

# MCX - An Energy Hedging Platform



## Trading related information

- No. of contracts in a year
- Opening of contracts
- Maximum duration
- Trading unit
- Tick size
- Quotation / Base value
- Price quote
- Daily price range (DPR)
- Initial margin
- Maximum order size
- Trading period / Session
- Maximum Allowable Open Position

## Delivery related information

- Delivery unit
- Delivery center(s)
- Delivery Margin

## Quality Specification

- Grades
- Standard
- Tolerance limit for variation
- Packaging

# Trader Workstation Snapshot

MCX Trader Workstation Ver 3.0.0.7 (Powered By FT-Engines)

08 Nov 2006 04:21:27 PM

File View Market Orders Trades Tools Window Help

MANCIX 1332.42 (+1.74) MCXCOMDEX 2157.48 (-6.30)

COMMODITIES AHMSPOTSLV

Market Watch - VOLT

Symbol	Expiry Date	Tender	Close	%	LTP	Buy...	Buy Pri...	Sell Pr...	Sell...	Underl...	Open	High	Low	OI	Pr
GOLD	05DEC2006		9136.00	-0.18	9120.00	200	9119.00	9120.00	100	9114.00	9142.00	9143.00	9112.00	1286600	10
GOLD	05FEB2007		9280.00	-0.23	9259.00	100	9257.00	9259.00	100	9114.00	9280.00	9280.00	9251.00	167200	10
GOLD	05APR2007		9435.00	-0.37	9400.00	100	9382.00	9439.00	100	9114.00	9437.00	9437.00	9385.00	7000	10
GOLDM	05DEC2006		9142.00	-0.14	9129.00	30	9127.00	9128.00	10	9114.00	9145.00	9149.00	9120.00	115680	10
GOLDM	05JAN2007		9240.00	-0.23	9219.00	20	9218.00	9220.00	10	9114.00	9240.00	9240.00	9211.00	17700	10
GOLDM	05FEB2007		9320.00	-0.15	9306.00	10	9293.00	9310.00	20	9114.00	9328.00	9328.00	9292.00	1080	10
SILVER	05DEC2006		18926.00	-0.25	18879.00	30	18876.00	18880.00	90	18762.00	18920.00	18925.00	18852.00	258750	1
SILVER	05MAR2007		19449.00	-0.51	19350.00	30	19365.00	19384.00	30	18762.00	19437.00	19437.00	19350.00	11640	1
SILVER	05MAY2007		19882.00	-1.02	19680.00	30	19680.00	19836.00	30	18762.00	19860.00	19860.00	19661.00	2280	1
SILVERM	30NOV2006		18949.00	-0.23	18905.00	10	18905.00	18909.00	30	18762.00	18978.00	18978.00	18880.00	29055	1
SILVERM	28FEB2007		19458.00	-0.38	19385.00	15	19380.00	19409.00	5	18762.00	19371.00	19446.00	19371.00	3460	1
CRUDEOIL	15NOV2006		2675.00	-0.75	2655.00	2200	2653.00	2655.00	2300	2642.00	2662.00	2662.00	2644.00	1450500	1
CRUDEOIL	15DEC2006		2759.00	-0.72	2739.00	200	2739.00	2740.00	400	2642.00	2745.00	2750.00	2732.00	372000	1
CRUDEOIL	15JAN2007		2844.00	-0.91	2818.00	100	2817.00	2820.00	100	2642.00	2820.00	2824.00	2812.00	28700	1
NATURALGAS	20NOV2006		351.70	-1.05	348.00	500	348.00	348.20	1500	347.70	349.70	350.50	347.00	1260500	1
NATURALGAS	20DEC2006		371.50	-0.94	368.00	500	367.60	368.20	500	347.70	370.00	371.50	367.10	485000	1
NATURALGAS	19JAN2007		376.70	-0.72	374.00	500	373.20	373.80	2000	347.70	371.60	376.70	371.60	138500	1
ZINC	30NOV2006		204.45	0.22	204.90	10000	204.80	204.95	25000	205.55	205.00	207.65	202.25	7895000	1
ZINC	29DEC2006		203.25	0.37	204.00	5000	203.90	204.20	5000	205.55	204.40	206.30	201.30	1485000	1
ZINC	31JAN2007		202.85	0.52	203.90	5000	202.10	203.95	5000	205.55	204.90	206.00	201.00	150000	1
COPPER	30NOV2006		334.65	-0.43	333.20	1000	333.15	333.20	1000	332.60	334.15	334.25	332.30	16455000	1
COPPER	28FEB2007		338.55	-0.30	337.55	1000	337.40	337.55	1000	332.60	338.10	338.90	336.50	2049000	1
COPPER	30APR2007		342.10	-1.29	337.70	1000	337.00	338.25	2000	332.60	335.75	338.90	335.75	17000	1
MENTHAOIL	30NOV2006		629.70	-1.38	621.00	360	620.90	621.00	360	624.80	629.90	631.40	611.70	1170720	1
MENTHAOIL	30DEC2006		644.30	-1.55	634.30	1080	634.10	634.50	720	624.80	645.00	646.60	625.60	1276920	1
MENTHAOIL	31JAN2007		657.20	-1.55	647.00	360	645.00	646.90	360	624.80	657.80	658.70	633.10	128520	1

User : 2135 Member Id : 21000 Market Status : Open Qty in : Units  
14:17:45 PM 08/11/2006 Density Price for Zinc Cash is Rs 205.93 (44.600\*0.44.68)





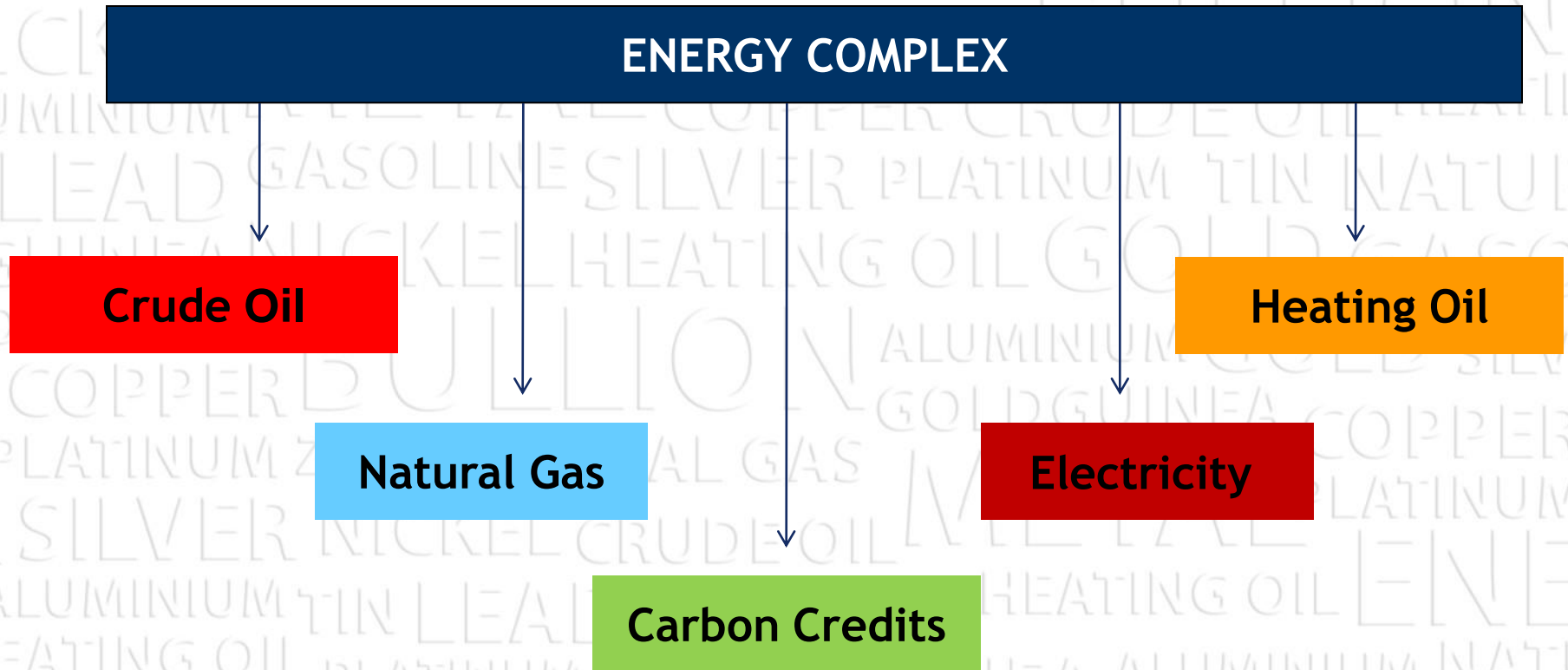
## Monitoring of Mark to Market (MTM)

