Impact on Suspension of Commodity Derivatives on Commodity Market Ecosystem

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Contents

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[4] Earlier version of this report (Dated: 11th November 2024) considered data till April 2024. This version considers data up to 30th June 2025 except for Section 3 of this document, as section 3 requires data analysis for pre-suspension period.

Executive Summary

Background

India is predominantly an agricultural economy and contributing 15-16% to GDP and employing 50% of the population. However, the agriculture industry is extremely susceptible to fluctuations in pricing because the commodities involved are seasonal items with a limited shelf life. The volatility in agricultural commodity prices is a significant issue, but the commodity derivative market mitigates the price risk through hedging. The Securities and Exchange Board of India (SEBI), the regulatory authority for the capital market, has implemented policy measures to foster growth in the Indian commodities derivatives market. These measures include permitting category-III alternative investment funds, eligible foreign entities (EFEs), and portfolio management services, as well as allowing commodity exchanges to provide derivatives contracts. Atypical to earlier regulations, in December 2021, SEBI announced the suspension of derivatives trading for five commodities/commodity groups (Wheat, Soybean, Crude Palm Oil, Paddy, and Moong) for one year with immediate effect. In addition to these five commodities, SEBI suspended Chana, Mustard Seed/Mustard Oil futures contracts on 17 August 2021 and 8 October 2021 respectively. The Securities and Exchange Board of India (SEBI) has extended the suspension on futures trading in seven agricultural commodities till 20 December 2024 and subsequently till March 2026. Though various press releases issued by SEBI's did not mention the reasons behind the suspension, it is widely believed that this suspension was done to tame the rising prices of commodities. Ban on these commodities has not only hurt the exchange but most importantly it has hurt the farmer-producing organizations (FPOs), farmers, and other value chain participants. The extension of the suspension year after year needs to be evaluated in light of rising prices and to what extent the ban has achieved its objective.

Objective of the study

The study examines the impact of suspensions on the commodity ecosystem, value chain, and farmer-producing organization, focusing on four edible oil commodities: ***Soybean, Soy oil, Mustard seed, and Mustard oil.*** *Firstly*, the impact of the suspension on both retail and wholesale pricing has been examined to see whether it reduces price increases for retail consumers or not. *Second*, in the absence of a domestic futures market, whether international

exchanges provide a good enough platform to hedge the price risk. Hence the objective of this analysis is to compare the basis risk associated with domestic exchange vis-à-vis international exchange. This analysis has been done only for Soybean and Soyoil as Mustard Seed and Mustard Oil futures are not traded in any international commodity exchange. The data period ranges from ***January 2016 to June 2025***[5]. *Third*, the impact of the suspension on the spot price of underlying commodities, and *fourth*, the study surveyed FPOs to check whether FPOs are losing out due to future bans.

Findings

The analysis shows that prices have increased across edible oil categories during the post-suspension period, and retail consumers are paying even higher prices in the post-suspension period. Interestingly, the retail-to-wholesale price difference in the post-suspension period is also much higher as compared pre-suspension period. In case of mustard oil, monthly prices (per kg) have increased by ₹48.87 and ₹ 46.53 at retail and wholesale level respectively. In post-suspension period, the difference between retail price to wholesale price is ₹11.64 as compared to ₹9.22 during the pre-suspension period. The price differences are also statistically significant based on the t-statistics value.

The same situation also prevails for Soy oil and Palm oil. In case of Soy oil, prices (per kg) have increased by ₹44.47 and ₹41.15 at retail and wholesale level respectively. In post-suspension period, the difference between retail price to wholesale price is ₹10.01 as compared to ₹6.68 during the pre-suspension period. In case of Palm oil, prices (per kg) have increased by ₹36.81 and ₹33.84 at retail and wholesale level respectively. In post-suspension period, the difference between retail price to wholesale price is ₹8.17 as compared to ₹5.20 during the pre-suspension period.

Analysis of these above numbers clearly indicate that during post suspension period, edible prices (per kg) have increased significantly across retail and wholesale category i.e ranging from ₹33.84 to ₹48.87. Interestingly retail to wholesale price difference has also widened during post suspension period for all three edible oils considered for this study.

The lack of domestic hedging options would force domestic hedgers to access the international futures market, which exposes them to basis risk. Basis risk is the residual risk faced by hedgers, which is the difference between spot and futures prices for a commodity. It arises from factors influencing futures prices and spot prices varying from time to time. The findings show that NCDEX Spot and NCDEX Futures for both Soyoil and Soybean are far more stable and closer to 1 as compared to the correlation coefficient between NCDEX Spot and CME futures. A higher positive correlation indicates lesser basis risk, thus clearly indicating higher basis risk in hedging at international exchanges. Recently, Adani Wilmar Ltd's MD & CEO, Angshu Mallick, has clarified the additional risk associated with hedging in international exchanges. He stated that local oils, particularly in India, cannot be contra-hedged due to the lack of a hedging mechanism.

The suspension of futures markets in India has led to increased volatility in mandi prices for Mustard Seed and Soybean seeds, with daily volatility increasing from April 2021 onwards.

[5] Upto the latest available monthly data.

The absence of an NCDEX price anchor has resulted in fluctuating prices, with the average dispersion for Soyoil and Mustard Seed being significantly higher.

A survey was conducted between June and October 2024 aimed at understanding the use of Soybean and Mustard seed commodity futures among Farmers Producing Organizations (FPOs). FPOs face many challenges such as a lack of price risk management avenues, market manipulation and price exploitation at Mandi(s). Futures markets provide a transparent platform for price discovery, helping FPOs understand market sentiment and future price expectations. Without futures contracts, FPOs cannot hedge against price fluctuations, making them vulnerable to market volatility. Commodity exchanges play a crucial role in addressing these issues by providing training, warehousing facilities, price anchors, quality checks, and better bargaining power. Futures contracts help mitigate price risks and ensure farmers' confidence in selling their agricultural produce.

Commodity derivatives market offers three important value propositions i.e. price risk hedging, price discovery, and pricing benchmarks. Commodity Futures provides a transparent price discovery process for Farmers' Producers (FPOs) to make informed decisions on selling agricultural produce. However, a ban on futures trading eliminates this risk management tool, leaving FPOs vulnerable to price fluctuations.

Policy Recommendations

Need for market driven instruments: Commodity prices will be volatile as India's commodity market ecosystem is getting increasingly integrated with the world market. Exacerbating climate risk, export-import and tariff dynamics, geopolitical risks will affect commodity availability and supply. Hence commodity prices will fluctuate. The quicker Indian regulators, policymakers, Indian farmers, producers, consumers and other value chain partners realize this, better it will be as regulatory interventions can shield them from unpredictable prices up to a limited extent only. Thereby emanating the need for market driven tools like commodity derivatives (futures & options).

Commodity derivatives lead to evolution of the entire commodity ecosystem: Just like exchanges offering trading facilities for financial products promote entrepreneurial activity in an economy by allowing early-stage investors to exit through IPO, commodity exchanges reach goes even further. They not only offer a platform for price risk mitigation, but also put significant effort in developing the commodity market ecosystem such as warehousing capacity enhancement, quality assessment, and many more.

Drastic measures like suspensions through consultative approach: SEBI must create an enabling and conducive environment so that these exchanges continue to provide price risk hedging, price discovery, and pricing benchmark benefits to commodity market participants. As the market watchdog, SEBI should only decide to undertake drastic measures to halt derivative trading after consulting and interacting with all relevant stakeholders in the ecosystem. In fact, commodity exchanges should be treated as systematically important financial institutions. SEBI must create an enabling and conducive environment so that these exchanges continue to attract hedgers to their platforms. Periodic suspension of commodity derivative contracts has been a recurring theme in India that is not only hampering the growth of the derivative sector but also the growth of the overall commodity ecosystem. However, worldwide commodity exchanges have continued to offer uninterrupted commodity derivatives contracts even in the face of supply-demand mismatch and price variations.

Hence, this research study deep-dives into the underlying prevalent belief system behind suspensions in India via empirical research and understand its impact on the foremost entity – our farmers and value chain participants. Our study articulates that the belief that derivatives futures trading leads to price inflation may be misplaced. Our analysis of retail and wholesale price determines that specifically for edible oils, not only have prices increased across categories during the post-suspension period, but retail consumers are paying even higher prices.

Use of commodity derivatives by government agencies: The government is the largest buyer and seller of agricultural commodities in India. At least one-fourth of the domestic agri produce is procured by the government for various PDS (Public Distribution schemes) & PSS (Price support scheme) schemes along with MSP (Minimum Support Price). This leaves the government agencies also exposed to price risk and offers limited support to farmers. There is a need to elevate to market-driven tools which will reduce the dependencies on these schemes.

