

Parameters for Performance Review of Commodity

REFINED CASTOR OIL

1. Background

a. Brief about the commodity such as sample picture, lifecycle and various varieties/grade of the commodity found in India

Castor Oil (Ricinun Oil), is a non-volatile fatty oil obtained from the seeds of the castor bean (*Ricinus communis*) of the spurge family (*Euphorbiaceae*). Castor Oil is the primary product obtained from Castor Seed. Castor Oil is unique among all fats and in terms of its uniformity and consistency. Castor oil of non-edible grade is renowned the world over as one of the most versatile of all oil types for industrial purposes. Some of the properties that make castor oil ideal for industrial purposes are its high specific gravity, thickness and hydroxyl value.



Castor oil has long been used commercially as a highly renewable resource for the chemical industry. Castor oil and its derivatives have wide ranging applications in the manufacturing of soaps, lubricants, hydraulic and brake fluids, paints, dyes, coatings, inks, cold resistant plastics, waxes and polishes, nylon, pharmaceuticals and perfumes. It is also used for making bio-diesel.

India, is also the largest exporter of Castor Oil in the world, accounting for more than 90% of total global exports of Castor Oil. China has been one of the biggest growth drivers for castor oil due to its demand for Sebacic acid (a basic industrial chemical compound) which is developed from this oil.

In terms of production, India is the largest producer of castor seed in the world, and thus, also of Castor oil. Global Castor oil production is concentrated primarily in a small geographic region of Gujarat in Western India. This region is favorable due to subtropical climate conditions.

Crop Cycle: Castor Oil is a processed commodity and hence does not follow any particular crop cycle.

Life Cycle: Value Chain of the Commodity	Major Varieties /Grade
<pre> graph TD Processors --> CastorMeal[Castor Meal] Processors --> CastorOil[Castor Oil] CastorMeal --> Importers CastorOil --> Exporters Brokers --> Exporters </pre>	Major Varieties: Not Applicable
	NCDEX: Refined Castor Oil (FSG- First Special Grade) with the following specifications
	Refractive Index at 20°C
	1.4700-1.4740
	Moisture & Volatile Matter
	0.22 % Max
	Insoluble Impurities
	0.02 % Max
	Free Fatty Acid
	0.9 % Max
	Acid Value
	2.00 % Max
	Iodine Value (Wijs method)
	82-90 %
	Acetyl Value
	140 Min
	Saponification Value
	177-187
	Un-saponifiable Matter
	0.80 % Max
	Hydroxy Value
	160-168
	Relative Density 15 / 15.5 DC
	0.954-0.960
	Viscosity Gardner-Holdt
	U- V
	Colour, Lovibond (5 ¼" cell)
	19 Yellow, 1.9 Red Max

	Appearance 25 DC	Clear and free from suspended matter
	Odour	Slight, characteristic
	Ricinoleic Acid content	85% Min

Table: Reference Years for Commodities

Sl. No.	A	B	C
Crop Season	Kharif	Kharif (Long Duration Crop)	Rabi
Crops	Bajra, Groundnut, Guar seed, Kapas, Maize, Sesame Seed,	Castor seed and Turmeric	Barley, Coriander, Jeera, Isabgol Seed and Yellow Peas
Relevant Processed commodities	Guar gum, 29 mm Cotton, Cotton seed Oil cake, Cotton Wash Oil and Crude Sunflower Oil	Castor Oil	-
Sowing Time	July onwards	July onwards	October onwards
Harvesting Time	October onwards	January onwards	March onwards
Reference Year			
Financial Year 2025-26 (Apr-Mar)			
Corresponding Years			
Production Year (PY)	2025-26 (July-Sept)	2024-25 (July-June)	2024-25 (July-June)
Marketing Year (MY)	2025-26 (Oct-Sept)	2025-26 (Jan/Feb-Dec/Jan)	2025-26 (Mar/Apr - Feb/Mar)
Calendar Year (CY)	2025 (Jan-Dec)	2025 (Jan-Dec)	2025 (Jan-Dec)
Relationship b/w Various Years	Current Financial Year = Current Production Year = Current Marketing Year = Current Calendar Year	Current Financial Year = Previous Production Year = Current Marketing Year = Current Calendar Year	Current Financial Year = Previous Production Year = Current Marketing Year = Current Calendar Year
Example	FY 2025-26 = PY 2025-26 = MY 2025-26 = CY 2025	FY 2025-26 = PY 2024-25 = MY 2025-26 = CY 2025	FY 2025-26 = PY 2024-25 = MY 2025-26 = CY 2025