- Monitoring of MTM loss, both notional and booked, up to the last executed trade
- Calculated on real-time basis as difference between trade price and last traded price (LTP).
- Real time alerts in case of MTM loss (at 60%, 75% and 90%)
- Suspension of Member due to non maintenance of minimum security deposit

## Monitoring of volatility

- Daily intra day variation allowed in a day with respect to close price of previous day
- Imposition of special margin / additional margins
- When such a variation is hit either at upper or at lower circuit, as per FMC guidelines, further relaxation done with / without cooling period, maximum permissible defined for every single commodity

# MCX Energy Complex – Products Available



# Types of Crude Oil

- Hundreds of Varieties

Price Differential - a reflection of quality differential and transportation costs to principal oil-consuming centers

- Quality differential - Two base characteristics

- Sulfur Content
- Specific Gravity

## The Oil Barrel

Liquefied Petroleum Gas (LPGs) \*10%

Products	Uses
Ethane, Propane	Heating, cooking,
Butane	Chemical feedstocks
	Motor gasoline blending

Light Ends \*35%

Naphthas	Petrochemical feedstocks
Gasolines	Reforming into gasoline
	Automotive fuel

Middle Distillates \*35%

Jet Kerosene	Aviation fuel
Diesel	Automotive fuel
Heating/Gasoil	Domestic heating fuel
Vacuum Gasoil	Distilled to lighter product

Residual Fuel Oil \*20%

Cracked Fuel Oil	Power generation, Ship Fuel
Straight-Run FO	Lighter products, Fuel oil
Asphalt	Road Surfacing, Roofing
Bitumens, Coke	Manufacturing of steel
Sulfur	Chemical industry

\* These percentages are approximate and vary by crude and refinery type.



# Existing Price

Product	Price Mechanism
ATF	Market Driven
LPG	Market driven but revised periodically
Kerosene	Market driven but revised periodically
Gasoline	Market driven but revised periodically
Diesel/Heating Oil	Market driven but revised periodically
Furnace Oil	Market Driven
LSHS	Market Driven
LDO	Market Driven
Other products	Market Driven



# What is Hedging ?

- Taking a position in futures market opposite to position held in cash market
- Minimize the risk of financial loss from an adverse price change
- Commodity prices, interest rates, exchange rates, etc.



# Why Hedge?

- Hedging reduces the impact of raw material/ input price volatility
- Allows you to control costs, over which there is no control and which cannot be influenced
- Allows you to lock in a conversion spread in the manufacturing cycle
- Allows you to project costs and profits more accurately
- Allows you to reduce the downside risk to business from catastrophic events such as the Tsunami, Hurricanes, Earthquakes, Terrorist Attacks etc.

# Risk ....

- **Producer**
  - Crude Oil
- **Refiner**
  - Crude Oil & its distillates
- **End Consumer**
  - ATF
  - FO
  - LSHS
  - Naptha

# Steps involved in Hedging

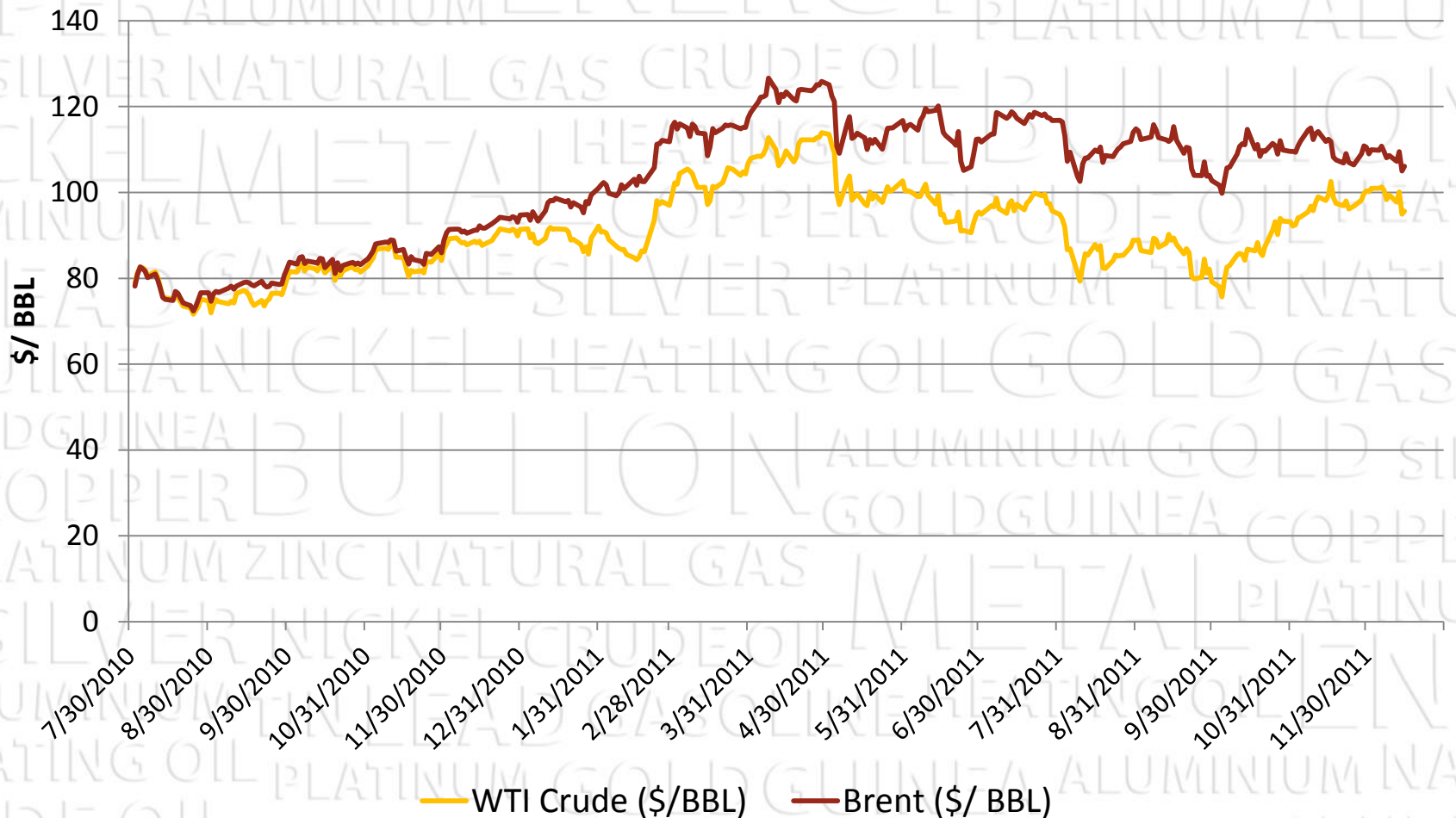
- Clearly distinguish between hedging and speculating
- Identify the various price risks involved in business
- Clearly understand historical trends in prices and volumes
- Evaluate the costs of hedging - along with the cost/ risk of not hedging
- Understand the hedging tools
- Use the right measure to evaluate hedge performance
- Don't base hedge program on market view
- Establish clear internal controls
  - Specific restrictions on volumes and time frames for trades
  - Identify personnel responsible for trade authorization, settlement payments and accounting