Revocation of suspended commodity Derivatives: Commodity price fluctuations are inevitable and market driven which has been proven by not only this research but numerous researches in the past on the subject. Commodity derivatives serve as important price benchmarks for effective decision making by the value chain. Post suspensions the market has lost these benchmarks and the price variance amongst various mandis, spot and futures and international markets has increased. Also the suspensions have been ineffective in controlling inflation, which was the initial premise of imposing suspensions. With edible oil and oilseed prices being largely driven by international price movements – the industry is vulnerable to these international price shocks in the absence of commodity derivatives. Hence these contracts should be restored.

Acknowledgement

We are immensely thankful to representatives of many FPOs for sparing their valuable time and for participating in the primary survey. We are specifically thankful to representatives from **Avantika Aatm Nirbher Krashak Producer Company Limited, Madhya Bharat Consortium of Farmers Producer Company Limited, Kalisindh Farmer Producer Company Limited, Earth Organic Farmers Producer Company Limited, Bikaner Kisan Agro Producer Company Limited, Deeg Wheat & Mustard Producer Company Limited, Sarnagiti Kisan Agro Producer Company Limited.**

We are also thankful to NCDEX for funding the research study.

Impact on Suspension of Commodity Derivatives on Commodity Market Ecosystem

1.Introduction

Indian commodity exchanges have come a long way since 2003 when the Government of India permitted national-level multi-commodity exchanges. These exchanges have brought in many initiatives, introducing contracts on many new commodities, designing contract parameters to satisfy the needs of local commodity producers, consumers, and commodity value chain partners (PC-VCPs henceforth), putting significant effort in developing warehouses and quality assessment ecosystem, developing spot price benchmarks, educating commodity PC-VCP to hedge the price risk at these platforms. In the context of agri-commodity derivatives, the role of commodity exchanges in educating farmers and farmer-producer organizations has been a significant step forward. In fact, unlike big corporations that have a long history of hedging price risk in international exchanges like LME, CME, BMD etc., educating farmer producers organizations to hedge price risk in Indian exchanges has been a significant positive development.

Of course, many of these initiatives are ably supported by right kind of policy decisions and regulations by SEBI, the commodity market regulator of India. From time to time, SEBI has taken certain policy decisions to maintain orderly growth in the Indian commodity derivative market. Policy decisions such as allowing category-III alternate investment funds, allowing eligible foreign entities (EFEs) and portfolio management services to participate in commodity derivatives markets, allowing commodity exchanges to offer derivatives contracts on commodity indexes, allowing for cross margin benefit between commodity Index futures and underlying commodity futures constituents, permitting negative prices for commodity futures etc. Most of these regulations are aimed towards orderly growth in the commodity derivatives market.

Atypical to earlier regulations, in December 2021, SEBI announced the suspension of derivatives trading for five commodities/commodity groups for one year with immediate effect. In addition to these five commodities, SEBI suspended Chana, Mustard Seed futures contracts on ***17 August 2021 and 8 October 2021*** respectively. **Annexure A** highlights SEBI's press release on this matter. As can be seen, SEBI's press release did not mention the reasons behind the suspension, it is widely believed that this suspension was done to tame the rising prices of commodities. The suspension took many by surprise, as it was not the first time SEBI suspended commodity derivative contracts. In the past, earlier suspensions were for one or two commodities (Refer to **Annexure B**) at best. The December 2021 press release

banning five commodities at one go without any stakeholder engagement which was preceded by back-to-back suspension of couple of other commodities in August and October 2021 was unprecedented.

Since 20 December 2021, SEBI has issued press releases periodically and extended the suspension year on year. As of now, the suspension remains in force until March 2026 (refer to **Annexure C**).

Commodity derivatives market offers three important value propositions i.e price risk hedging, price discovery and pricing benchmarks. Commodity futures contracts help commodity producers, consumers and value chain partners to hedge price risks. Futures contracts derive their value from the spot market. Futures and spot prices are intertwined with each other and tend to co-move and finally converge on the futures contract's expiry date. Compared to price risk hedging function, price discovery is an equally important value proposition offered by various commodity exchanges.

Price discovery happens when the futures price is determined through the interaction of many buyers and sellers who factor in domestic as well as global supply-demand conditions of a commodity and the related commodities, supply chain bottlenecks, geopolitical issues, and a host of other factors. The discovered futures price plays an important role as consumers, producers and other VCPs formulate their business decisions based on the futures price. Over time, the discovered price gains traction and becomes the global benchmark price, gets reported in national and international data platforms much like the Cotton prices at the Intercontinental Exchange (The ICE) and Crude Palm Oil price at Bursa Malaysia Derivatives Berhad (BMD).

Considering the nascent stage of Indian commodity derivatives markets, in addition to discovering the futures prices, Indian commodity exchanges also put significant effort into calculating and reporting spot price information in a timely manner. Commodity exchanges collect data from empaneled members from the main/additional delivery centers for a given commodity and calculate and report spot prices at least twice daily. The calculated spot prices are not only updated in the websites of the exchanges but are also relayed to all local mandis, discussed and reported on TV, various websites, and mobile apps thus giving a credible signal to one and all regarding the spot price prevailing at the major market on that date. Collation and calculation of spot prices on a daily basis is a unique value proposition offered by commodity exchanges as compared to exchanges offering only derivatives contracts on financial assets. For example, if one is interested in taking a futures contract position ay, on Infosys shares, the trader can access both Infosys spot price and futures price on a real-time basis from the exchange platform only. In the case of the commodity market, as the spot and futures market operate in isolation, the role of commodity exchanges in calculating and disseminating spot price information increases significantly.

Though APMCs/Mandi's are major venues for spot trading of agri-commodities, but for various reasons, APMCs have not been able to create a spot price benchmark. Prices arrived at these APMC's are influenced by factors such as local supply and demand, quality of the produce, applicable GST and more importantly are susceptible to cartelization by traders/middlemen to exploit farmers and consequently do not truly reflect the spot price commodities. It is a well-known fact that India is the biggest producer of many agri-commodities. Lack of market access as well as lack of remunerative prices for agri-produce

puts farmers under severe financial stress. Though various state government mandis governed by APMC acts are supposed to protect the interest of farmers, APMC's have facilitated the exploitation of farmers in terms of lack of transparency in arriving at selling price, price cartelization by traders/buyers as well as delay in payment to farmers etc. In addition to providing price risk hedging platform, commodity derivatives exchanges are expected to help farmer/farmer producer organizations in many different ways.

Hence this study aims to explore the impact of suspensions on the commodity ecosystem, value chain, and the final consumer. Even though the 20 December 2021 suspension covered 7 commodity groups, as part of this study, the impact of the suspension on four commodities[6] will be analyzed. These four commodities belong to the edible oil family i.e., Soybean, Soy oil, Mustard seed, and Mustard oil. The study covers the data period from *January 2016 to June 2025*.

In the backdrop of this brief discussion, this research work aims to explore

- Did the suspension tame the price rise specifically for retail consumers?
- What would be the cost of hedging at any international exchanges due to the unavailability of a domestic hedging platform?
- How did the suspension affect the spot price of underlying commodities?
- Do FPOs lose out because of the futures ban?

2.Did the suspension tame price rise specifically for retail consumers?

Suspension of commodity futures could have been undertaken with the belief that derivatives trading leads to price inflation. If this would have been true, then the prices should have cooled down after the suspension came into effect. Hence in this section, for Soyoil and Mustard oil, the impact of suspension on retail as well as wholesale prices has been analyzed. It is to be noted here that considering Soybean and Mustard Seed are not directly consumed by retail consumers, this specific analysis has not considered for both these commodities. In addition to Soyoil and Mustard oil, this analysis also covers Palm oil as it is the most used cooking oil in India.

For this analysis "Monthly All India Average" retail and wholesale prices announced by the Department *of Consumer Affairs (Price Monitoring Division)* have been considered for Mustard oil, Soyoil, and Palm oil. Snapshot of the wholesale and retail price data for Mustard oil is provided in **Table 2.1**. **Figure 2.1** shows the Mustard oil wholesale and retail price before and after the futures trading suspension. **Figure 2.2** shows the difference between the retail to wholesale price for Mustard oil before and after the suspension. As one can see, the price difference between retail and wholesale prices continues to remain higher during the post-suspension period as compared to the pre-suspension period. **Figures 2.3-2.6** depict similar charts for both Soy oil and Palm oil.

[6] Annexure A lists the 7 commodity groups. Out of these 7 commodities, Paddy, Wheat & Moong did not have much trading activities at NCDEX.

Table: 2.1: Sanpshot of Wholesale and Retail Prices

Department of Consumer Affairs
(Price Monitoring Division)
Monthly Average Wholesale Prices of Mustard Oil (Packed)

Unit: (Rs./QTL.)

