1.1 Introduction

The financial markets today are not just restricted to instruments like bonds, foreign exchange, real estate, commodities, but have various other asset classes and financial instruments in their bouquet. The market is characterized by innovation in the existing product ranges to match the need of the various market participants and also track the volatility in the performance of existing financial products. Such environment has supported the emergence of derivative products in that market. The concept of derivatives may be ages old but they are modified and coupled with new strategies at a growing pace to match the growing risk in today's market. This has added to the complexity of the instrument. This chapter is an introduction to the concept of derivatives with special emphasis on commodity derivatives and tries to build a comprehensive approach for Indian Commodity Market, exploring its modus operandi, and legislative framework.

1.2 Concept of Derivatives

The Oxford dictionary defines a derivative as "something derived or obtained from another, coming from a source; not original". From the aforementioned derivatives in financial market is an instrument, usually a contract which derives its value from an underlying asset. The prices of the derivative instruments will fluctuate with the fluctuation in the prices of the underlying, which may assume many forms, like:

(i) Agricultural Commodities including oil seeds, and various cereals;

(ii) Precious, ferrous and Non Ferrous metals like gold, silver, copper, aluminum;

(iii) Fluctuations in exchange rates of foreign currencies;

(iv) Financial instruments like, money market securities as T- Bills, various bonds of varying properties, share warrants and shares of companies traded on recognized stock exchanges, etc.
1.3 The Legal Definition of Derivatives in India

The legal definition for derivatives in India is defined in the Securities Contracts (Regulation) Act (SCRA), 1956. The act states that “derivative includes—

(i) A security derived from a debt instrument, share, loan, whether secured or unsecured, risk instrument or contract for differences or any other form of security,

(ii) A contract which derives its value from the prices, or index of prices, of underlying securities.

The Act further specifies the contracts in derivatives as notwithstanding anything contained in any other law. For the time being in force, contracts in derivative shall be legal and valid if such contracts are:

(i) Traded on a recognized stock exchange;

(ii) Settled on the clearing house of the recognized stock exchange, in accordance with the rules and bye-laws of such stock exchange.”

Accounting standard 133 confines the area of derivatives in India by stating that “a derivative instrument is a financial derivative or other contract with all of the following three characteristics:

(i) It has:

a. One or more underlying, and

b. One or more notional amount or payments provisions or both. Those terms determine the amount of the settlement or settlements.

(ii) It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contract that would be expected to have a similar response to changes in market factors.
(iii) Its terms require or permit net settlement that is readily settled net by a means outside the contract or it provides for delivery of an asset that puts the recipients in a position not substantially different from net settlement.”

1.4 Classification of Derivative Market

The derivative market is primarily classified in two parts:

(i) Over – the- Counter

(ii) Exchange Traded Market

(i) Over – the- Counter Market: The over-the-counter (OTC) contracts are directly traded between two parties without any intervention of any intermediary or exchange. The contracts in such a market are tailor made as per the agreement of the two parties. The contracts are usually not standardized and it is largely unregulated with respect to disclosure of information between parties. OTC derivatives are significant part of the world of global finance. But there is no intermediated or central counter party to act as a guarantor as the OTC derivatives are not traded on an exchange. Hence, the instruments are exposed to counter party risk, like an ordinary contract, since each counter- party is dependent on the other to perform. The OTC based derivatives markets are vast and have experienced exponential growth in the last two decades. The new innovated products like interest rate swaps, instruments based on foreign exchange and credit default swaps have been the major drivers of this growth. An estimated outstanding of OTC derivatives markets internationally was estimated “approximately US $606 trillion at December 31, 2012” (International Swaps and Derivatives Association, 2013).
(ii) **Exchange Traded Market:** The exchange traded market includes those categories of derivative products that are traded through some third party like local or national derivative exchanges. A derivatives exchange is a platform where standardized contracts are traded. The standards of these contracts are defined by the exchanges they are traded on. The instruments are traded by retail investors. The exchange here acts as a guarantor for any type of default. The exposure to risk for the participants in this case is very minimal. A derivatives exchange works as a mediator in all related activities, and charges initial margin from both parties of the trade to act as a guarantee. The largest derivatives markets in the world (by turnover) are located in US followed by Europe and Asia Pacific (BIS OTC derivatives statistics at end-December 2012).

### 1.5 Products in Derivatives Market

The products in derivatives market can be categorized as financial derivative or nonfinancial derivatives. The financial derivatives derive their values from financial assets like interest rate, stock index, exchange rates, etc. The nonfinancial derivatives derive their values from other nonfinancial assets like metals, agriculture products, energy products, weather, etc. The four basic contracts in derivative markets are:

- (i) **Forward Contract**
- (ii) **Futures Contract**
- (iii) **Options**
- (iv) **Swaps**

(i) **Forward Contract:** A forward contract is entered between two parties to deliver an asset at a pre-determined date in future at a fixed price which is
defined during the framing of the contract. The predetermined price can be the exchange rate or the current price, or an agreed forward rate/pric

e, which can be at a premium or discount to the spot rate. These contracts are usually tailor made and traded over the counter as per the needs of the two parties. These contracts are not under the umbrella of regulations of any concerned exchanges; but they are exposed to counter party risk meaning the risk associated with either party failing to fulfill his or her obligation.