# How will hedging work?

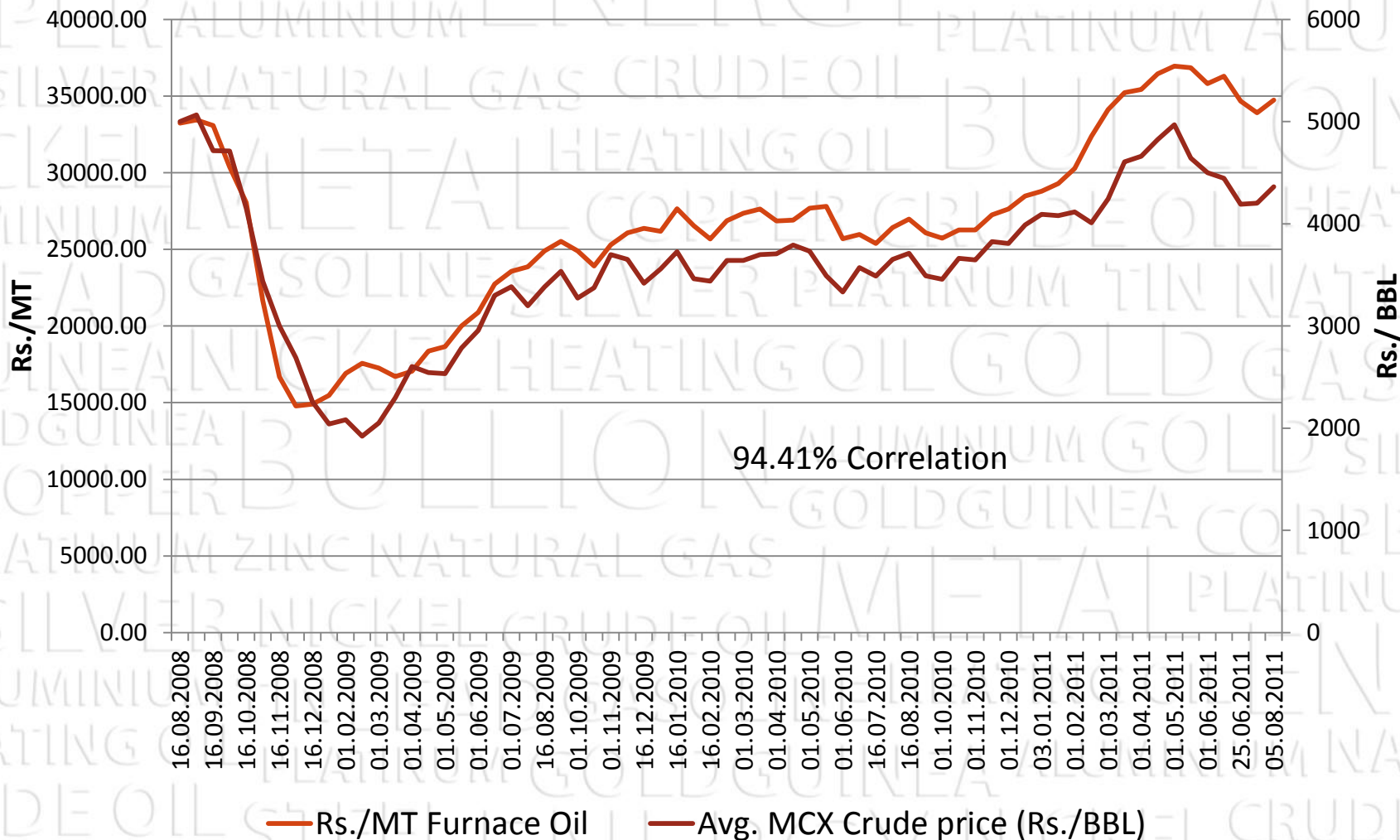
- No direct hedging product available for Furnace Oil, LSHS, Naphtha and ATF
- We recommend 'surrogate hedging'
  - Why ?
    - Correlation between crude oil and its distillates is more than 90%.
    - Spot price of crude oil and futures price of crude oil moves in tandem

# WTI Crude – Brent Crude Correlation



**Correlation 84.30%**

# MCX Crude Price and Furnace Oil Correlation



Rs./MT Furnace Oil

Avg. MCX Crude price (Rs./BBL)

# Hedge Ratio

$$H = \rho^*(\sigma_S / \sigma_F)$$

- $\Delta S = S_T - S_t$  = the change in the spot price over the life of the contract
- $\Delta F = F_T - F_t$  = the change in the futures price over the life of the contract
- $\sigma_S$  = the standard deviation of  $\Delta S$
- $\sigma_F$  = the standard deviation of  $\Delta F$
- $\rho = \sigma_{SF} / (\sigma_S \sigma_F)$  = the correlation coefficient between  $\Delta S$  and  $\Delta F$ , and
- $H$  = the hedge ratio