Explanatory Notes:

- India is a vast country and various crops are sown and harvested at different point of time. However, two major crop seasons, are there i.e. Kharif & Rabi. Apart from it, Zaid/Summer season is also there.
- Crop seasons are classified based upon sowing time. Normally, Kharif season sowing starts from mid-June/July and new crop arrivals begin from Oct/Nov. However, early/late sowing/harvesting also takes place. Rabi season sowing usually takes place mainly from October/November and harvesting starts from March/April. Early/late sowing/harvesting also takes place. Summer crops/Zaid crops are short duration crops mainly sown during January-March and harvested during April-June.
- “Production Year” is considered as “July to June”. With the start of monsoon rains during June/July the sowing of Kharif season starts and they are harvested during Sept/Oct. From Oct onwards the sowing of Rabi season crops starts and harvesting usually takes place during March/April. Thus, a single production cycle completes between July-Sept period covering Kharif, Rabi and Zaid crops. Thus, production year remains same for all season crops and the period corresponds to July-Sept.

- “Marketing Year” for each crops starts from beginning of the harvest time i.e. from start of new crop produce arrivals in the market. Thus, for Kharif crops Marketing Year is generally considered as “October to September”, while for Rabi crops Marketing Year is considered as “April to March”. However, Marketing Year may vary slightly for some of the crops depending upon early/late maturity/harvesting.
- For processed commodities, their production starts after the start of new season crop arrivals of their underlying crop.

b. Commodity fundamentals and balance sheet as per the following format (to be prepared based on publicly available information on best effort basis):

Table - Fundamentals & Balance sheet (quantity)

(In Lakh Tonnes)

Global Scenario	Previous FY (2024-25)	Current FY (2025-26)
Beginning Stocks	NA	NA
Production	NA	NA
Imports	NA	NA
Total Supply	NA	NA
Exports	NA	NA
Domestic Consumption	NA	NA
Ending Stocks	NA	NA

NA= Not Available

(In Lakh Tonnes)

Indian Scenario	Previous FY (2024-25)	Current FY (2025-26) (P)
Production of Castor seed	19.59	17.86
Production of Castor Oil	9.03	8.23
Imports	0.000	0.000
Exports	7.01	6.77

Source: Castor oil Production is back-calculated based on Castor seed data sourced from the Ministry of Agriculture. Production of Castor oil is derived considering Conversion Ratio: 2.17 tonnes of Castor seed= 1 tonne Castor oil.; Imports and Export data is sourced from the Ministry of Commerce using HS code 15153090 and it is for Calendar Year (Jan-Dec); Figures for Domestic Consumption are as per market feedback.

P=Provisional

(In Lakh Tonnes)

Rank	Top 10 Major Producing Countries			Top 10 Major Consuming Countries		
	Country	Previous FY (2024-25)	Current FY (2025-26)	Country	Previous FY (2024-25)	Current FY (2025-26)
NA	NA	NA	NA	NA	NA	NA

Data for FY 2024-25 and 2025-26 is not available in the public domain.

(In Lakh Tonnes)

Rank	Top 10 Major Exporting Countries			Top 10 Major Importing Countries		
	Country	Previous FY (2024-25)	Current FY (2025-26)	Country	Previous FY (2024-25)	Current FY (2025-26)

NA	NA	NA	NA	NA	NA	NA
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Data for FY 2024-25 and 2025-26 is not available in the public domain.