(ii) **Future Contract**: Future is a contract which is made between the two parties through a concerned exchange to sell or buy the underlying assets at a pre-defined price in the future. The exchange acts as a guarantor to all transactions, largely eliminating the counterparty risk. The future contracts are standardized by the exchange, meaning that the contract specifies the quality and quantity of the underlying asset. The settlement of the contract can be done in cash or by physical delivery of asset. Technically, the “buyer of the contract” is the party which agrees to buy the underlying asset in the future. The party is said to be in a "long" position. The other party is the “seller of the contract” which agrees to sell the asset in future. This party is in a “short” position. The “long and short” terminologies are also indicative of the future outlook of the parties—the buyer expects the prices of asset to rise while the seller hopes that the prices will decline in near future.

(iii) **Options**: Options are relatively new derivative contracts which are yet to find their place in Indian Commodities Market. The option contract gives the owner (or the buyer of the contract) the right, to sell or buy an underlying asset or instrument at a precise strike price on or before a particular date mentioned in the contract. The strike rate is pre specified in the contract. However, the owner is not under any obligation to execute the contract. However, the seller of the contract is under an obligation to fulfill the operation – that is to sell or buy – whenever the owner chooses to implement the option before the stated expiration date. The buyer will pay a premium to the seller of the contract for this right. There are two options based on the
right they provide to its buyer. As defined in Investopedia “An option which conveys to the owner the right to buy something at a specific price is called a call; and on the other hand, an option which conveys the right of the owner to sell something at a specific price is called a put.” Both the options are traded commonly in the international market. Options can be of two styles depending on the dates they can be exercised on:

a) **American Option**: An American option can be exercised any time before its maturity date. The buyer of the option can exercise his right whenever he/she wants to.

b) **European Option**: A European Option can be exercised only on its maturity date. The buyer of the European option has to wait till the expiry date of the option to exercise his right. The premium on European options is less than the premium on American options.

(iv) **Swaps**: Swap is a derivative in which the two parties agree to provide its cash flow of a financial instrument in exchange for those of the other party's financial instrument. The benefit of the contract depends on the type of financial instruments involved. Technically, the two parties in the contract agree to swap one course of cash against another. For example the two parties may enter into a swap to exchange their fixed interest and variable interest cash flow on their respective debts of same amount. “These streams are called the legs of the swap. The swap agreement defines the dates when the cash flows are to be paid and the way they are calculated. Usually at the time when the contract is initiated at least one of these series of cash flows is determined by a random or uncertain variable such as an interest rate, foreign exchange rate, equity price or commodity price. The cash flows are calculated over a notional principal amount. Contrary to a future, a forward or an option, the notional amount is usually not exchanged between counterparties. Consequently, swaps can be in cash or collateral. Swaps can be used to hedge certain risks such as interest rate risk, or to speculate on changes in the expected direction of underlying prices. Most swaps are
traded over-the-counter (OTC) and are tailor-made for the counterparties. Some types of swaps are also exchanged on futures markets such as the Chicago Mercantile Exchange Holdings Inc., the largest U.S. futures market, the Chicago Board Options Exchange, Intercontinental Exchange and Frankfurt-based Eurex AG.” (Hull, 2011)

![Derivative Products Diagram]

**Fig. 1.1: Derivative Products**

### 1.6 Participants in Derivative Markets

The participants in the derivatives markets can be summed up into four categories on the bases of the trading motive of the member - hedgers, speculators, margin traders and arbitrageurs. The further section will discuss about these participants and the motives behind involvement in trade:
(i) **Hedgers:** The hedgers in the derivative market aim to protect themselves from the unfavorable price movements of the underlying asset. They want to limit or might simply pass on their risk to who are willing to be exposed to it for a cost which is predetermined. For instance, let's say an investor possesses 400 shares of company XYZ Ltd. at a price of Rs. 40 per share. The investor now plans to sell the shares after one month but since the prices of shares after one month are uncertain, he can opt to buy derivative contracts to hedge his risk. He may be determined to receive a minimum of Rs. 50 per share. Also, on the other side, if the prices of share rise over Rs. 50, he would like to take advantage of this situation by selling at a higher price. Now, he can hedge his risk by buying an “option”- a popular derivative product. By buying an option, he can choose to decide for a price on which he will sell his shares, which will be Rs. 50 in this case. Now, if the price falls below Rs. 50, he can choose to exercise his option or else he can sell his product in the market. By doing this, the investor is hedging against the adverse price movement. Now in case if the investor plans to buy the share in near future, he can choose to save his interest in the same way. This is an example of plain vanilla option. The wide variety of products coupled with various strategies can be used to pass on to the people who are more willing to take this risk.