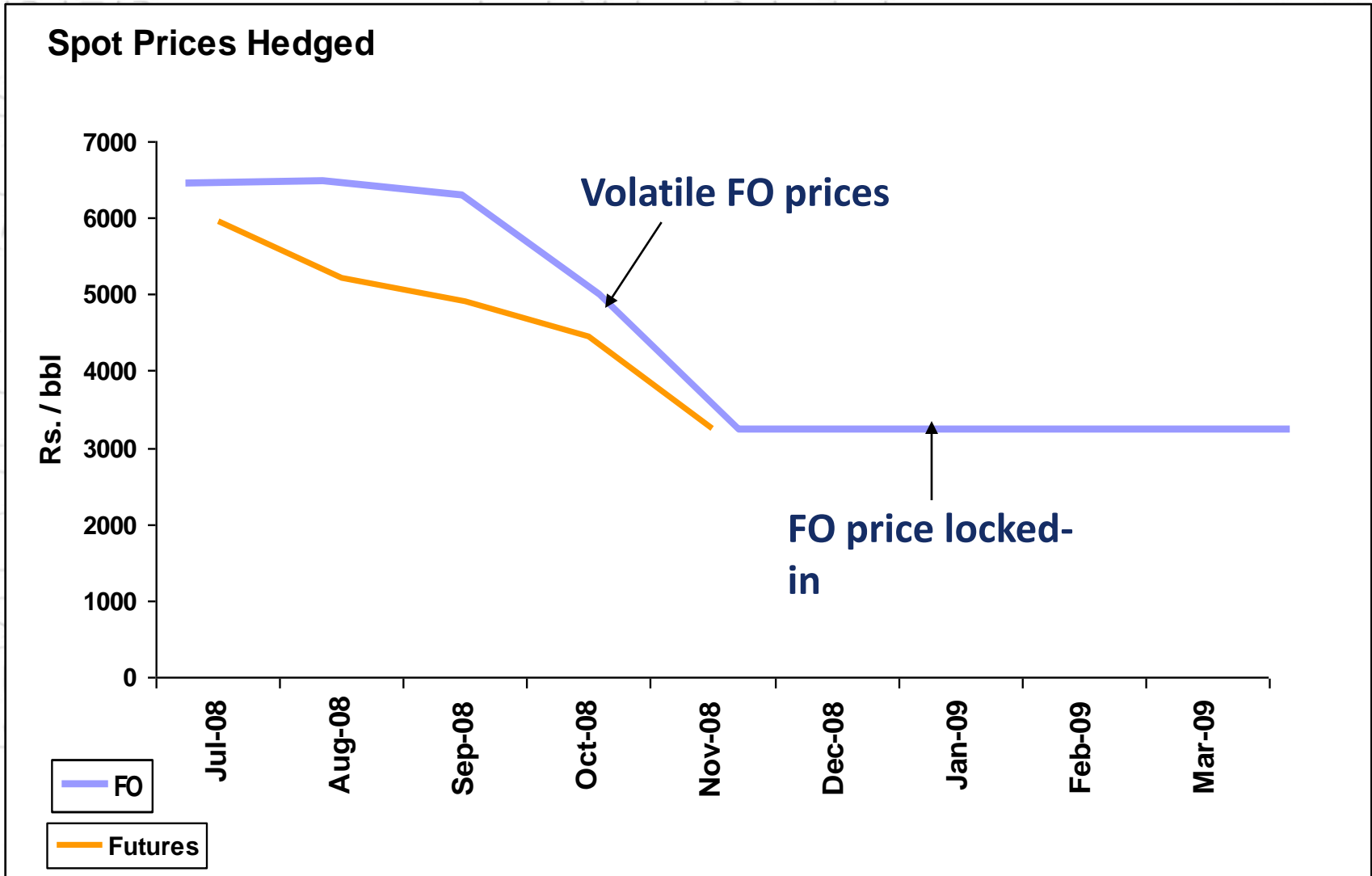
# Hedge Operation

- Buying at the beginning of each contract month and selling on daily basis depending on physical requirement
- Buying quantity defined by Hedge Ratio

# Benefits of Hedging

- Reduces both risk and cost
- Results in better cash management
- Mechanism to identify, measure, manage and monitor risk.
- Removes speculative element in the business by mitigating exchange rate risk.
- Protects business margins
- Enhances efficiency and competitiveness

# Lock in of FO



# Different industry- Different Strategy

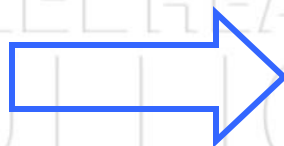
- Any industry with energy requirement like
  - Automobile industry
  - Glass Industry
  - Food Industry
  - Textile Industry
  - Hotel Industry
  
- Airline companies
- Fertilizer Industry
- Natural Gas producing & importing companies



# Key liquidity dimensions

## MEASURES

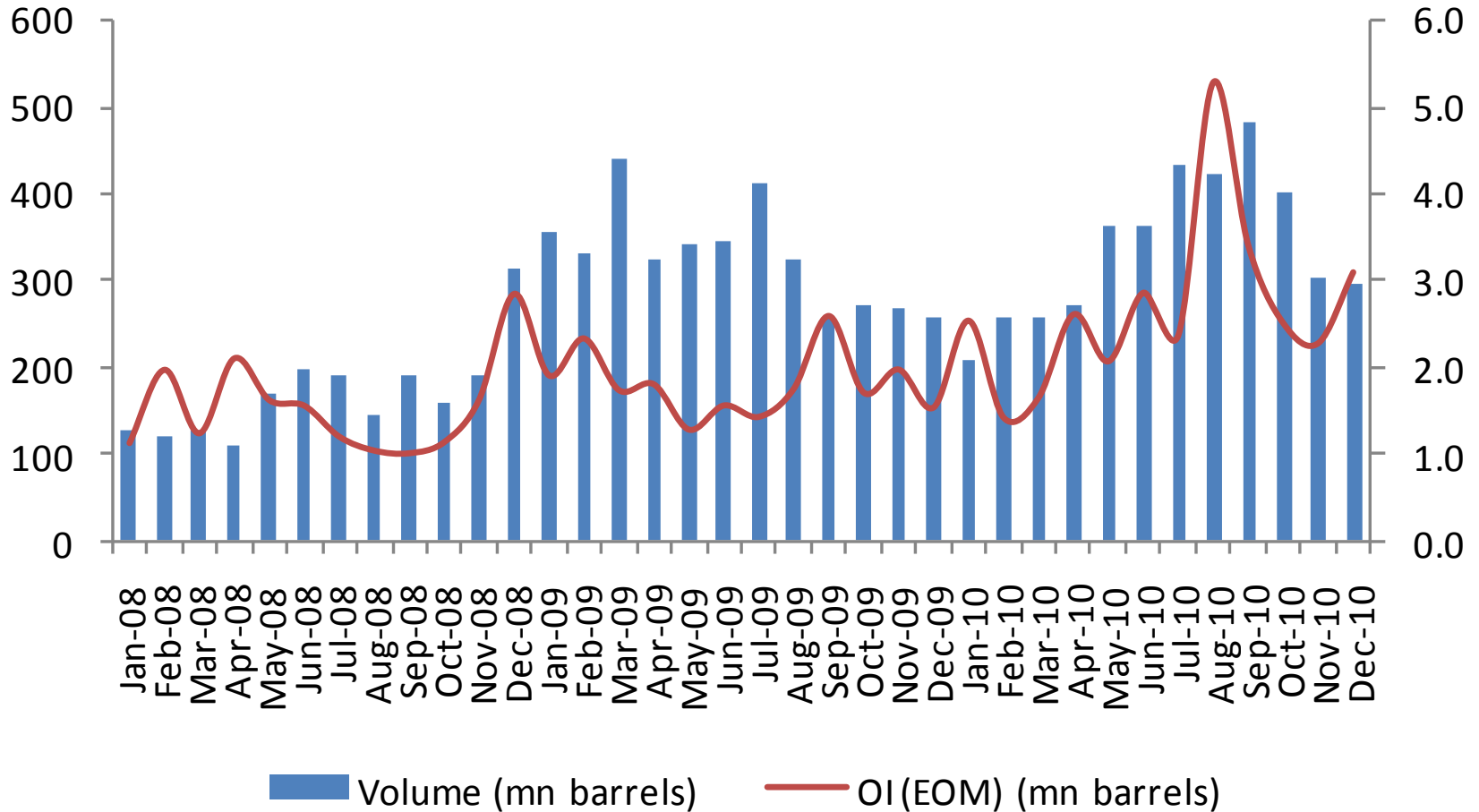
**DEPTH**



- Trading volumes
- Increased Liquidity in mid-months
- Number of participants
- Impact cost