State	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Average
Andaman and Nicobar	20390	20390	19841.98	20380.98	19608	18799.95	18791.81	17904.24	17310.51	16794.77	16617.79	16358.35	18429.82
Andhra Pradesh	18886.21	18839.69	18718.84	17901.52	18033.33	17697.84	17553.33	17585.61	17491.79	16135.44	16145.59	15175.63	17547.88
Arunachal pradesh	15516.18	13577.43	11402.5	11257.58	13772.92	14209.09	13319.23	13804.96	13401.75	12788.57	13393.62	13659.92	13515.56
Assam	16249.84	15984.32	15374.16	15069.6	14482.49	13776.15	13645.32	13604	13698.35	13567.3	13574.33	13617.91	14296.81
Bihar	15749.04	15253.56	14703.35	14155.39	13588.24	13005.21	12883.68	13047.98	12864.99	12702.6	12731.41	12613.76	13652.45
Chandigarh	16450	16450	16450	16506.67	16700	16700	16253.33	15000	15000	13873.33	13700	13700	15548.87
Chhattisgarh	16316.07	15839.42	15438.5	14964.15	14411.42	14070.75	14023.43	14012.55	13886.19	14052.48	13936.91	13996.17	14581.29
Delhi	17251.06	16132.75	14145.74	13240.53	12558.06	12119.33	12118.68	12324.39	12881.43	13082.61	13177	13153.58	13501.16
:	:	:	:	:	:	:	:	:	:	:	:	:	:
West Bengal	16039.18	15507.91	14633.59	14274.53	13838.55	13286.22	12472.48	12402.5	12441.06	12381.35	12397.45	12350.52	13145.46
All India Average	**16198.84**	**15883.22**	**15486.37**	**15037.79**	**14649.04**	**14171.75**	**13871.14**	**13880.12**	**13778.92**	**13597.52**	**13633.62**	**13562.73**	

Department of Consumer Affairs (Price Monitoring Division)
Monthly Average **Retail Prices** of **Mustard Oil (Packed)**

Unit: (Rs./Kg.)

State	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Average
Andaman and Nicobar	219.44	218.7	214.46	211.18	212.06	202.13	201.18	197.26	187.87	183.07	183.54	181.61	200.45
Andhra Pradesh	206.37	204.5	202.38	196.56	201.5	196.71	194.49	193.27	192.4	179.25	179.39	170.38	193.13
Arunachal pradesh	167.96	165.76	154.86	150.83	159.59	157.77	149.78	154.68	150.7	148.32	140.07	151.02	155.29
Assam	175.29	170.14	163.87	159.1	154.84	147.71	146.12	146.49	147.14	146.48	147.54	147.99	153.37
Bihar	164.77	160.01	154.18	148.44	142.98	137.09	136.34	138.54	136.78	134.32	135.13	133.92	143.86
Chandigarh	176	176	176	174.6	172.9	173.07	165.96	154	154	150.52	150	150	164.23
Chhattisgarh	175.2	171.62	168.06	163.33	157.48	152.62	149.43	148.22	147.5	148.49	147.23	149.24	156.36
Delhi	178.77	167.75	148.39	139.97	134.32	131.5	132.74	140.71	144.17	143.32	144.47	145.65	145.87
:	:	:	:	:	:	:	:	:	:	:	:	:	:
West Bengal	165.42	159.88	152.45	149.07	145.19	139.55	133.26	132.64	132.57	131.98	131.76	130.6	138.57
All India Average	**173.92**	**171.15**	**167.27**	**163.21**	**159.47**	**154.23**	**150.97**	**150.92**	**149.87**	**148.38**	**148.73**	**148.05**	

Data Source: Department of Consumer Affairs (Price Monitoring Division)

Figure 2.1: Mustard oil Wholesale Price and Retail Price (before and after suspension)

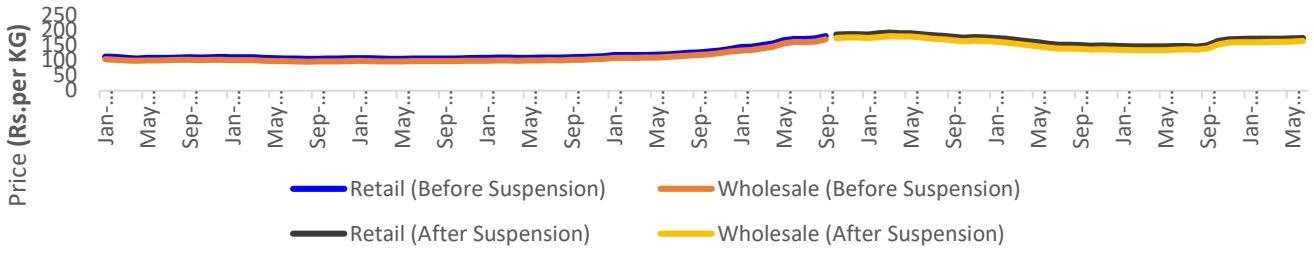


Figure 2.2: Mustard oil price difference (Retail minus Wholesale Price) (before and after suspension)

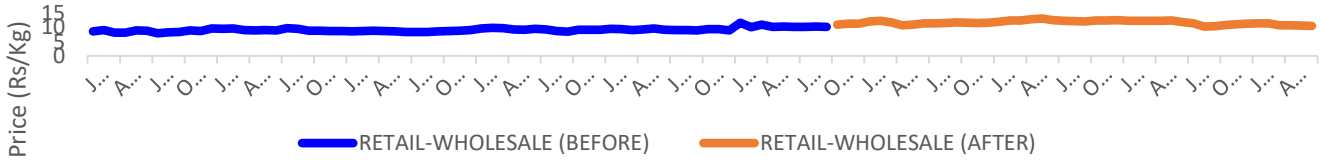


Figure 2.3: Soy oil Wholesale Price and Retail Price (before and after suspension)

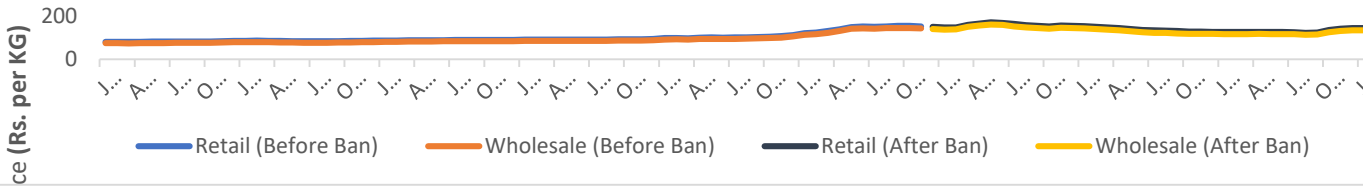
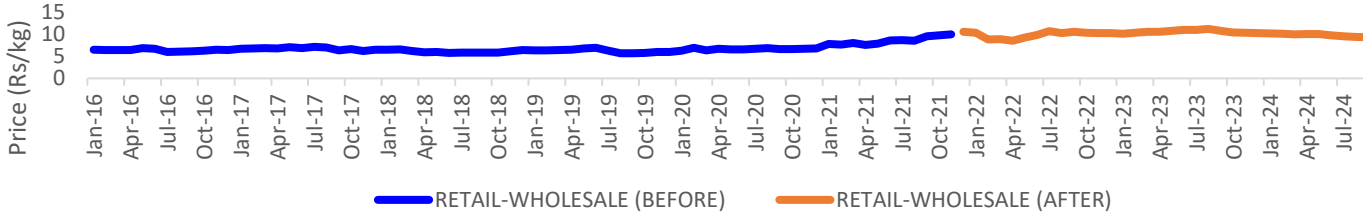
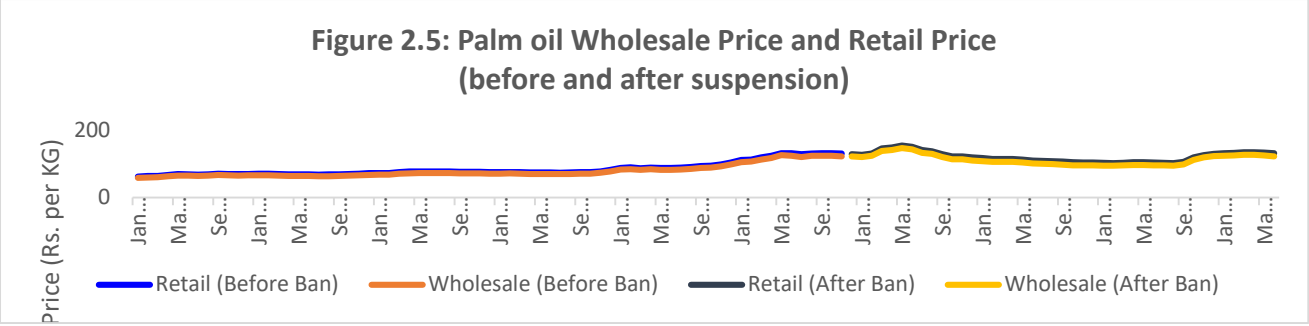


Figure 2.4: Soy oil price difference (Retail minus Wholesale Price) (before and after seupension)