Top 10 Major producing states in India

Data not available, as it is processed commodity. Castor seed, which is the raw material for Castor oil, is mainly sown in four states in India i.e. Gujarat, Rajasthan, Andhra Pradesh and Telangana etc.

c. Major changes in the policies governing trade in the spot markets of the commodity (FY 2025-26)

Date	Major Policies governing trade and related changes
	No major policy change was seen related to castor oil.

d. Geo political issues in the commodity and its impact on Indian scenario (FY 2025-26)

Date	Event	Key Details	Key Implications/Impact
28-Feb-2026	The direct military conflict between the United States, Israel, and Iran began on February 28, 2026, with coordinated strikes on Iranian targets.	The strait's closure or disruption caused sharp increases in global oil prices, as seen during past conflicts and temporary closures.	A war between the U.S., Israel, and Iran has not disrupted castor oil supply directly, but, overall increase in freight, insurance, and financing costs and soften industrial demand, is making exports costlier and more volatile despite India's dominant market position.

2. Trading related parameter

a. Monthly and Annual traded volume (quantity in appropriate units)

Month	Year	Symbol	Traded volume (MT)
Apr	2025	CASTOROIL	-
May	2025	CASTOROIL	6
June	2025	CASTOROIL	2
July	2025	CASTOROIL	-
August	2025	CASTOROIL	-
September	2025	CASTOROIL	-
October	2025	CASTOROIL	-
November	2025	CASTOROIL	-
December	2025	CASTOROIL	-
January	2026	CASTOROIL	-
February	2026	CASTOROIL	-
March	2026	CASTOROIL	-
Annual Traded Volume (MT) (April'25 to March'26)			8

b. Annual traded volume as proportion of total deliverable supply (quantity in appropriate units)

Symbol	Traded Volume (MT)	Deliverable Supply(MT)	Proportion
CASTOROIL	8	823,225	0.00

c. Annual traded volume as proportion of total annual production (quantity in appropriate units)

Symbol	Traded volume (MT)	Production(MT)	Proportion
CASTOROIL	8	823,000	0.00

d. Annual average Open interest as proportion of total production

Symbol	Average Open Interest (MT)	Production(MT)	Proportion
CASTOROIL	0.20	823,000	0.00

e. Annual average Open interest as proportion of total deliverable supply

Symbol	Average Open Interest (MT)	Deliverable supply(MT)	Proportion
CASTOROIL	0.20	823,225	0.00

f. Monthly and Annual value of trade (in Rs. Crores)

Month	Year	Symbol	Traded value (in Rs. Crores)
Apr	2025	CASTOROIL	0.00
May	2025	CASTOROIL	0.08
June	2025	CASTOROIL	0.03
July	2025	CASTOROIL	0.00
August	2025	CASTOROIL	0.00
September	2025	CASTOROIL	0.00
October	2025	CASTOROIL	0.00
November	2025	CASTOROIL	0.00
December	2025	CASTOROIL	0.00
January	2026	CASTOROIL	0.00
February	2026	CASTOROIL	0.00
March	2026	CASTOROIL	0.00
Annual Traded Volume (in Rs Cr.) (April'25 to March'26)			0.10

g. Monthly and Annual quantity of delivery (in appropriate units)

Nil

h. Monthly and Annual value of delivery (in Rs. Crores)

No delivery

i. Monthly and Annual Average Open Interest (OI) (in appropriate units)

Month	Year	Symbol	Average Open Interest (MT)
Apr	2025	CASTOROIL	0
May	2025	CASTOROIL	1
June	2025	CASTOROIL	1
July	2025	CASTOROIL	0
August	2025	CASTOROIL	0
September	2025	CASTOROIL	0

Month	Year	Symbol	Average Open Interest (MT)
October	2025	CASTOROIL	0
November	2025	CASTOROIL	0
December	2025	CASTOROIL	0
January	2026	CASTOROIL	0
February	2026	CASTOROIL	0
March	2026	CASTOROIL	0
Annual Average OI (MT) (April'25 to March'26)			0.20

j. Annual average volume to open interest ratio

16.00%

k. Total number of unique members and clients who have traded during the financial year

Symbol	Member Count	Client Count
CASTOROIL	1	2

l. Ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest (Annual average as well as maximum daily value)

Annual Average	N/A
Maximum Daily Value	0.00%

m. Number of unique FPOs / farmers and VCPs/hedgers who traded in the financial year

Commodity	Count
CASTOROIL	0

Commodity wise client categorization is as per category details as provided by the members.

n. Algorithmic trading as percentage of total trading

Commodity	%
CASTOROIL	0.00%

o. Delivery defaults

Number of instances	0
Quantity involved	0

Value involved	0
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3.Price Movements

a. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).