(i) **Speculators:** There may be various people who are willing to take more risk in the market in anticipation of higher returns. The main difference between hedgers and speculators is their risk profile. Speculators want to reap huge returns by looking for chances to take on risk. They enter the market with the aim of making profit by buying or selling the various derivative products. Based on their judgment about the market movements, they aim to make profits. They have no intention of hedging their investments. For example, In case of the above example, the a speculator will be interested to enter into a contract with a hedger with specification that he will buy the shares of XYZ Ltd. at Rs. 50 if the price fall below this price. The hedger is passing on his risk to the speculator and for this
the hedger will pay him compensation. This compensation will remain with the speculator in case the hedger does not want to exercise the option and rather sell the shares to anyone else. The Indian derivative markets, have two types of speculators - day traders and the position traders. The day traders take advantage of the intraday fluctuations and make profits for themselves. They do not leave any overnight exposure to the market and wind up all their positions at the end of the day. On the other hand, the position traders do technical analysis and take positions for longer duration in market for example a week or even months. However, the role of speculators in any market cannot be underestimated. They are very active participants of the market and provide the required liquidity in the market which is very important for the smooth functioning of the market. (Chatnani, 2010)

(ii) **Arbitrageurs:** The arbitrageurs take advantage of the market imperfections and make money for themselves. They take benefit of opportunity like inequality in prices of shares of a company in cash and derivative market. In that case, the arbitrageur will buy from the market where price is lower and sell in the market where price is higher. The arbitrageurs will take advantage of these imperfections and inefficiencies in the market. For example, here in case of XYZ Ltd. an arbitrageur would purchase 300 shares at Rs 50 in the cash market and simultaneously, sell those shares at Rs 70 per share in the futures market. The arbitrageur will make a profit of Rs20 per share. However, the encashment of the opportunity will only be possible on the day on which the futures contract expires.

### 1.7 Indian Commodities Market

The Indian Commodities Market is an important segment of Indian Derivatives Market. The Indian Commodities Market consists of the derivative instruments which derive their value from commodities which are their underlying assets. The history of commodities market is older than the financial derivatives not only in India but in the
The ancient India provides for various examples of informal future trade in commodities through modern derivative like products. The formal trade in modern derivatives like contracts can be traced back to nineteenth century. However, the growth pattern of Indian Commodities Market has various riggers and groves. The India Commodity market has undergone intense fundamental and empirical changes due to the shifting global economic state of affairs. These changes have throwing up many opportunities for various market participants. Since 1966, the trading in commodities was banned till early 2000s when trade was reintroduced. It was a huge leap for Indian Derivatives Market. A revolutionary step was taken with the establishment of three national wide commodities exchanges with online trading facility bringing in an integration and promotion of price discovery. The performance of the three commodity exchanges has been successful in bringing together various participants to a common platform. The exchanges have delivered promising volumes. The commodities market has witnessed the highest growth of all financial market segments in recent years (Vashishtha & Kumar, 2010). “The turnover of market has grown from Rs.2365 Cr. in 2000-2001 to Rs.16807782.22 Cr. in 2012-13” as reported by Bhagwat, More & Chand (2012). The growth of the Indian Commodities market is commendable. The contract based trading on commodity exchanges has experienced exponential growth ever since its inception in 2003. The market has developed in terms of network and volume especially in the last decade. “Throughout the last decade the commodity futures market has developed significantly in terms of both network and volume. The total value of commodity derivatives trading accounts for about 2/3rd of overall GDP, reflecting the extent of depth that this market has gained in the economy.” Lokare(2007).

The derivative market for commodities was reestablished in India in 2003 to serve two basic purposes. The first and foremost was to provide for a hedging platform to those who are victims of uncertain market prices. The case is further true for primary articles for which supply is highly dependent on weather conditions and other natural set up. The hedging platform can be provided to producers as well as the buyers of the products. The prices of the products can be fixed well in advance with the help of future contracts both by the buyers and the sellers. As stated before, this was the
major objective of establishment of commodities market. The speculative purpose 
emerged much later. But, with the passage of time, the speculative purpose of trade 
has taken the lead. In fact, “Throughout the world, for instance, over 95 per cent of 
the trading volume in futures today comprises speculative trades”, Chakrabarti 
(2005)

The commodity derivative market in India has also being assigned the economic 
task of Price Discovery of good traded. The investopedia defined the price discovery 
as “general process used in determining spot prices. These prices are dependent 
upon market conditions affecting supply and demand.” The process of price 
discovery through future will include the information from the cash and the future 
segment. The market participants take their decisions on the bases of price 
prevailing in spot market and the performance of future market of the commodity. 
Hence, the future market provides the participants with important information clues 
of price performance and lead to price discovery.

The arena of Indian Derivative Market is not restricted to the commodities based 
derivative products but it has an extensive section of the index based derivatives as 
well. The National Stock Exchange (NSE) introduced trading in index futures on 
June 12, 2000. The index based futures contracts can be based on any market 
index like S&P CNX Nifty index, Nifty Midcap 50 Index, BANK Nifty Index, etc.