# Crude oil performance

## MCX Crude oil Aggregate Monthly Volume and OI



# Crude oil performance

- ❑ Highest volume value wise : Rs. 23309 Crores
- ❑ Volume : 45.30 million bbls – 17<sup>th</sup> Nov. 2011

# Contract Specification – Crude Oil

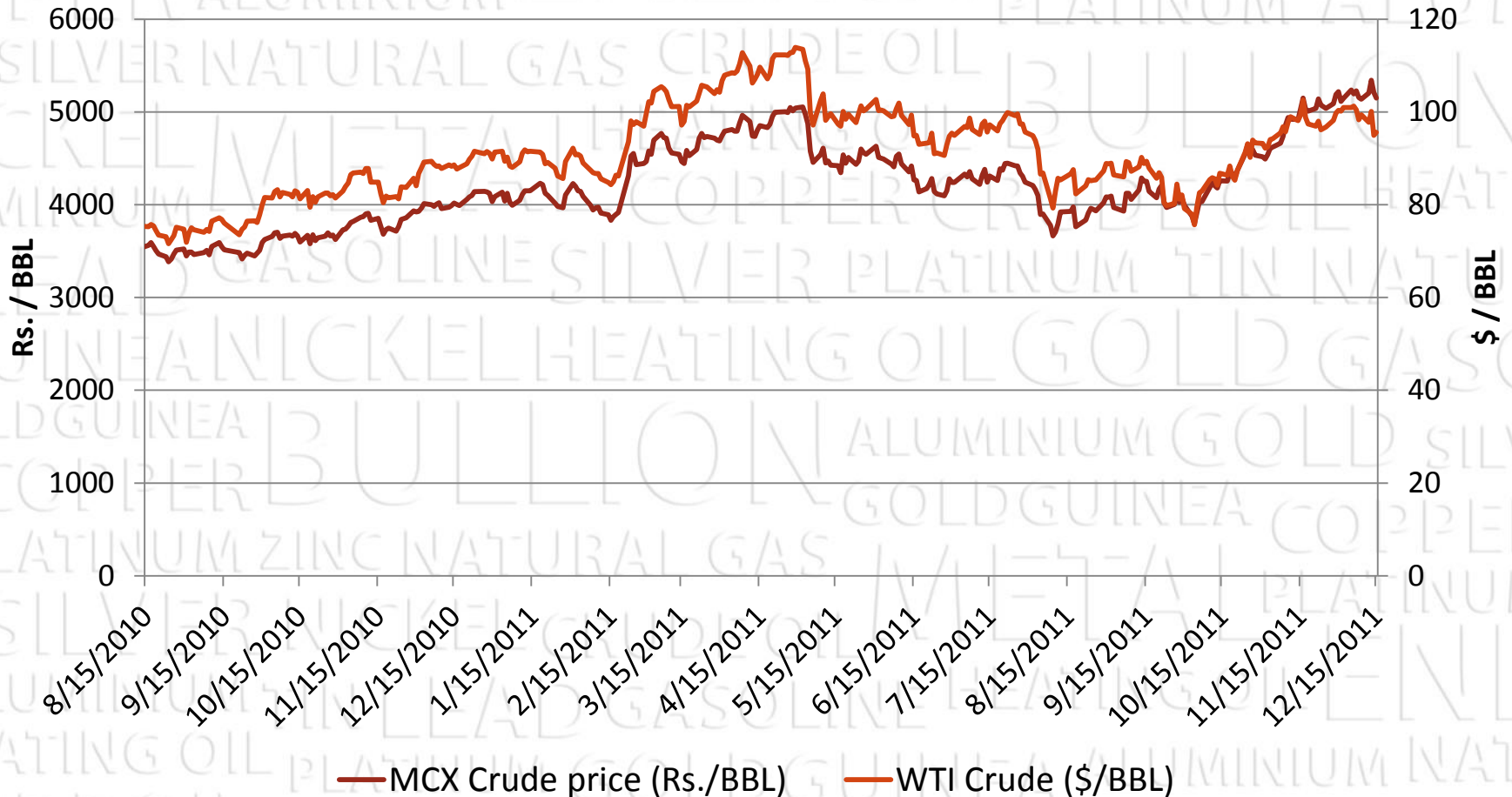
- **Trading Units : 100 Barrels**
- **Price Quotation : Rs./Barrel**
- **Daily Price Limit : 4%**
- **Tick Size : 1 Rupee**
- **Initial Margin : 5%**
- **Maximum order size : 10000 Barrels**
- **Delivery logic : Both option**
- **Max OI for individual client : 4,80,000 bbls**
- **Max OI for member : 24,00,000 bbls**
- **All positions are settled 1 day prior to the expiry of the NYMEX contract month**
- **Due date rate shall be the closing price of International spot market on the last day (Expiry date) of the MCX crude oil contract converted at the Rupee-US\$ rate as notified by the Reserve Bank of India on that particular day.**



## What it means for the trade ?

- NYMEX is global leader for energy contracts
- MCX uses NYMEX Price for settlement of contracts
- MCX contract provides ideal platform for hedging for domestic producers/refiners/consumers due to comfort of local currency
- RBI Ref Rate is used to convert the CSP to Indian Rupee
- High Correlations with NYMEX
- Low Deviations from Parity