NA

b. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price).

NA

c. Correlation between exchange futures & domestic spot prices along with ratio of standard deviation.

Correlation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1		-
<i>Spot</i>	0.963	1	-
<i>Mandi</i>	-	-	-

Standard Deviation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.973905	-
<i>Spot</i>	1.026794	1	-
<i>Mandi</i>	-	-	-

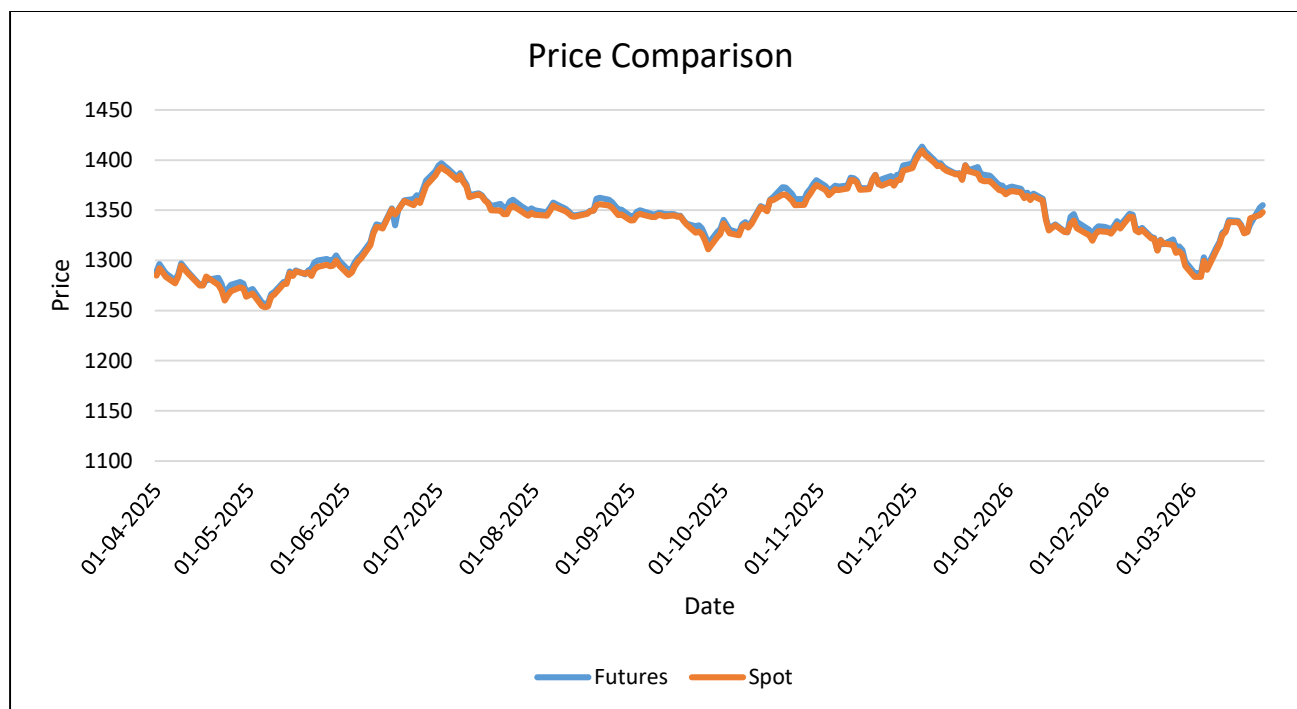
d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

NA

e. Comparison of Exchange polled price and mandi price (in case of agricultural commodities) /other relevant price (in case non-agricultural commodities) at basis centre.