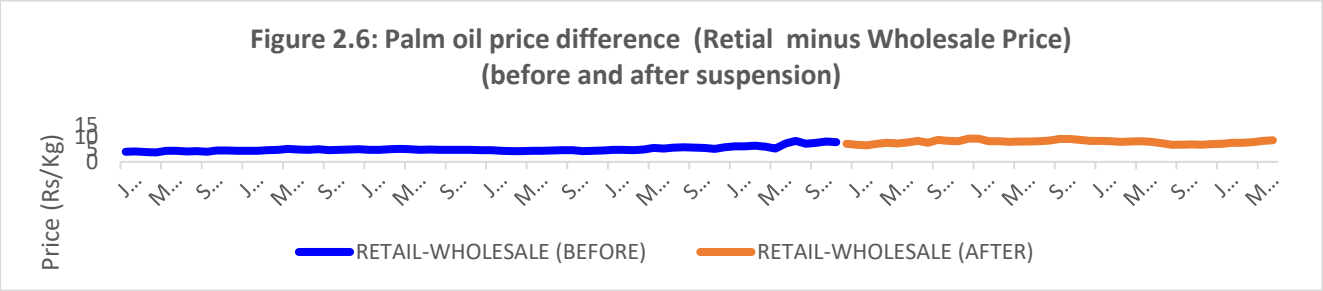


Table 2.2 also highlights the same i.e., average monthly price of Mustard oil, Soy oiRs.and Palm oil before and after suspension. As can be seen from Table 2.2, the average monthly wholesale price was ₹108.57 from January 2016 till September 2021 coinciding with a pre-suspension period. The same is ₹154.93 during the October 2021 to June 2025 period. Similarly, the monthly average retail price is ₹117.70 and ₹166.57 during the pre and post-suspension period. These numbers indicate that during the post suspension period the wholesale and retail prices have significantly gone up i.e ₹48.87 and ₹46.53 per kg.

To test, whether the price difference is statistically significant, a t-test has been conducted for each of the data series. As can be seen in the t-statistics, the average price during the post-suspension period is statistically higher than the price prevailing during the pre-suspension period both at retail and wholesale level.

Interestingly, the retail-to-wholesale price difference in the post-suspension period is also much higher as compared pre-suspension period. For example, in the case of Mustard oil, the post-suspension difference is ₹11.64 as compared to ₹9.13 during the pre-suspension period. The price differences are also statistically significant based on the t-statistics value.

The same situation also prevails for Soy oil and Palm oil. In case of Soy oil, prices (per kg) have increased by ₹44.47 and ₹41.15 at retail and wholesale level respectively. In post-suspension period, the difference between retail price to wholesale price is ₹10.01 as compared to ₹6.68 during the pre-suspension period. In case of Palm oil, prices (per kg) have increased by ₹36.81 and ₹33.84 at retail and wholesale level respectively. In post-suspension period, the difference between retail price to wholesale price is ₹8.17 as compared to ₹5.20 during the pre-suspension period.

Analysis of these above numbers clearly indicate that during post suspension period, edible prices (per kg) have increased significantly across retail and wholesale category i.e ranging

from ₹33.84 to ₹48.87. Interestingly retail to wholesale price difference has also widened during post suspension period for all three edible oils considered for this study.

Analysis of price details given in Table 2.2 is summarized as follow:

- Average retail price is significantly higher in post suspension period.
- Average wholesale price is significantly higher in post suspension period.
- The difference between retail price to wholesale price is higher in post suspension period as compared to pre suspension period. The difference is also statistically significant.

It is also worthwhile to mention here that Mustard oil, Soy oil as well as Palm oil prices continued to increase long after commodity contracts were suspended. To summarize, analysis of retail and wholesale price highlights that not only prices have increased across edible oil categories during the post-suspension period, but retail consumers are also paying even higher prices in the post-suspension period.

Table 2.2: Wholesale and Retail Price of Mustard oil, Soyoil, and Palm oil before and after suspension

Mustard oil (₹/ Kg)				
	Pre-Suspension	Post-Suspension	Difference (Post – Pre)	t-stat
Average Retail Price	117.70	166.57	**48.87**	-15.02
Average Wholesale Price	108.57	154.93	**46.53**	-14.28
Average Retail minus Wholesale Price difference	**9.13**	**11.64**		-18.92
Soy oil (₹/Kg)				
	Pre-Suspension	Post-Suspension	Difference (Post – Pre)	t-stat
Average Retail Price	98.73	143.20	**44.47**	-13.66
Average Wholesale Price	92.04	133.39	**41.15**	-12.87
Average Retail minus Wholesale Price difference	**6.68**	**10.01**		-23.79
Palm oil (₹/Kg)				
	Pre-Suspension	Post-Suspension	Difference (Post – Pre)	t-test
Average Retail Price	**84.49**	**121.30**	**36.81**	-11.01
Average Wholesale Price	**70.29**	**113.13**	**33.84**	-10.28

Average Retail minus Wholesale Price difference	**5.20**	**8.17**		-17.91

3.What would be the cost of hedging at international exchanges, due to the unavailability of domestic hedging platform?

The unavailability of domestic hedging options would force domestic hedgers to access the international futures market. In this context, it is also worthwhile to highlight that, hedgers use derivative contracts to mitigate the price risk but remain exposed to basis risk. Basis risk is much lesser than price risk in itself. Nevertheless, basis risk is the residual risk faced by hedgers. The basis is defined as the difference between the spot price and the futures price for a commodity. Though spot and futures prices are related through the cost-of-carry model, basis risk arises as the factors that influence futures price and the spot price vary from time to time. Hence the changes in futures price and the change in spot prices do not move in tandem thus giving rise to basis risk. The higher (lesser) the correlation between the change in spot price and to change in futures price, the lesser (higher) the basis risk. In fact, though not possible, a perfectly positive correlation eliminates the basis risk completely.

As mentioned earlier, in the absence of a domestic futures market, it is worthwhile to check whether international exchanges provide a good enough platform to hedge the price risk. In any case, a hedger would face basis risk irrespective of any exchange they choose. Hence the objective of this analysis is to compare the basis risk associated with domestic exchange vis-à-vis international exchange. This analysis also explores the rolling correlation between the domestic spot price and NCDEX futures price as well as domestic spot price and CME futures price. The CME futures price series has been converted to the Indian Rupee based on the applicable USD/INR RBI reference rate for a given day and also scaled to match the contract unit of NCDEX futures (Refer to **Table 3.1**). This analysis has been only for Soybean and Soyoil as Mustard Seed and Mustard Oil futures are not traded in any international commodity exchange.

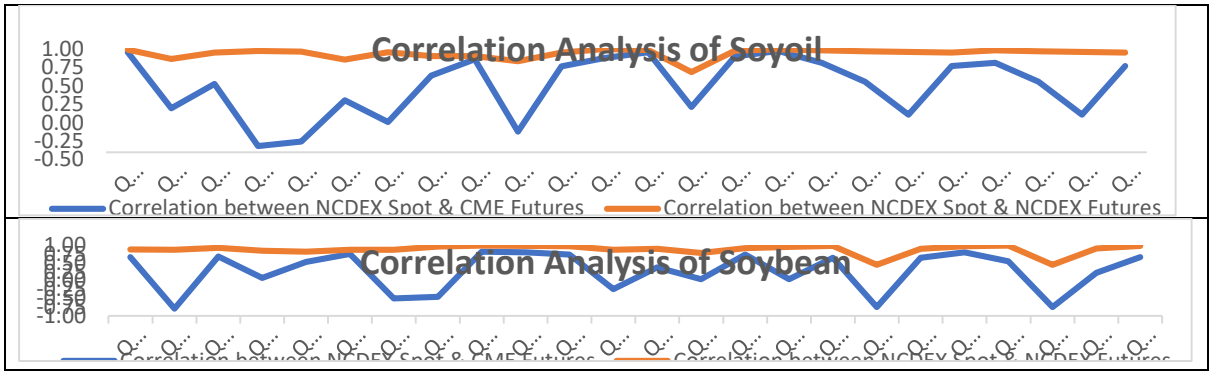
Table 3.1: Contract specification considered for modeling basis risk

Commodity	**International Market / Domestic Market**	**Contract Unit**	**Price Quotation**
Soybean Futures	CME	5000 Bushels (136 MT)	U.S Cents per Bushel
Soybean Futures	NCDEX	5 MT	Rupees Per quintal
Soy Oil Futures	CME	60,000 Pounds (27MT)	U.S. cents per Pound
Soyoil Futures	NCDEX	5 MT	Rupees per 10 Kg

Note: MT=Metric Tonnes

Figure 3.1 shows the correlation between NCDEX spot and NCDEX Future price as well as NCDEX spot price and CME futures price. The near-month futures price has been considered for both NCDEX and CME futures. The data period ranges from January 2016 to December 2021. The correlation coefficient for every quarter for NCDEX spot price (INR) and the near-month futures price for NCDEX futures as well as near-month CME futures (INR) have been calculated leading to 4 correlation coefficients for every year. As can be seen from the charts, the correlation coefficient between NCDEX Spot and NCDEX Futures for both Soyoil and Soybean are far more stable and closer to 1 as compared to the correlation coefficient between NCDEX Spot and CME futures. As mentioned earlier, a higher positive correlation indicates lesser basis risk, thus clearly indicating higher basis risk in hedging at international exchanges.