1.8 Structure of Indian Commodity Market

The commodities market in India exists in two discrete forms —the over-the-counter 
(OTC) market and the exchange based market. The trade in the OTC market is 
settled then and there on immediate bases. It is an important segment for the people 
who trade in a particular commodity. This might involve people like wholesaler, 
processors, etc. It is also known as the spot market and there is only one spot 
exchange in India for commodities. The exchange is known as the National Spot 
Exchange of India Limited (NSEL). The Ministry of Consumer Affairs restricts the 
settlement of contracts on NSEL in no more than 10 days.
On the other hand, there exists an exchange based market where a large part of derivatives trading takes place through standardized contracts, settlements, etc. Trading on these commodities exchanges is much similar to trading on equity exchanges. The contracts are standardized and the trade is margin based. This means that the investor does not have to submit the entire amount of the contract he wants to trade in but only a part of it which is specified in the contract. The contracts have provision for delivery and also provide for the option of squaring off at expiry with cash settlement. The organization of commodity futures markets in India is as follows:

![Diagram of commodity futures markets in India]

**Fig.1.2: Structure of Commodity Futures Markets in India**

The present composition of commodity exchange in India is a two tire system comprising of regional and country wide exchanges. The regional exchanges in India can only have local members and are permitted to trade in limited commodities with limited number of contracts. On the other hand, the country wide exchanges can have numerous members in the country with various contracts. These are electronic
and demutualized exchanges. The country wide exchanges offer future contracts in over 150 commodities with pre-defined delivery options at various locations in India. The list of national and regional commodities exchanges in India is discussed later. The various commodities traded on exchanges can be categorized as:

![Commodities Traded on Exchanges in India](image)

**Fig.1.3: Commodities Traded on Exchanges in India**

### 1.9 The Regulator of Futures Market: Forward Markets Commission

The Forward Market Commission is the apex body which is responsible for the functioning of the Indian Commodities Market. The Commission was established under the jurisdiction of the Forward Contracts (Regulation) Act, 1952. The Act states that the commission will be run by a Four Member team one of whom is the Chairman. The head office of the FMC is at Mumbai while a regional office is located at Kolkata. The current organization and structure of FMC is outlined in the figure below:
The Ministry of Consumer Affairs, Food & Public Distribution, Department of Consumer Affairs, and Government of India are the administrative controller of the commission. The Forward Contracts (Regulation) Act 1952 provides “that the Commission shall consist of not less than two but not exceeding four members appointed by the Central Government, out of them one being nominated by the Central Government to be the Chairman of the Commission.” At present, the commission comprises of two members among whom Mr. Ramesh Abhishek, IAS is the Chairman, and Dr. M. Mathisekaran, IES is a Member of the Commission.

The functions of the Commission as provided in the Forward Contracts (Regulation) Act, 1952 are-

(i) “To advise the Central Government in respect of the recognition of or the withdrawal of recognition from any association or in respect of any other
matter arising out of the administration of the Forward Contracts (Regulation) Act, 1952

(ii) To keep forward markets under observation and to take such action in relation to them as it may consider necessary, in exercise of the powers assigned to it by or under the Act;

(iii) To collect and whenever the Commission thinks it necessary publish information regarding the trading conditions in respect of goods to which any of the provisions of the Act is made applicable, including information regarding supply, demand and prices, and to submit to the Central Government periodical reports on the operation of the Act and on the working of forward markets relating to such goods;

(iv) To make recommendations generally with a view to improving the organization and working of forward markets;

(v) To undertake the inspection of the accounts and other documents of (any recognized association or registered association or any member of such association) whenever it considers it necessary; and

(vi) To perform such other duties and exercise such other powers as may be assigned to the Commission by or under the Act, or as may be prescribed.”

The futures market in India is well regulated by the commission. The Commission has prescribed the following measures to preserve the integrity of the market:

(i) “Limit on open position of an individual members as well as client to prevent over trading;

(ii) Limit on price fluctuation (daily/weekly) to prevent abrupt upswing or downswing in prices;

(iii) Special margin deposits to be collected on outstanding purchases or sales to curb excessive speculative activity through financial restraints”
The act also provides the commission the right to direct the exchanges to take, extreme steps like “skipping trading in certain deliveries of the contract, closing the markets for a specified period and even closing out the contract to overcome emergency situations” during shortage of commodity. The regulator ensures that there is no chaos in the market by calling for various daily reports from exchanges it is authorized to take. Based on these reports, the commission takes other farseeing steps to ensure smooth functioning of the market. The exchange also keeps a check on the price discovery process and checks for excessive speculation and price volatility. The commission acts as a watch dog for the futures market and keeps it under a strict surveillance.