Correlation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1		-
<i>Spot</i>	0.963	1	-
<i>Mandi</i>	-	-	-

Standard Deviation			
	<i>Futures</i>	<i>Spot</i>	<i>Mandi</i>
<i>Futures</i>	1	0.973905	-
<i>Spot</i>	1.026794	1	-
<i>Mandi</i>	-	-	-



f. Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility. (Volatility calculated by Square root of Standard Deviation of daily returns for the period from 1 April 2025 to 31 March 2026)

Value of daily futures price volatility (April 2025- March 2026)

Volatility	Month	Value
Max	Mar	0.006683
Min	Aug	0.002447

Value of daily Spot price volatility (April 2025- March 2026)

Volatility	Month	Value
Max	Mar	0.006224
Min	Aug	0.00243

g. Number of times the futures contract was in backwardation/ contango by more than 4% for the near month contract in the period under review

Contango	0
Backwardation	0

4. Others parameters

- a. Qualitative and quantitative measure for Hedge effectiveness ratio and basis Risk (Volatility of Basis) along with disclosure of methodology adopted for such calculations. (Volatility calculated by Square root of Standard Deviation of daily returns for the period from 1 April 2025 to 31 March 2026)

	CASTOROIL
Basis Volatility	3.3883
Hedge efficiency	98.81%

- b. Details about major physical markets of the commodity vis-à-vis market reach in terms of availability of delivery centers (information to be provided state-wise and UT-wise).

State	District	Availability of delivery centers
Gujarat	Harij	NA
	Palanpur	NA
	Deesa	NA
	Kutch/ Kandla	Kandla (Basis)
	Kadi	NA
	Mehsana	NA
	Patan	NA
State	District	Availability of delivery centers
Rajasthan	Barmer	NA
	Jalore	
	Jodhpur	
	Sirohi	
	Sumerpur	
State	District	Availability of delivery centers
Andhra Pradesh	Gadwal	NA
	Kurnool	
	Mahaboobnagar	
	Wanaparthy	
	Others	
	Total	

- c. Details about major physical markets of the commodity and average Open Interest for each month generated from those regions.

Note – The OI for each month is classified based on the Member level. The Average OI is on gross level (Long OI + Short OI)

State	Rajasthan
Apr-25	-
May-25	3
Jun-25	2

State	Rajasthan
Jul-25	-
Aug-25	-
Sep-25	-
Oct-25	-
Nov-25	-
Dec-25	-
Jan-26	-
Feb-26	-
Mar-26	-

Note - The OI for Custodian Participation is not mapped to any State/ location and hence not considered in the above data.

- d. Details, such as number and target audience, of stakeholders' awareness programs carried out by the exchange.

Following is the list of Awareness programmes, Stakeholder engagement programmes conducted by the Exchange in FY 2025-26:

Sr. No.	Program Type	Location	Participants
1.	IEP	Mumbai	20
2.	IEP	Noida	31
3.	IEP	Delhi	31
4.	IEP	Himmatnager	30
5.	IEP	Arvalli	30
6.	IEP	Roorkee	35
7.	IEP	Noida	42
8.	IEP	Hisar	55
9.	IEP	Delhi	45
10.	IEP	Delhi	42
11.	IEP	Ghaziabad	34
12.	IEP	Ghaziabad	36
13.	IEP	Ambala	48
14.	IEP	Chandigarh	60

Sr. No.	Program Type	Location	Participants
15.	IEP	Noida	36
16.	IEP	Noida	30
17.	IEP	Patdi	25
18.	IEP	Aligarh	45
19.	IEP	Surendernagar	90
20.	IEP	Dhasa	140
21.	IEP	Agra	100
22.	IEP	Delhi	43
23.	IEP	Ghaziabad	53
24.	IEP	Mumbai	65
25.	IEP	Surendranager	60
26.	IEP	Navsari	120
27.	IEP	Delhi	41
28.	IEP	Dang	100
29.	IEP	Ghaziabad	42
30.	IEP	Agra	50
31.	IEP	Andheri	45
32.	IEP	Noida	35
33.	IEP	Mussoorie	50
34.	IEP	Noida	35
35.	IEP	Yamunanagar	45
36.	IEP	Ghaziabad	39
37.	IEP	Noida	37
38.	IEP	Karnal	32
39.	IEP	Ghaziabad	36
40.	IEP	Ludhiana	61
41.	IEP	Noida	40
42.	IEP	Visakhapatnam	55
43.	IEP	Ghaziabad	37
44.	IEP	Noida	36