Figure 3.1: Correlation between Spot & Futures Price of Soyoil and Soybean.



To model and compare the basis risk, domestic basis and international basis have been calculated for both Soybean and Soyoil [***refer to Eq(1) to Eq(3***)]. The basis on a given day (t) is defined as the spot price prevailing on that day minus the futures price prevailing on that day. As mentioned earlier, in this analysis the near month spot price has been used to calculate the basis risk.

$$Basis_t = \text{Spot Price}_t - \text{Futures Price}_t \quad \text{(Eq.1)}$$

$$\text{Domestic Basis}_t = \text{NCDEX Spot Price (INR)}_t - \text{NCDEX Futures Price (INR)}_t \quad \text{(Eq.2)}$$

$$\text{International Basis}_t = \text{NCDEX Spot Price (INR)}_t - \text{CME Futures Price (INR)}_t \quad \text{(Eq.3)}$$

Based on Equations 2 and 3, domestic and international basis for both Soybean and Soyoil has been calculated (**refer to Table 3.2**).

Table 3.2: Comparison between International Basis and Domestic Basis for Soy oil and Soybean

	Soybean		**Soyoil**	
	International Basis	Domestic Basis	International Basis	Domestic Basis
Basis Variance	934271.0	29874.5	8148.73	144.65
Observations	1412	1412	1415	1415

F	31.2		56.3	
P(F<=f) one-tail	0.00		0.00	
Critical one tail	1.089		0.16	

Table 3.2 presents the variance of basis as well as F-statistics which compares the variance between international and domestic basis for both Soyoil and Soybean. As can be seen in both cases, the variance of an international basis is much higher as well as statistically significant than domestic basis.

It is an obvious conclusion that Indian hedgers would face much higher basis risk at international exchanges as compared to domestic exchanges. International basis risk is expected to be higher as the hedger also has to factor in USD/INR foreign exchange risk if the hedger accesses international exchange. Additionally, a hedger can never take or give delivery of the underlying asset if hedging at international exchanges as compared to domestic exchanges. This also contributes to higher basis risk.

The additional risk associated with hedging in international exchange has been clearly articulated by Mr. Angshu Mallick, MD & CEO of Adani Wilmar Ltd[7]. In an interview with ET NOW, he expressed his views: "***What has happened is that the edible oil prices have come off very sharply and we are not able to contra-hedge the local oils, particularly in India, as there is no such hedging mechanism. We can only hedge in the BMD and CBOT. So that leaves a substantial part of the oil not getting equally hedged*".**

4. How did the suspension affect the spot price of underlying commodities?

The commodity derivatives market is different from the equity derivatives market in many significant ways. The most important is the process of spot price discovery. Unlike the equity market, where both spot and futures prices are discovered in exchanges, in the case of a commodity market, the spot price is discovered at different Mandis. Considering the importance of underlying spot prices for pricing futures contracts, Indian commodity exchanges undertake polling of spot prices on a daily basis and use a statistical averaging methodology to arrive at the polled spot price which is then disseminated to all market participants. Collation and calculation of spot prices on a daily basis is a unique value proposition offered by commodity exchanges as compared to exchanges offering only derivatives contracts on financial assets.

For a given commodity, commodity exchanges collect prices from empaneled members who are traders, brokers, commission agents, processors, millers, manufacturers, importers, and exporters. **Table 4.1** shows a sample of polled spot prices reported by NCDEX and **Table 4.2** shows a snapshot of polled data collected by NCDEX for Crude Sunflower Oil from various empaneled members.

Table 4.1: Sample of polled spot prices reported by NCDEX on 30th October 2024 Data Source: https://www.ncdex.com/markets/livespot			
Commodity	**Location**	**Polling Date**	**Price**

[7] https://economictimes.indiatimes.com/markets/expert-view/adani-wilmar-management-blames-sharp-fall-in-edible-oil-prices-for-q1-losses/articleshow/102351005.cms last accessed on 12th October 2024.

Cotton Seed Oilcake	Kadi	Oct 30 2024	3,500.00
Crude Palm Oil	Kandla	Oct 30 2024	1,248.25
Crude Sunflower Oil	Chennai	Oct 30 2024	1,279.65

Table: 4.2: Snapshot of Polled Price
Data Source: https://www.ncdex.com/downloads/Markets/reports/Polled-Price-Quotes/Polled_Price_Quotes_Report_30-08-2024.pdf

Commoidity	Polled Participant	Place of Operation	Category of Polled Particpant	Basis Center	ıte of Pollir	oted in 1st	Time	oted in 1st	Time
Crude Sunflower Oil	P1	Ahemedabad	Processor/Miller/Manufacturer	Chennai	30-Oct-24	1240	13:30	1240	16:00
Crude Sunflower Oil	P2	Pune	Processor/Miller/Manufacturer	Chennai	30-Oct-24		13:30	1290	16:00
Crude Sunflower Oil	P3	Mumbai	Trader/Broker/Commission Agent	Chennai	30-Oct-24	1280	13:30	1280	16:00
Crude Sunflower Oil	P4	Indore	Trader/Broker/Commission Agent	Chennai	30-Oct-24	1275	13:30	1275	16:00
Crude Sunflower Oil	P5	Mumbai	Trader/Broker/Commission Agent	Chennai	30-Oct-24		13:30		16:00
Crude Sunflower Oil	P6	Kakinada	Processor/Miller/Manufacturer	Chennai	30-Oct-24		13:30		16:00
Crude Sunflower Oil	P7	Indore	Trader/Broker/Commission Agent	Chennai	30-Oct-24	1300	13:30	1300	16:00
Crude Sunflower Oil	P8	Mandya	Processor/Miller/Manufacturer	Chennai	30-Oct-24		13:30		16:00
Crude Sunflower Oil	P9	Chennai	Processor/Miller/Manufacturer	Chennai	30-Oct-24	1280	13:30	1280	16:00

Commodity exchanges take great care to poll spot price and announce the polled spot prices. Of course, futures prices are available to all stakeholders on an almost real-time basis. Dissemination and availability of both spot and futures prices provide many benefits. Firstly, the availability of both prices tends to anchor the Mandi prices in such a way that Mandi prices tend to be neatly coupled. Hence, when the futures market is operational, it is assumed that there is going to be lesser price variance across Mandis on any given day. Without the availability of futures prices and polled spot prices, Mandi prices tend to get more disjoint or more scattered leading to higher variance. Secondly, it is also assumed that the availability of futures prices acts as an anchor for market participants to formulate their spot trading activities which in turn reflects in a far more cohesive polled price contribution by empaneled members.

Hence in this section, both the assumptions mentioned above are analyzed. The first analysis is given in **Section 4.1** which compares the daily volatility across Mandi before and after the suspension period. For this analysis, only Mustard Seed and Soybean have been considered as these commodities are traded in Mandis. In the second analysis given in **Section 4.2,** the dispersion of price contribution by empaneled members before and after the suspension has been compared.

4.1. Impact of suspension on daily volatility in Mandi[8] prices

Daily volatility of Mandi prices at major Mandis for Mustard and soybeans have been used for this analysis. **Table 4.3** gives a snapshot of Mandi prices of Mustard Seed from major Mandis. The rightmost column indicates the volatility based on daily prices across different "Mandis". If on a given day, prices of only two Mandis are available, volatility for that day has not been calculated.

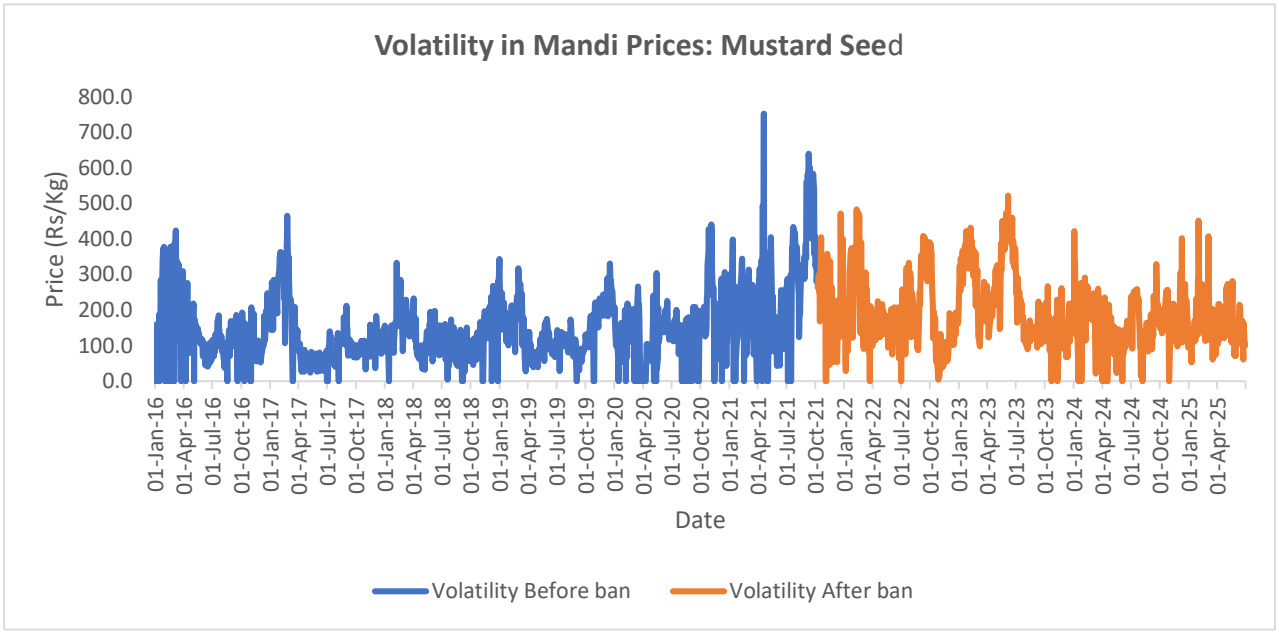
Table 4.3: Sample Data # Daily Mandi Prices of Mustard Seed