1.10 Commodities Exchanges in India

There are about 6 National Commodity Exchanges and 16 regional Commodity Exchanges recognized by FMC (Forward Markets Commission). “The list of commodities exchanges as approved by FMC as on 28 June, 2013 is as follows:

   (i) National Commodity Exchanges
   (ii) Regional Commodity Exchanges

Table 1.1: List of National Commodity Exchanges in India

<table>
<thead>
<tr>
<th>No.</th>
<th>Exchange</th>
<th>Commodities Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Multi Commodity Exchange of India Ltd., Mumbai</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>2</td>
<td>National Commodity &amp; Derivatives Exchange Ltd., Mumbai</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>3</td>
<td>National Multi Commodity Exchange of India Limited., Ahmedabad</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>4</td>
<td>Indian Commodity Exchange Limited, New Delhi</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>5</td>
<td>Ace Derivatives and Commodity Exchange Limited, Mumbai</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>6</td>
<td>Universal Commodity Exchange Ltd., Navi Mumbai</td>
<td>Several Commodities</td>
</tr>
<tr>
<td>No.</td>
<td>Exchange</td>
<td>Commodities Traded</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>India Pepper &amp; Spice Trade Association, Kochi (IPSTA)</td>
<td>Pepper (both domestic and international contracts)</td>
</tr>
<tr>
<td>2</td>
<td>VijaiBeopar Chambers Ltd., Muzaffarnagar</td>
<td>Gur, Mustard seed</td>
</tr>
<tr>
<td>3</td>
<td>Rajdhani Oils &amp; Oilseeds Exchange Ltd., Delhi</td>
<td>Gur, Mustard seed its oil &amp; oilcake</td>
</tr>
<tr>
<td>4</td>
<td>The Chamber of Commerce, Hapur</td>
<td>Gur, Potatoes and Mustard seed</td>
</tr>
<tr>
<td>5</td>
<td>The Meerut Agro Commodities Exchange Ltd., Meerut</td>
<td>Gur</td>
</tr>
<tr>
<td>6</td>
<td>The Bombay Commodity Exchange Ltd., Mumbai</td>
<td>Castor oil international contracts</td>
</tr>
<tr>
<td>7</td>
<td>Rajkot Seeds, Oil &amp; Bullion Merchants Association, Rajkot</td>
<td>Castor seed, Groundnut, its oil &amp; cake, cottonseed, its oil &amp; cake, cotton (kapas) and RBD Palmolien</td>
</tr>
<tr>
<td>8</td>
<td>The East India Jute &amp; Hessian Exchange Ltd., Calcutta</td>
<td>Hessian &amp; Sacking</td>
</tr>
<tr>
<td>9</td>
<td>The Cotton Association of India Ltd., Mumbai</td>
<td>Cotton</td>
</tr>
<tr>
<td>10</td>
<td>The Spices &amp; Oilseeds Exchange Ltd., Sangli.</td>
<td>Turmeric</td>
</tr>
<tr>
<td>11</td>
<td>National Board of Trade, Indore</td>
<td>Soya seed, Soyaoil and Soya meals. Rapeseed/Mustardseed its oil and oilcake and RBD Palmolien</td>
</tr>
<tr>
<td>12</td>
<td>The First Commodities Exchange of India Ltd., Kochi</td>
<td>Copra/coconut, its oil &amp; oilcake</td>
</tr>
<tr>
<td>13</td>
<td>Central India Commercial Exchange Ltd., Gwalior</td>
<td>Gur and Mustard seed</td>
</tr>
<tr>
<td>14</td>
<td>Surendranagar Cotton Oil &amp; Oilseeds, Surendranagar</td>
<td>Cotton, Cottonseed, Kapan</td>
</tr>
<tr>
<td>15</td>
<td>Bikaner commodity Exchange Ltd., Bikaner</td>
<td>Mustard seed its oil &amp; oilcake, Gram. Guar seed. Guar Gum</td>
</tr>
<tr>
<td>16</td>
<td>Haryana Commodities Ltd., Hissar</td>
<td>Mustard seed complex&quot;</td>
</tr>
</tbody>
</table>
1.11 Other Partakers in Indian Commodities Market

The other partakers in the Indian Commodities Market are given as under:

(i) Warehouses

The warehouses accept the goods for storage. They issue the depository receipt for every product they keep under their supervision. The trading of commodity is done on these receipts. They are also responsible for delivery of the good as mentioned in the contract traded.

(ii) Registrar and Transfer Agents

The registrar and Transfer Agent provides the investor the facility of trading the commodities in the dematerialized form and helps in transfer of dematerialized form back to materialized for if required. It is the link between the warehouses and the investors.