Sr. No.	Program Type	Location	Participants
45.	IEP	Ghaziabad	39
46.	IEP	Ghaziabad	40
47.	IEP	Varanasi	250
48.	IEP	Delhi	39
49.	IEP	Delhi	36
50.	IEP	Ishanpur mota	56
51.	IEP	Simej Dholka	44
52.	IEP	Lodra Santhalpur	56
53.	IEP	Kaushambi	48
54.	IEP	Prayagraj	40
55.	IEP	Indore	69
56.	IEP	Yamunanagar	35
57.	IEP	Motipura Vijapur	70
58.	IEP	Village Gokhrva	60
59.	IEP	Akola	55
60.	IEP	Lodra	80
61.	IEP	Ludhiana	35
62.	IEP	Kalsar Maahuva Bhavnager	75
63.	IEP	Nagpur	57
64.	IEP	Patan	30
65.	IEP	Delhi	53
66.	IEP	Lucknow	55
67.	IEP	Gorakhpur	35
68.	IEP	Belagaum	69
69.	IEP	Manglore	50
70.	IEP	Dholka	62
71.	IEP	Anand	52
72.	IEP	Petlad Anand	52
73.	IEP	Daskroi	60
74.	IEP	Netrang	52

Sr. No.	Program Type	Location	Participants
75.	IEP	Sarvhan Bharuch	60
76.	IEP	Sayla Surendranager	60
77.	IEP	Gadu	48
78.	IEP	Banglore	69
79.	IEP	Bhilai	53
80.	IEP	Hyderabad	73
81.	IEP	Online	32
82.	IEP	Latur	34
83.	IEP	Pune	27
84.	IEP	Mumbai	41
85.	IEP	Ahmedabad	136
86.	IEP	Ahmedabad	90
87.	IEP	Ahmedabad	107
88.	IEP	Jamshedpur	100
89.	IEP	Dehradun	100
90.	IEP	Chandigarh	400
91.	IEP	Sambhaji Nagar	750
92.	IEP	Webinar	40
93.	IEP	Webinar	31
94.	IEP	Webinar	40
95.	IEP	Webinar	29
96.	IEP	Webinar	38
97.	IEP	Webinar	38
98.	IEP	Webinar	35
99.	IEP	Webinar	41
100.	IEP	Webinar	40
101.	IEP	Webinar	38
102.	IEP	Webinar	39
103.	IEP	Webinar	55
104.	IEP	Webinar	100

Sr. No.	Program Type	Location	Participants
105.	IEP	Webinar	70
106.	IEP	Webinar	45
107.	IEP	Webinar	40
108.	IEP	Webinar	32
109.	IEP	Webinar	62
110.	IEP	Webinar	36
111.	IEP	Webinar	39
112.	IEP	Webinar	39
113.	IEP	Webinar	35
114.	IEP	Webinar	32
115.	IEP	Greater Noida	40
116.	IEP	Ghaziabad	31
117.	IEP	Greater Noida	40
118.	IEP	Greater Noida	40
119.	IEP	Agra	30
120.	IEP	Agra	30
121.	IEP	Hathras	40
122.	IEP	Moradabad	60
123.	IEP	Moradabad	61

e. Steps taken / to be undertaken to improve hedging effectiveness of the contracts as well as to improve the performance of illiquid contracts.

- Creating an awareness about the Hedge Policy to bona fide hedger
- Awareness programme in Major trading centre's as well as remote locations to increase hedging participation from the value chain participants.
- One to one meetings with the market participants to create awareness about the new developments / new initiatives at exchange level.

5. Any other information to be disclosed as deemed important by the exchange or as suggested by the PAC is missing

N.A

ANNEXURE I

Qualitative and quantitative measure for Hedge effectiveness ratio

Methodology

Regression analysis is carried out between near month futures returns and NCDEX polled spot prices returns of the FY2025-26.

The R-Square value of the Regression analysis represents the “**Hedging Efficiency**”.

Note:

Date for which spot prices were not available is not used for analysis. Weekly returns are used for performing Regression Analysis.

The method used to calculate Hedging Efficiency does not consider liquidity risk because of this reason illiquid commodities can have high hedging efficiency.

References:

Ghosh, Ph.D, Nilanjan & Dey, Debojyoti & Moulvi, Nazir & Jain, Niteen & Sinha, Neha & Rachuri, Sarika. (2013). Hedging Efficiency—Measures and Empirical Study.