[8] "Mandi" means local market

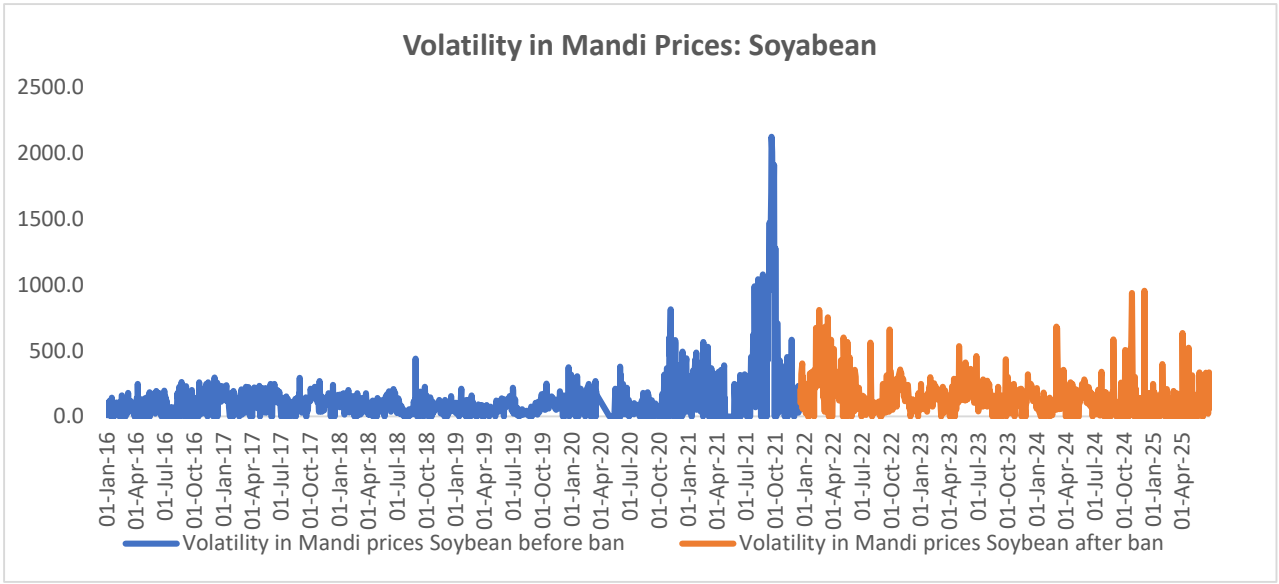
Date	Alwar (Rajasthan)	Sri Ganganagar (Rajasthan)	Tonk (Rajasthan)	Agra (Uttar Pradesh)	Kanpur (Uttar Pradesh)	**Volatility**
01-01-2016	4400.00	4000.00	4220.00	4270.00	4365.00	**157.73**
04-01-2016	4270.00	4076.00	4205.00			**98.74**
05-01-2016	4300.00				4375.00	
06-01-2016	4250.00			4300.00	4325.00	**38.19**
07-01-2016			4455.00	4280.00	4400.00	**89.49**
08-01-2016	4200.00		4225.00	4310.00	4425.00	**101.57**
11-01-2016	4260.00	4215.00	4200.00	4320.00	4450.00	**101.39**
12-01-2016	4100.00	4150.00	4431.00	4350.00	4465.00	**165.37**
13-01-2016	4100.00		4250.00	4310.00	4480.00	**157.16**
14-01-2016	4150.00		4205.00		4500.00	**188.22**
15-01-2016			4100.00		4500.00	
18-01-2016			4060.00	4210.00	4460.00	**202.07**
19-01-2016			3885.00	4220.00	4450.00	**284.12**
20-01-2016			4077.00	4200.00	4500.00	**217.58**
21-01-2016	4170.00		4110.00	4240.00	4480.00	**162.28**
22-01-2016	4050.00		4020.00	4220.00	4500.00	**220.06**
Data Source: Agmarktnet						

Figure 4.1 shows the daily volatility in Mandi prices. **Panel A** is for Mustard Seeds, while **Panel B** is for Soybeans. Visually, it may be noted that volatility in prices increased from April 2021 onwards, but even after the suspension, volatility remained high. This implies that in the absence of an NCDEX price anchor, Mandi prices tend to fluctuate widely.

Figure 4.1: Daily Volatility in Mandi prices of Mustard Seeds and Soybean
Panel A: Mustard Seed



Panel B: Soybean



To obtain statistical evidence on whether the daily volatilities indeed increased post suspension, a regression was conducted as follows. This is because volatilities cannot be compared using a normal t-test, as it is a test of means.

$$\text{Daily Volatility} = \alpha + \beta * \text{Time Dummy} \qquad \text{Eq.(4)}$$

Here, Time Dummy equals 1, if the days are after suspension and equals 0 if the days are before the suspension (before 8th October 2021 for Mustard Seed and before 21st December 2021 for Soybean). So, if β is significant (p-value<5%) and positive, it implies that daily volatility increased after the suspension, but if it is significant and negative, it implies that

daily volatility reduced after the suspension, and if β is insignificant (p-value>5%), it implies that there was no effect of the suspension on daily volatility.

The results are given in **Table 4.4.** The p-value is given in brackets below the coefficients.

Table 4.4: Impact of suspension on daily volatility of Mandi prices of Mustard Seed and Soybean

Panel A: Impact on **Mustard Seed**				Panel A: Impact on **Soybean**			
α	**β**	**R^2**	**F statistic**	**α**	**β**	**R^2**	**F statistic**
148.77 *(0.00)	43.03 *(0.00)	4.3%	106.53	130.60 *(0.00)	11.20 *(0.12)	0.1%	2.349
p-values are given as *							

From Table 4.4, it may be inferred that the daily volatility of Mandi prices of Mustard seeds significantly increased after the suspension. On the other hand, the daily volatility of Mandi prices of Soybean remains unchanged.

From the above analysis, it may be concluded that in the absence of the NCDEX price as an anchor, different Mandi prices of Mustard seed became highly divergent from each other, while the same did not affect the Mandi prices of Soybean.

4.2. Impact of suspension on polled prices

In this section, the dispersion of price contribution by empaneled members before and after the suspension has been compared. This analysis has been done for all 4 commodities over January 2016 to June 2025. As mentioned earlier, Table 4.2 gives the snapshot of polled data collected by NCDEX for crude Sunflower oil on 30th October 2024. Similar data is collected by NCDEX for all commodities on a daily basis.

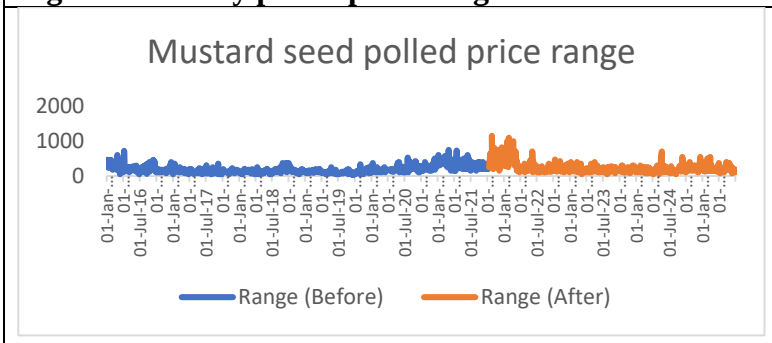
Based on the daily polled data, the daily dispersion (maximum price minus the minimum price) among the polled prices is calculated. **Figure 4.2** shows the daily price dispersion for each of these four commodities before and after the suspension. **Table 4.5** shows the average price range for all four commodities before and after the suspension. For Soybean and Mustard Oil, there is no difference in the average price range while there is a significant difference in Soyoil and Mustard Seed prices.

