financial firms.
9. FMC should focus on addressing market failures through the objectives of consumer protection, micro-prudential regulation and enforcing against market abuse. It should ensure that the owners and managers of exchanges have incentives that are aligned tightly with these objectives, and set up regular monitoring and reporting systems to ensure these. Apart from these functions, it should gradually step away from micro-managing contract design and market design. A review of contract designs should be undertaken periodically to ensure that these reflect the spot market realities and provide effective hedging opportunities to its participants.
10. FMC should establish an annual process of computing measures of futures market liquidity, price discovery and hedging effectiveness. This report should be released into the public domain and its implications discussed at the meeting of the FMC .
11. FMC and exchanges should undertake a work program, with data producers, to improve the precision of polled price series (a narrower set of grades and locations), a larger number of time-series captured, and improvements in the veracity of the polled rates.
12. FMC should create an explicit plan on how to develop organisational capacity to execute on the above goals over the coming two years. The Government should provide it adequate freedom to manage its human resources.

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13. Exchanges should explore new ideas in contract design, to more tightly define the product with a narrower set of grades and locations, so as to reduce the frictions of arbitrage and thereby improve hedging effectiveness wherever the movement of prices of the commodities across grades and locations are not aligned.

14. Exchanges should explore the idea of extending trading hours that overlap with Asian and Australian markets to improve their international competitiveness. Currently, trading hours in India overlap with the European markets, but has little or no overlap with Australia and Asia, which is a large trading base that has been hitherto untapped.

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Annexure

F.N0.24/12/2013-CD
Ministry of Finance
Deptt. of Economic Affairs
Capital Market Division
(Commodity Derivatives Section)
Room No. 49-A, North Block,
New Delhi
December 26, 2013

OFFICE MEMORANDUM

Subject: Constitution of a Committee to suggest steps for fulfilling the objectives of price discovery and risk management of Commodity Derivatives Markets

It has been decided, with the approval of the Competent Authority, to constitute a Committee to examine whether the objectives of price discovery and risk management which motivated the original decision to liberalise the commodity futures market has been achieved. The composition of the Committee is as under:

S.N.	Name	Designation
1.	Dr. D.S. Kolamkar Senior Economic Advisor, D/o Economic Affairs, Ministry of Finance.	Chairman
2.	Shri M.S. Sahoo Secretary, Institute of Company Secretaries of India (ICSI)	Member
3.	Dr. C.K.G Nair, Adviser (C&CM), D/o Economic Affairs, Ministry of Finance.	Member
4.	Dr. Susan Thomas, Professor, Indira Gandhi Institute of Development Research (IGIDR), Mumbai	Member
5.	Mrs. Usha Suresh, Economic Adviser, Forward Markets Commission (FMC), Mumbai	Member Secretary

2. The Terms of Reference of the Committee are as under:

i. To examine whether commodity futures market in India has achieved its objectives of price discovery and risk management?

ii. To examine constraints, if any, faced by the futures markets in India which impair its efficiency in effectively performing the functions of price discovery and risk management; and

iii. To suggest ways to remove the same.

3. The Committee will focus mainly on operational matters and will give a practical, actionable Report within two months.

4. The Committee shall be serviced by the Forward Markets Commission.

(K.N. Mishra)
Under Secretary to the
Government of India Tel.:2309
5070/2681