# MCX-NYMEX Crude Oil Correlation



**MCX-NYMEX Crude Oil Correlation (Nov'09-Nov'11): 96.42%**

# MCX : An Overview

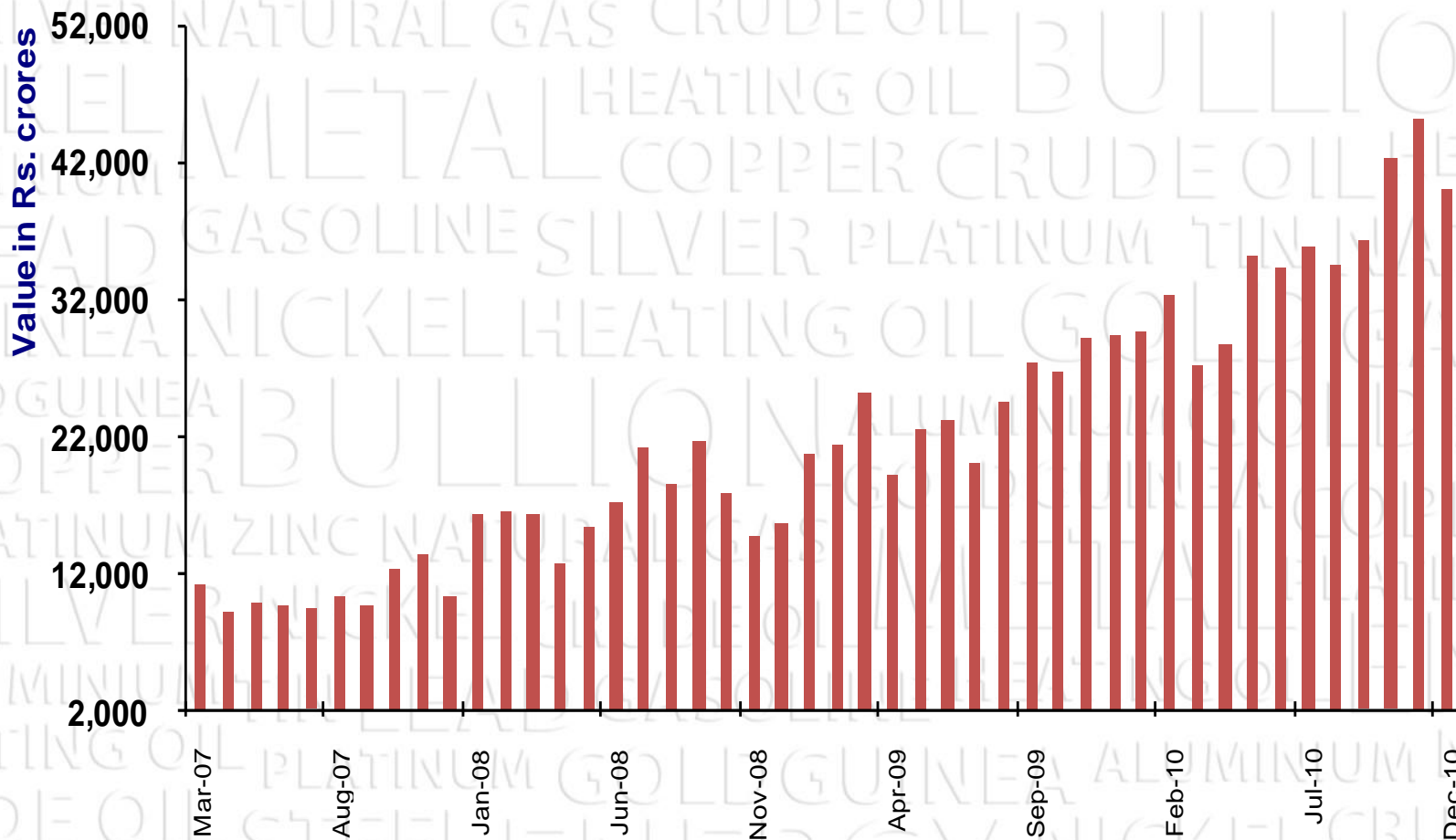
- Inaugurated on November 10, 2003
- A demutualised and electronic platform, which facilitates online trading, clearing and settlement operations in commodity derivatives
- Regulated by the Forward Markets Commission (FMC), Union Ministry of Consumer Affairs, Food and Public Distribution
- More than 2,45,000 trading terminals
- 2100+ Members
- Average daily turnover during Apr to Sept 2011-12 was Rs 52,851.60 crore
- In CY 2011, MCX was world's No. 1\* # in Silver, No. 2\* # in Gold, Copper & Natural Gas and No. 3\* # in Crude Oil
- In CY 2011, MCX was 5th largest# commodity futures exchange, globally, in terms on No. of contracts traded

*\* In terms of the number of commodity futures contracts traded for each of these commodities during this period*

*# Source: Data published for the period between January 1 - June 30, 2011 on the websites of exchanges listed in "Certain Conventions"; use of market data, and Futures Industry Association Annual Volume Survey, March 2011*



# MCX : Growth Story





- **Accredited with ISO 9001:2000**
  - The ISO 9001:2000 certification is an international standard that defines good management practices spelling out quality and trust.
- **The world's first and only multi-commodity exchange to have been accredited with ISO 27001:2005 certification**
  - ISO/IEC 27001:2005 (formerly known as BS 7799-2:2002) is a benchmark that calls for standard requirements of a robust Information Security Management System.

# MCX Shareholders

- Shareholders include top institutional investors and exchanges from across the globe as well as leading financial institutions, public and private banks of India



MERRILL LYNCH HOLDINGS  
(MAURITIUS)



## Bullion

- Gold – 1 kg, 100 gm, 8 gm
- Silver – 30 Kg, 5 Kg
- Platinum

## Fibre

- Cotton–Medium Staple
- Cotton – Long Staple
- Kapas
- Cotton-Short Staple

## Pulses

- Masur (Masra)
- Yellow Peas

## Metals

- Copper
- Aluminum
- Zinc
- Tin
- Nickel
- Lead
- Sponge Iron
- Steel flat/Long

## Energy

- Crude Oil
- Brent Crude Oil
- Furnace Oil
- Natural Gas
- Carbon Credits

## Oils and Oilseeds

- Soy Seed & Meal
- Castor Seed & Oil
- Mustard Oil
- Sesame Seed
- Crude Palm Oil
- Groundnut Oil
- RBD Palmolein
- Cotton Seed & Oilcake
- Refined Sunflower Oil
- Coconut Oil

## Jaggery

- Gur
- Sugar S-30
- Sugar M-30

## Plastics

- Polypropylene
- HDPE
- PVC

## Cereals

- Maize

## Plantation

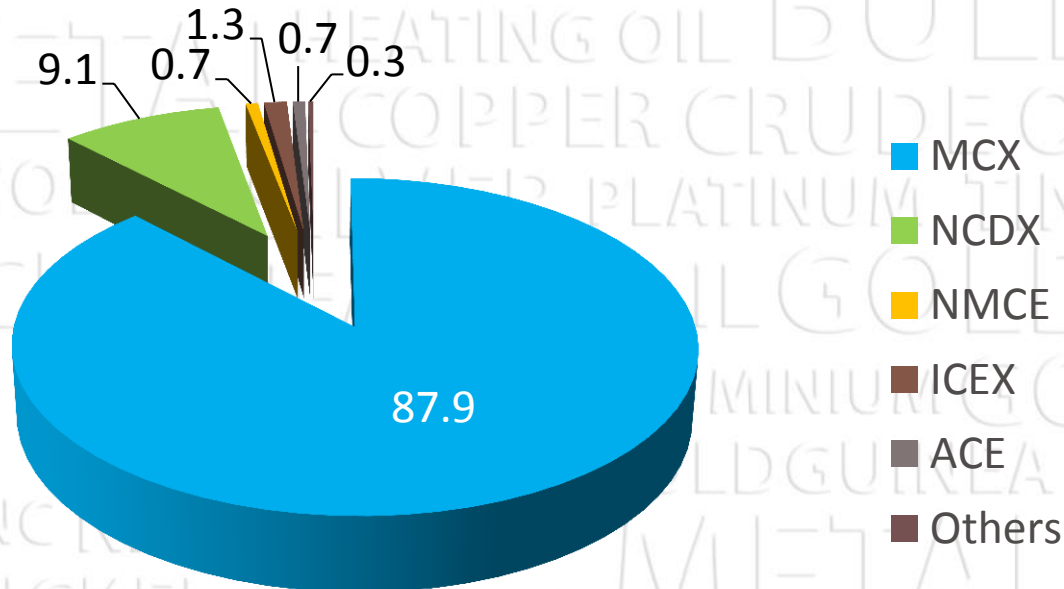
- Coffee
- Spices
- Black Pepper
- Cumin Seed (Jeera)
- Red Chilli
- Turmeric
- Cardamom