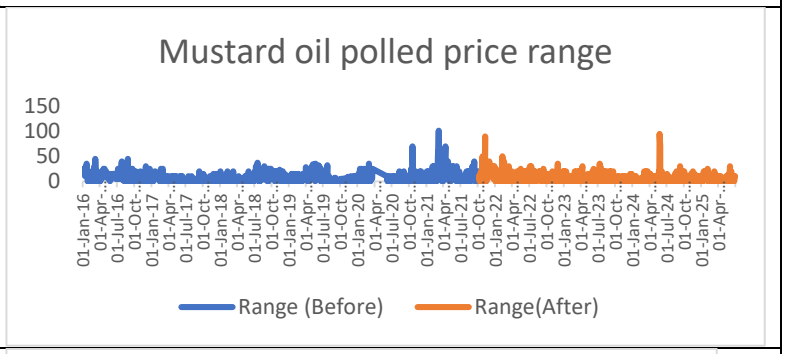
Table 4.5: Average polled price range before and after the suspension

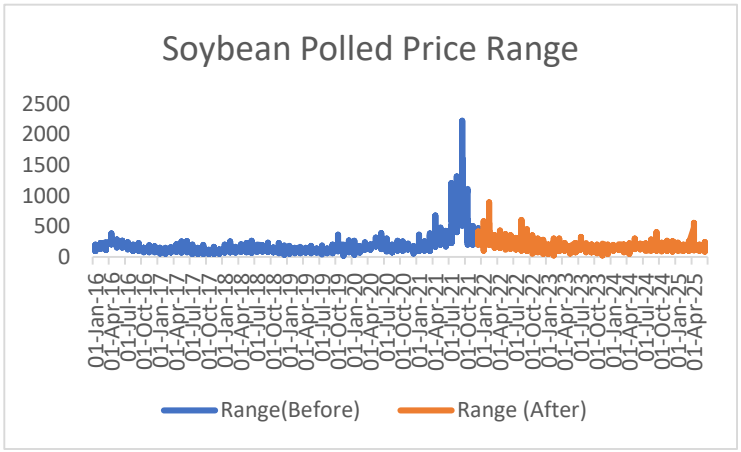
Soybean		**Soyoil**		**Mustard Seed**		**Mustard Oil**	
Before	***After***	***Before***	***After***	***Before***	***After***	***Before***	***After***
183.03	178.18	17.61	27.48	184.60	236.51	8.40	8.88

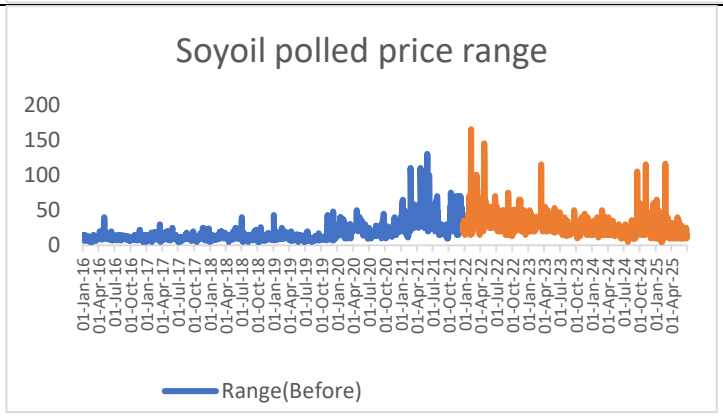
From the above analysis, it can be concluded that for Soyoil and Mustard Seed, the average dispersion is significantly higher. **To summarize, Mandis across India use exchange-provided spot prices as anchor as long as futures markets are functional. There is less variability in prices across Mandis as well as polled data submitted by empaneled participants. However, when futures contracts are suspended, the relevance of the exchange-provided spot prices is reduced, increasing variability in prices across mandis and by market participants.**

Figure 4.2: Daily polled price range before and after suspension









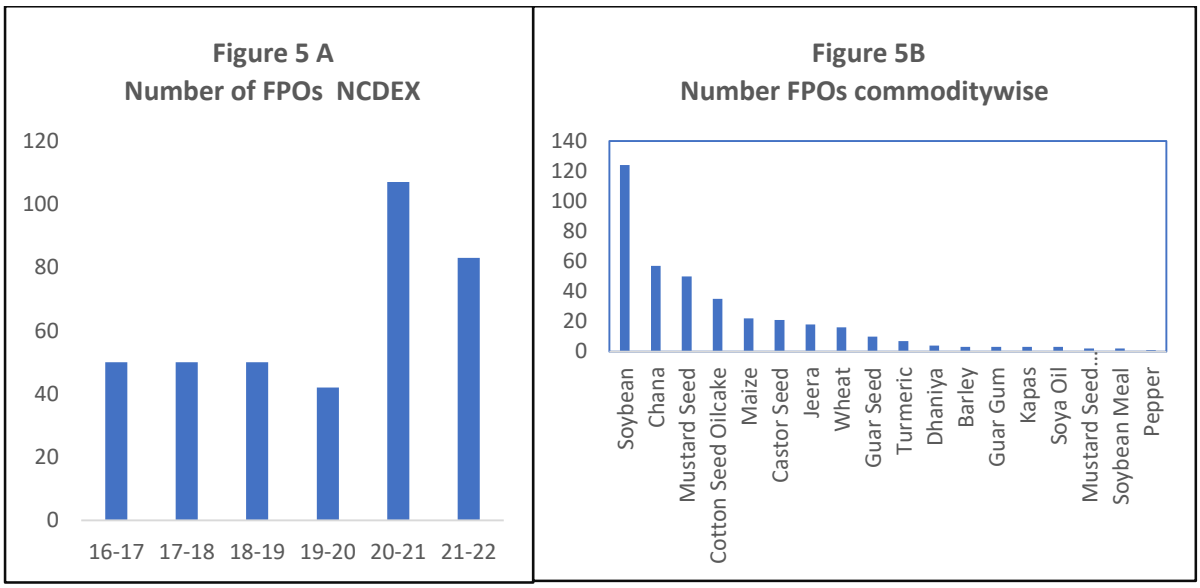
5. Impact of Commodity derivatives suspension on FPOs

The importance of safeguarding a healthy agricultural sector cannot be underscored – with a 15-16% contribution to GDP and employing almost 50% of the population. Yet, it is well known that this sector suffers from a host of structural issues, like huge geographical diversity among value chain participants, fragmentation within different segments of the value chain, inadequate scientific storage capacity and warehouse infrastructure, lack of marketing skills, and many more. The consequences of these structural bottlenecks are many,

but those specifically pertinent to this study are, (a) the price discovery process in Mandis/APMCs lacks transparency, and (b) the earnings of all value chain participants including farmers, processors, and traders are exposed to the vagaries of price fluctuations. Lack of proper market access to realize a remunerative price has been the most important obstacle faced by farmers in India today. Efforts made by the Ministry of Agriculture and Farmers' Welfare to develop the e-NAM digital platform and connect mandis and onboarding farmers and FPOs, though at a nascent stage, will go a long way in bringing transparency in spot market transactions.

Similarly, commodity exchanges also play an important role in helping farmers/FPOs in a various way, the most significant being price risk hedging. Exchanges are undertaking many capacity-building exercises to onboard FPOs, educating them so that they use exchange-traded contracts to mitigate price risk. Indian commodity exchanges have done a noteworthy job in bringing many FPOs onto the exchange platform, appropriately aided by the regulatory measures to promote the same.

Figure 5.A and ***Figure 5.B*** indicate the year-wise number of FPOs using at the NCDEX platform to hedge their price risk and the number of FPOs who have participated in different commodity futures. For example, from 2016 to 2020, about 120 FPOs traded Soybean futures and options on the NCDEX platform.



Though all over the world producers, consumers and VCPs do not prefer to take/give delivery through commodity exchanges due to differences in quality specifications and delivery locations, but FPOs in India have increasingly started using commodity exchanges to deliver the underlying commodity. **Table 5** indicates commodities delivered by FPOs through NCDEX. This could have been facilitated as NCDEX offer options on commodities. By entering into long put options and by paying premium, the FPOs are able to ensure a minimum price for themselves. Probably on a bigger scheme of things, the amount of agricultural commodities delivered through exchange platform is insignificant. However, these are green shoots, for better days ahead, for empowering most important yet vulnerable section of India to get access to market and sell their products at a better price. Trading through exchanges ensures that the FPOs realize the cash within two days of contract closure.

In fact, anyone sensitive to the plight of Indian farmers knows well that farmers not only face difficulty to sell, but also face problems in timely realization of sales proceeds. The middlemen/local aggregators by forming a cartel, not only buy agricultural commodities from farmers at throwaway prices, but also often delay the payment. When farmers/FPOs trade and deliver at exchange platform, come hail and high water, they will surely receive the payment on the designated date.

In this context it is important to note that Soybean, Chana and Mustard Seed trading has attracted the maximum number of FPOs as given in **Figure 5B.** These three commodities also occupy top ranks among all commodities delivered by FPOs as given in **Table 5**.