(iii) Depositories

A depository is an institution which is responsible for holding the security with itself while its trading is done through dematerialized form. At present there are two depositories within India, namely Central Depository Services (CDSL) and National Securities Depository (NSDL). Post the recent crisis of spot market in India SEBI, the capital market regulator has instructed the two depositories to stop serving the commodity exchanges. The Forward Contracts Regulation Amendment Bill has provided for establishment of a common clearing corporation for all the commodity exchanges in India. The Amendment Bill, is before Parliament for clearance (Iyengar, 2014). The depositories are approved by SEBI which is the capital market regulator in India. The depositories are linked to the entire frame of the trading through depository participants (DP).
(iv) Brokers

A broker is a link between the exchanges and the investors which facilitate execution of trade on the exchanges. The broker is responsible to execute the order on behalf of the clients and then charges them with a commission for its services. These brokers have membership with commodities exchanges. An investor can go to these brokers if he wants to deal in commodities market. These brokers offer commodity trading account which requires basic Know Your Customer documents like PAN card, Bank Account Statement, etc. Once the account opening formalities is done, the investor has to open deposit margin money in the account. While trading in the contract of a commodity, the investor is not required to deposit the entire money that the contract is worth of but only a part of it. This is known as initial margin which is approximately 5-10% of the contract value as specified in the contract traded. This margin has to be maintained on a daily bases. The investor has to also deposit a maintenance margin which is a very nominal amount and is used to adjust investor's position on a daily routine for the profit and loss generated out of daily fluctuations in the commodity prices. It is to be noted that if the amount falls below the maintenance margin due to price fluctuation of the contract, the broker makes a margin call to the investor and the investor is required to refill his account to the initial level.

When an investor initiates a trade, he places an order with the broker who in turn places the order in the entire exchange trading system. The initial margin is deposited in the account. Depending on the market, the prices of the contract fluctuates and at the end of the day, the settlement price is determined by the clearing house. The daily margin requirements are called as per this settlement price.

Hence the brokers are important support of the entire system.
Fig. 1.5: Dematerialization of Contracts in Indian Commodity Market
Fig. 1.6: Flow Chart of Commodities Trading in India
The key brokers in the Indian commodities Market are:

(i) Aditya Birla Money Ltd
(ii) Anand Rathi Share & Stock Brokers Ltd
(iii) Angel Broking Ltd
(iv) Bonanza Portfolio Ltd
(v) Choice International Ltd
(vi) Emkay Commotrade Ltd
(vii) Global Wealth Management
(viii) Indiabulls Commodities Ltd
(ix) India Infoline Ltd
(x) JM Financial Services Ltd
(xi) Karvy Comtrade Limited
(xii) Kotak Commodity Services
(xiii) Motilal Oswal Securities Ltd
(xiv) Reliance Securities Ltd
(xv) Sharekhan Ltd
(xvi) SMC Global Securities Ltd
(xvii) Unicorn Security Pvt Ltd
1.12 Product Specifications in Indian Commodity Market

The exchanges facilitate trade in various commodities which are standardized as per the following criteria for facilitating trading in the futures market:

Table 1.3: Product Specification in Indian Commodities Market

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Agriculture/ Metal/ Energy or other Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity/ Contract Size or Tradable Lots</td>
<td>These are the minimum quantity specified in a single order and all orders should be in multiples of it. For example 1MT might be the lot size for a particular commodity in a specific exchange and orders can be in multiples of it (It is also known as the contract size)</td>
</tr>
<tr>
<td>Delivery months</td>
<td>A commodity Futures contract can be traded for a delivery of all those months for which the Exchange has allowed it. So at a time there can be more than 1, may 2 or 3 contract months of the same commodity for which, the price might be quoted for trading with different delivery months. (The time duration from the start of the contract for trading until the expiry date is know as the cycle of the contract)</td>
</tr>
<tr>
<td>Price Quotes</td>
<td>How are the price quoted for trading purpose. E.g.: - RBD Palmolein may be quotes as RS/10 kgs while the contract size may be 1 MT. Therefore in this example the Price quoted has to multiplied by 100 to get the trade value of one contract in RBD Palmolein (because 10kgs X 100= 1 MT)</td>
</tr>
<tr>
<td>Quality Specification</td>
<td>They are quality or grades and other specifications of the commodities are also standardized and will be available with the Business rules of the exchange</td>
</tr>
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1.13 The Recent Scam of National Spot Exchange Limited: Turning Point in Regulation of Spot Market in India

The National Spot Exchange Limited (NSEL) is the only Indian spot commodity exchange in the economy. The exchange is a joint venture of Financial Technologies (India) Ltd. (FTIL) and National Agricultural Cooperative Marketing Federation of India (NAFED). The exchanges became operational on Wednesday, 15 October 2008 with start of trading in cotton bales for Mumbai delivery and imported gold and silver bars for Ahmadabad delivery immediately. The products were pre-certified by the exchange. Since then, there was no looking back and the exchange has added various commodities to be traded in its bouquet. The exchange has also launched investment products (E-Series) in commodities which are accumulated in the demat account of the investors. NSEL provided delivery-based spot trading in 52 commodities and was operational in 16 States in India till July, 2013. The set of commodities for trading included agricultural commodities, bullions, and metals till a major scam hit the spot trading of commodities in India. The exchange was established with the major aim of bringing buyers and sellers on the common platform for the price discovery in spot market and to make certain that the commodity traded on the exchange is delivered on time without any counter-party risks to the traders. The spot exchange clocked an annual turnover of Rs. 2,95,614.9 Crores in FY 2012-13, and has 67 running contracts on the exchange, with sugar and rice contributing to most of its volumes. (NSEL Fact Sheet)