## Others

- Cashew Kernel
- Guarseed /Gum
- Mentha Oil
- Arecanut

# Leadership Position

## Tops in market share in India (Apr-Sept. 2011)



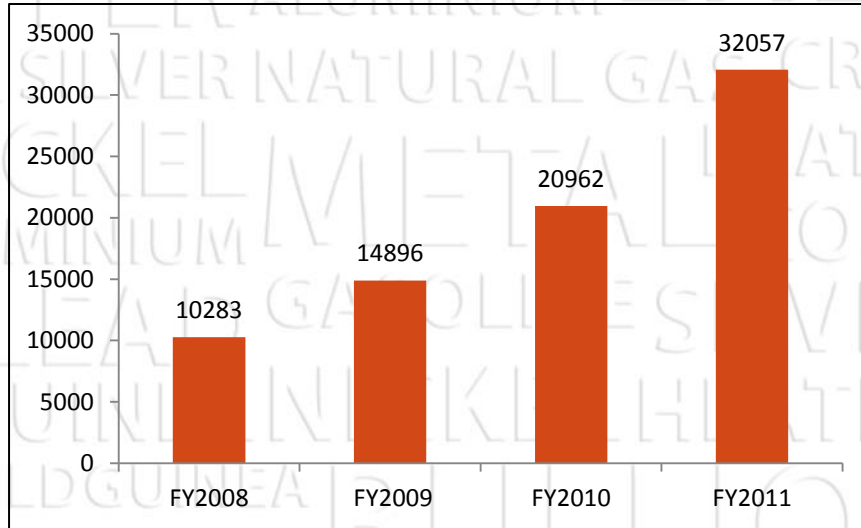
**Note:**

- Except for data pertaining to MCX, all data has been sourced from market data maintained by FMC.
- ICEX commenced its trading operations on November 27, 2009.
- In October 2010, Ace Derivatives and Commodity Exchange (formerly Ahmedabad Commodity Exchange) transformed from a regional exchange to a national multi-commodity futures trading platform.

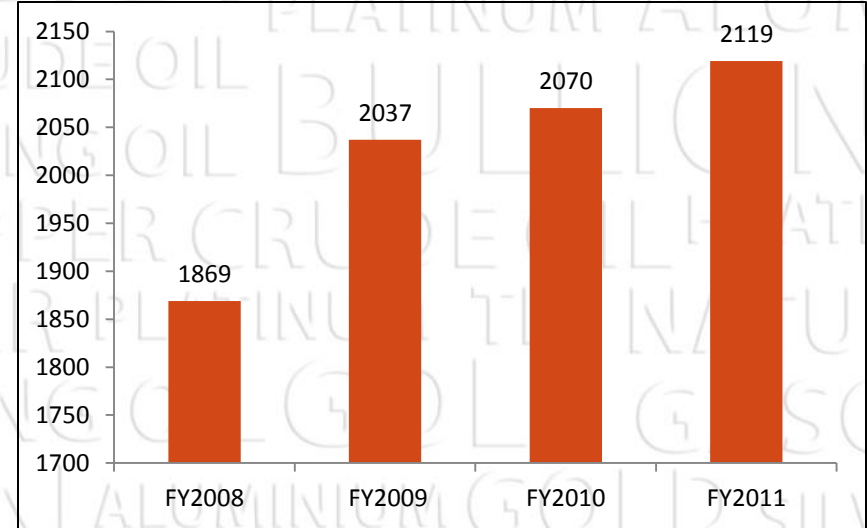


# Operational Growth

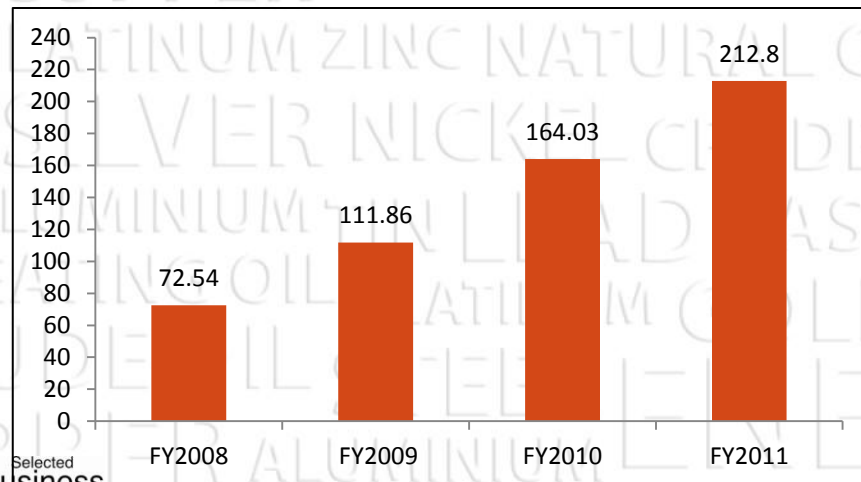
**ADV (Rs. crores)**



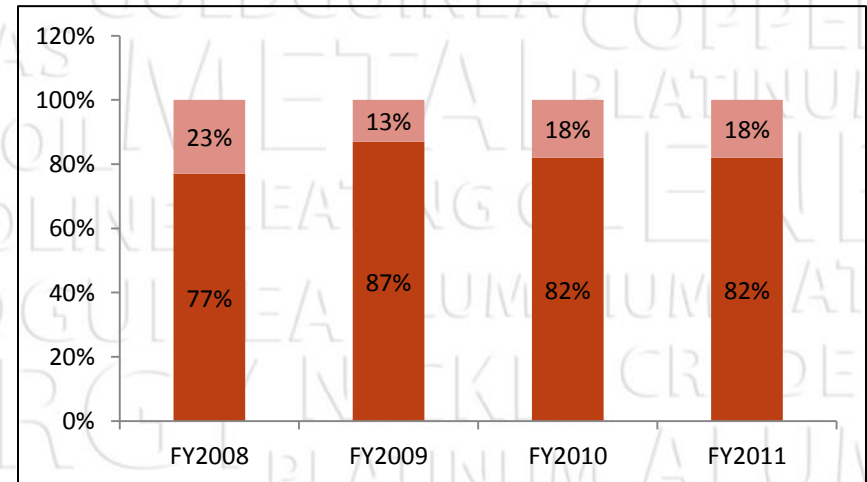
**No. of members**



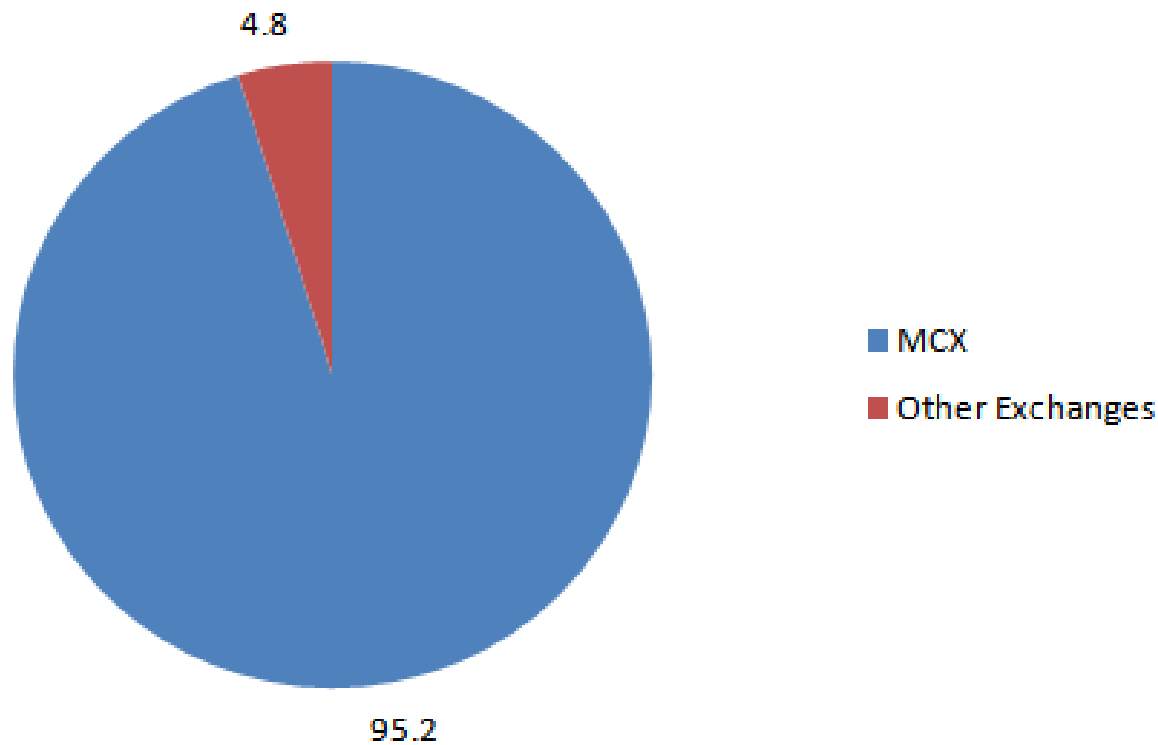
**No. of contracts (lots in mn.)**



**Market Share**



# MCX Energy Market Share (India) 2010



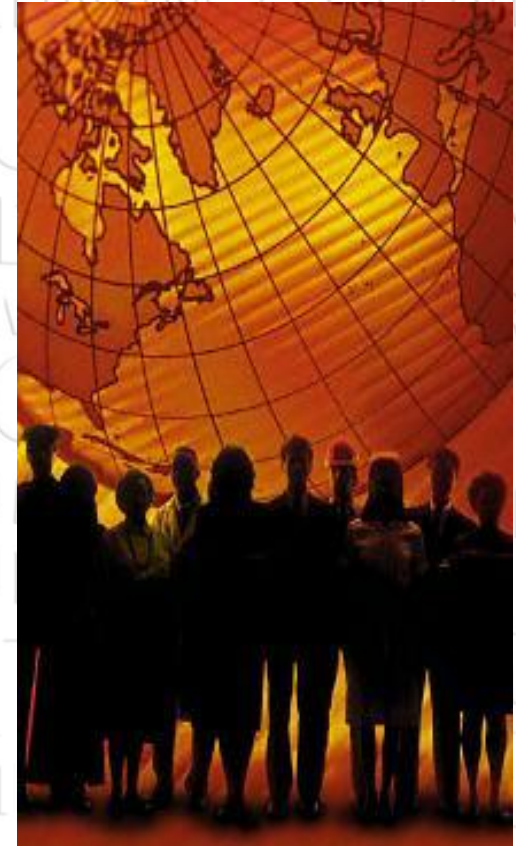
# Cross-border Strategic Alliances

Alliances with world's leading commodity exchanges have paved way for MCX to integrate with global commodities ecosystem and implement international best practices



# Why MCX ?

- Standardized, accepted and liquid financial instruments
- Cost-efficient trading & risk management opportunities
- Traded competitively in an anonymous auction
- Futures prices serve as world reference prices
- Exchange offers safe, fair, and orderly markets protected by its rigorous financial standards and surveillance procedures.
- Futures contract performance is supported by a strong financial system, backed by the Exchange's clearing members, including some of the strongest names in the brokerage & banking industries.





# Process Flow for starting Hedging on MCX

Placing Hedging Proposal to Management

Board Approval for Hedging received

Becoming a direct member of the Exchange

**OR**

Opening of A/c with MCX Member / Commodity Broker \*

Filling Know Your Client Form (KYC)

Margin Money deposited on start of hedging

Commencing hedging through Broker terminal

(\* like Religare Commodities, Karvy Commodities, Angel Commodities, India Infoline Commodities, Anand Rathi Commodities etc)

# Types of Membership

- Trading Member (TM)
- Trading –cum Clearing Member (TCM)
- Institutional Trading-cum Clearing Member (ITCM)
- Professional Clearing Member (PCM)

# MCX Fee & Deposit Structure

Membership Type	Admission Fee (Non-refundable) (Rs in Lakhs)*	Security Deposit (Refundable) (Rs in Lakhs)		Net-worth (Rs in Lakhs)
		Cash Component	BG / FDR Component	
TM	7.5	-	-	10 (Non-Corporates) & 25 (for Corporates)
TCM (Non-Deposit based)	25	15	15	75
TCM (Deposit based)	10	32.5	32.5	75
ITCM	25	50	50	100
PCM	10	50	50	500

\*Service Tax @ 10.30% is applicable

# Financial cost to hedging operation

## → Exchange Transaction Charges (per Rs. 1 lakh of turnover)

*Transaction fee (per Rs. 1 lakh of turnover value) is required to be paid by the members based on their daily turnover in all the futures contracts in all the commodities traded at the Exchange as tabulated below:*

<b>Average daily turnover</b>	<b>Transaction fee rates (per Rs. 1 lakh of turnover)</b>
<i>Upto Rs. 250 crore</i>	<i>Rs. 2.50</i>
<i>On incremental turnover above Rs. 250 crore to Rs. 1000 crore</i>	<i>Rs. 1.25</i>
<i>On incremental turnover above Rs. 1000 crore</i>	<i>Re. 1.00</i>

## → Brokerage and Service Charges (varies from Broker to Broker)

# Benefits at MCX

- Lot size in lieu of domestic requirement
- Cash Settled
- No Forex risk
- Timings for trade in lieu of domestic requirement
- Fixed daily price limit
- High liquidity ensures low impact cost (approx 0.01%)



# THANK YOU

Disclaimer: Multi Commodity Exchange of India Limited is proposing, subject to market conditions and other considerations, a public offer of equity shares by way of an offer for sale and has filed a Draft Red Herring Prospectus ("DRHP") with the SEBI. The DRHP is available on the websites of SEBI at [www.sebi.gov.in](http://www.sebi.gov.in) and the book running lead managers at [www.edelcap.com](http://www.edelcap.com), <http://www.online.citibank.co.in/rhtm/citigroupglobalscreen1.htm> and [www.morganstanley.com/indiaofferdocuments](http://www.morganstanley.com/indiaofferdocuments). Investors should note that investment in equity shares involves a high degree of risk and for details in relation to risk factors, please see the section titled "Risk Factors" in the DRHP.

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