The spot exchange of India, NSEL is under the regulation of Consumer Affairs Ministry and unlike future or stock market, it did not have any body, SEBI or FMC especially established for its regulation. The Government of India bans short selling in commodities market and prohibits the spot market to introduce contract for more than 11 days. But it is to be noted that NSEL had been allowing short selling of commodities for long on the exchange and offered contracts for delivery exceeding 11 days. The concept of shot selling is selling a product which the seller does not own. In this case the investors were involving in short selling. The investor will enter into a 3- or 4-day buy contract and a 20- or 25-day sell contract given that the
investor did not have the underlying asset (commodity in this case). There was nobody to verify whether the goods actually existed or not in the warehouse. Brokers started providing contract notes to various investors underwritten against just one warehouse receipt whereas the current law does not allow split of warehouse receipt. The warehouse receipt worked as an identity to the stock. The broker was taking a risk on the warehouse receipt. This brought back the memories of the famous Harshad Mehta Capital Market Scam of 1992. “Mehta used fake Bank Receipts or (BRs) which were not backed by any government securities. Once these fake BRs were issued, they were passed on to other Banks and the Banks in turn gave money to Mehta, assuming that they were lending against government securities when this was not really the case. This money was used to drive up the prices of stocks in the stock market and Mehta booked profits at the end of each day which crashed the market. Mehta was later accused of allegedly misappropriation more than 27 lakhs shares of about 90 companies.” (India Today 2011)

The Government of Indian never approved trading of such contracts and NSEL received a show cause notice last year from the concerned ministry. The allegations in this case were that the exchange is involved in short selling of the commodities, and spot exchanges cannot offer contracts whose tenure exceeded 11 days. The exchange provided explanation that the modus operandi of the exchange is not any type of short selling. Letters, meetings and representations continued on for a year. Absence of any specialized regulatory body for spot market made the matter worse. On July 12, 2013 the consumer affairs department sought an undertaking from the exchange that no further contracts will be launched and that all existing contracts be settled on their due dates. A week later, NSEL reduced the delivery periods of all its contracts in excess of 11 days to 10 days. And, finally on July 31, it stopped pay out to brokers. There was panic among brokers when funds were not credited to their account till evening.

The finance and consumer affairs ministries, FMC and the Securities and Exchange Board of India (SEBI) are all looking at related issues. The total amount of the payout in the entire scam is estimated at Rs. 5,600 Cr by SEBI, Consumer Affair
Ministry and FMC (ENS Economic Bureau, 2013). NSEL has promised to pay back its investors and even issued a payback schedule. But keeping in mind the net worth of its promoters, and the stocks in the warehouses it seems difficult for the exchange to pay back. The exchange has been publishing the list of defaulters and pay out schedules for small investors but a big step in direction of regulation of the Commodity Spot Market is still awaited.

**Fig. 1.7: The NSEL Scam: Flow of Events**

- NSEL was offering contracts for 25-36 days whereas it is allowed to offer contract for a maximum of 11 days
- The government asked NSEL not to enter new contracts with settlement time longer than 11 days. As a result, NSEL suspended all new contracts except the e-series
- Loss of trading interest to the investors
- Exchange could not payout because of loss of trading interest
- Inspection of the stock at the exchange revealed that there is a huge mismatch of contracts traded and stock at warehouses
1.14 Global Positioning of Indian Commodities Market

Over the passage of time, the global economy has witnessed the growth of various commodities exchanges as a strong participant of global capital market. “The New York Mercantile Exchange (NYMEX) is the world’s largest physical commodity futures exchange” (Commodity ETF and Futures Trading Center, 2013) Founded in the year 1882, the exchange offers trade in various products like metals, energy products, platinum and palladium, etc. The products are sold through trading floor, overnight electronic trading and trading through computer systems. The other division of exchange, namely Commodity Exchange Inc. (COMEX) is associated with trading in primarily in variety of metals. The other popular exchange in the global economy is the Chicago Mercantile Exchange (CME). It is the oldest recognized exchange in the world and the largest exchange in terms of options and futures line up in the world. The exchange offers not only commodities but financial products as well. In metal segments, the London Metal Exchange is the largest exchange in the world for trade in metal options and futures. The exchange individually conducts over 80% of the nonferrous business of the world. (Commodity ETF and Futures Trading Center, 2013). The price discovery on the exchange is used as a global benchmark for pricing of various metals.

On the global platform, the Multi Commodity Exchange of India is ranked amongst the top ten commodity exchanges in the world. The exchange was founded in 2003 and is relatively new in the global scenario. The exchange is the leader in the trading of various commodities, like it ranks number one in trading in silver and gold, second in natural gas and third in crude oil (MCX Factsheet, 2012).
Fig. 1.8: Location of Leading Commodities Exchanges Globally

Fig. 1.9: Global Futures and Options Volume by Category *

*(Based on the number of contracts traded and/or cleared at 84 exchanges worldwide)*
Based on the number of contracts traded and/or cleared at 84 exchanges worldwide

**Fig. 1.10: Global Futures and Options Volume by Region**

Based on the number of contracts traded and/or cleared at 84 exchanges worldwide

**Fig. 1.11: Top 10 Derivatives Exchanges**

Ranked by number of contracts traded and/or cleared
1.15 The Issue of Volatility in Commodity Markets: Need for Study and Problem Statement

The majority of commodities markets in the world are volatile. However, the intensity of volatility might vary because of many factors like volume of trade, nature of commodities traded, etc. (Doran & Ronn, 2008). The investopedia defines volatility as “measure of the dispersion of returns for a given security or market index”. The basic types of volatilities are (Taylor, 2007):

(i) Historic Volatility: The measure of historic volatility is derived from the past performance of a time series.

(ii) Implied Volatility: The volatility in the option prices of any instrument which is usually used as a predictor of future performance of volatility.

The volatility in the commodity prices on the exchanges is as old problem as the exchange itself. There are various agencies all over the world which are working to minimize the volatility in the commodity prices and to stabilize them. However, such strategies can interfere in the price discovery process of the exchanges. The various steps like marketing boards or supply chain management schemes interfere in the working of market forces of demand and supply and hamper the process. The forces of demand and supply which lead to price discovery are believed to be disturbed with investment demand of the commodity as it is not considered as real demand for the commodity. The future trading creates an artificial demand for the commodity and increases the price volatility. (Spratt, 2013) (Yang, 2013)

With the passage of time, the investment demand of commodities has taken an important shape in the economy. Though the financial investors have been active even historically in possessing commodities as a part of their investment portfolios, the existence of derivatives market has changed the scenario. With the existence of various innovative derivative products and margin based trading, the influence of such investors on price volatility has been influential. Keeping in mind all these
factors, there is a need to assess the nature of this volatility. What is causing this volatility in Indian Commodity Market? Are there any imperfections? The current study is undertaken to assess the volatility in the Indian Commodity Market and to know the lead lag relationship between spot and futures. This relationship is important to understand the efficiency in the commodities market and to explore the existence of arbitrage opportunity (if any). It is important to understand if the spot leads the future as stated in cost of carry model or it is the future which leads to prices in spot market performing its function of price discovery or the causality in prices is bidirectional which is considered an efficient situation in the market. (Kawaller, Koch, & Koch, 1988)

The direction of causality in volatility in prices is not restricted to spot and future market of the commodity but there can be various macroeconomic factors which can lead the volatility in the market. For example, the existing literature provides a lot of evidence to the fact that the movement in stock market (SENSEX or NIFTY) can lead to huge volatility in gold prices as investors usually consider yellow metal as a “safe haven” (Baur & Lucey, 2010)(Baur & McDermott, 2010)(Joy, 2011). The case can be reverse as well where the prices of commodities can lead to volatility in the macro economic factors. For example, Dr. Copper is considered as the pulse of the economy. (Day, 2012)(Cheng, 2013)(Morgan, 2013)

Moreover, these relationships do not remain static with the passage of time. The current study is an attempt to understand such lead lag relationships and provide mathematical evidences for such relations. The study is an endeavor to recognize these relationships and how has this relationship changed ever since the establishment of commodities market in India.

There is also a need to access the impact of volatility on the changing slope of the data. Sometimes, the volatility in the prices has been so strong that it has changed the slope of the data totally. This has led to a complete change in the structure of the data. Such structural changes will be analyzed in detail to understand the major events which can cause such breaks in the data. The study of such events will be
helpful in understanding the most sensitive issues which can be of prime importance for price performance of a commodity.

1.14 Research Objectives

The objectives of this research study are as under:

(i) To understand the structural breaks in the prices of commodities under study (Copper, Silver and Crude Oil) and to reason out these breaks

(ii) To study the lead lag relationship between spot and future market of commodities under study and to know the existence of arbitrage opportunity (if any). The study of lead lag relationship will also be important to understand the efficiency of markets

(iii) To understand the impact of SENSEX (considered as a barometer of performance of stock market in India) on spot and future prices of the commodities under study

(iv) To understand the impact of US Dollar to Indian Rupee exchange rate (considered as a barometer of performance of foreign exchange market) on spot and future prices of the commodities under study

(v) To understand the impact of Whole Sale Price Index Announcements (considered as a barometer of inflation in Indian economy) on spot and future prices of the commodities under study
References


http://www.investopedia.com/terms/v/volatility.asp

http://www.oxforddictionaries.com/definition/english/derivative


Morgan, M. J. (2013, October 1). *Dr Copper shakes off early malaise*. Retrieved November 2, 2013, from The Free Library: http://www.thefreelibrary.com/Dr+Copper+shakes+off+early+malaise%3A+the+rise+and+fall+in+the+price+of+...-a0346930224