Table 5: Commodities delivered by FPOs during FY16-17 to FY21-22	
Commodity	Delivery (in MT)
Maize	5890
Soyabean	3370
Chana	1080
Castor Seed	820
Jeera	387
Mustard Seed	290
Turmeric	155
Cotton Seed Oilcake	90
Wheat	80
Barley	70
Guar Seed	50

To understand the impact of the suspension of futures trading, a primary survey was conducted with many FPOs who used to trade Soybean and Mustard futures and options at NCDEX. In **section 5.1**, different aspects of primary survey are discussed in detail.

5.1. Primary Survey Analysis

Qualitative one-to-one interviews with Farmers Producing Organisation were conducted between June 2024 and October 2024 to provide a comprehensive understanding of the use of commodity futures namely Soybean and Mustard Seeds. Interpretive research using in-depth interviews was chosen to explore subjective meanings and individual understandings of the suspension on commodities, guiding theoretical propositions.

Conducting one-to-one interviews enables the researchers to observe the tone of voice, and any reactions to the issues that arise during the interviews, thus give comprehensive information about the specific topic under study. Structured interviews of 1-hour to 1-and-half hour were undertaken by the researchers for each of the FPO representatives. Before conducting the actual interaction, the researchers had sent questionnaire (given in Annexure D) so that the FPO representatives knew the agenda of discussion. The interviews began with general questions focusing on *"a. For how many years, have you been trading on commodity futures?",* b. *"Can you please share some information about your FPO"* followed by more specific questions broadly focusing on the impact of the suspension. Questions like *"Does commodity future facilitate locking a price for your produce?".* All the questions asked during the structured interview are given in Annexure D and then probing questions were asked as per the response given. We gathered the information from 9 FPOs that deal in Mustard seeds from Rajasthan and 11 FPOs that deal with Soya beans from Madhya Pradesh and Maharashtra. The summary of these discussions is categorized into 3 broad groups covering the following

- ***How commodity futures Assist FPOs?***
- ***What is impact of futures trading suspension on FPOs?***
- ***Why do commodity derivatives exchanges play an important role?***

How Commodity Futures Assist FPOs?

Futures markets offer a transparent process for determining prices. The prices stated on these marketplaces represent the anticipations of market participants on future supply and demand. This information is highly helpful for Farmer Producer Organizations (FPOs) since it enables them to make well-informed decisions on the optimal timing for selling their agricultural produce. Commodity futures serve as a reliable strategy for mitigating price risk and safeguarding farmers from price volatility by guaranteeing a stable price for agricultural produce. Through commodity derivatives platform like MCX and NCDEX, FPOs are able to deliver commodities in exchange approved warehouses, thus helping FPOs in developing an alternate market.
A suspension on futures trading eliminates this risk management tool, leaving FPOs vulnerable to price swings due to factors like weather conditions, market demand shifts, and geopolitical events.

What is impact of futures trading suspension on FPOs?

The respondents' views on the impact are categorized into four different aspects. These are as follows:

1. **Lack of price discovery:** Futures markets help in discovering the future price of commodities. Without them, FPOs lack a reliable mechanism to predict prices,

making it difficult to plan their production and sales strategies. Futures contracts provide a transparent platform for price discovery, helping FPOs and farmers understand the market sentiment and future price expectations. After the suspension on commodity derivatives trading, FPOs have no reliable mechanism to predict future prices, making it difficult for them to make informed decisions about when to sell their produce.

2. **No Risk Management:** Without futures contracts, FPOs cannot hedge against price fluctuations, making them vulnerable to market volatility. This can lead to significant financial losses if market prices drop unexpectedly. FPOs can lock in prices for their crops in advance, protecting them from unexpected price drops during harvest time or unfavorable market conditions. If an FPO expects the price of a particular crop to fall at the time of harvest, they can hedge by selling futures contracts on a commodity exchange, thus securing the future sale price and reducing risk. Futures markets allow FPOs to engage in planning by locking in sales for future periods. Without these tools, FPOs face difficulties in planning their production cycles, inventory management, and logistics, leading to inefficiencies and losses.

3. **Market Manipulation and Exploitation at Local Mandis:** Vyaparis in mandi collude and give lower rates to the farmers. There are only 15-20 Vyaparis (buyers), and thousands of farmers. Nobody supports the farmers in APMCs. Unions try to suppress the prices. In the absence of organized futures markets, middlemen and larger buyers may take advantage of information asymmetry and manipulate prices to exploit farmers and FPOs. The lack of futures market transparency reduces the ability of FPOs to protect themselves against such exploitation. One of the FPOs highlighted during the discussion that "*Mandis has thogis*" (cheaters/racketeers). They cheat concerning weight, oil content, and moisture content. Different labs give different reports of oil content as they cannot be trusted". Farmers need to shell out lots of money to mandi agents, middlemen, and labour. Middlemen in mandi will reduce if NCDEX is allowed to function.

   The absence of spot price announced by exchanges reduces the bargaining power of the FPOs/farmers at Mandis. The middlemen exploit them due to a lack of price transparency and offer low prices. "*The suspension was very unfortunate since it shattered the confidence of the farmers. We have given many representations to many government representatives but nothing has happened so far*" quoted by one of the FPO member during discussion.

4. **Shifting to another crop:** Without futures markets, farmers rely on Mandi (local market) and middlemen to sell their produce, often at lower prices or less favorable terms. Over time, farmers find these conditions unsustainable. This has led to switching to crops that have better local market opportunities or crops with shorter supply chains that do not require reliance on middlemen. "***After mustard trading in NCDEX was banned, farmers moved to Jeera cultivation***" as highlighted by one of the FPOs during the discussion.

Why do Commodity Derivatives Exchanges play an important role?

The views of respondents on the role of commodity exchanges are categorized into 5 categories as given below:

1. **Training:** *Commodity Derivatives Exchanges* often provide training and capacity-building programs for FPOs. These programs help farmers understand commodity trading, futures markets, and risk management techniques. All FPOs highlighted the regular training program organized by NCDEX.

2. **Warehousing facilities:** There are few warehouses to store the produce. With the development of commodity derivatives market, there has been development in warehousing infrastructure too. For ex. As a part of ecosystem NCDEX provides storage facilities in WDRA-approved warehouses through its empaneled warehouses where FPOs can also avail of the pledge financing through eNWR. NCDEX also supports FPOS in post-harvest activities such as grading, transportation, etc. whereas, with Mandi, farmers need to incur delivery costs to deliver the produce from the farm to Mandi.

3. **Price Anchor:** Futures prices discovered on commodity exchanges such as NCDEX are known to farmers 4-6 months in advance, so they are sure of their earnings, if they decide to hedge.

4. **Quality Standardization:** Commodity derivatives contracts have a pre-defined quality specification to meet certain standards for quality, weight, and packaging, thus ensuring that the produce traded on the exchange is of a specific grade or standard. Thus, encouraging quality consciousness among farmers.

5. **Better Bargaining power:** Availability of price risk hedging mechanism through the commodity derivatives market encourages FPOs not to undertake distress sale.

In a nutshell, we can say Commodity Futures provide a transparent price discovery process for Farmers' Producers (FPOs) to make informed decisions on selling agricultural produce. However, a suspension on futures trading eliminates this risk management tool, leaving FPOs vulnerable to price fluctuations. The absence of an anchor price reduces farmers' bargaining power, leading to middlemen exploiting them. Indian commodity exchanges are actively helping farmers/FPOs mitigate price risk through capacity-building exercises and education on using exchange-traded contracts. They have successfully brought numerous FPOs onto the exchange platform, supported by regulatory measures.

6. Summary of research study

The Securities and Exchange Board of India (SEBI), as the commodity derivatives market regulator has implemented policy measures to foster growth in the Indian commodities derivatives market. Atypical to earlier regulations, during August to December 2021, SEBI announced the suspension of derivatives trading for seven commodities/commodity groups for one year with immediate effect.

Though SEBI's press release did not mention the reasons behind the suspension, it is widely believed that this suspension was done to tame the rising prices of commodities. The suspension took many by surprise, as it was not the first time SEBI suspended commodity derivative contracts. In the past, earlier suspensions were for one or two commodities. However, the December 2021 press release banning five commodities at one go without any stakeholder engagement was unprecedented.

To understand the impact of suspension, this research study analysed the impact of suspension on three dimensions namely, the impact of suspension in taming the price rise for retail consumers, the impact suspension on accessing international exchange platforms due to absence of domestic hedging opportunities, the impact of suspension of spot price of the suspended commodities. This research study focused on edible oil commodity groups i.e, Soybean, Soy oil, Mustard Seed and mustard oil. Considering the fact that farmers/FPOs are the most vulnerable groups, this study also did primary survey with many FPOs to understand the impact of suspension of futures trading on their business.

The results of the secondary data analysis can be summarized as follows:

- The analysis shows that prices have increased across edible oil categories during the post-suspension period, and retail consumers are paying even higher prices in the post-suspension period. Interestingly, the retail-to-wholesale price difference in the post-suspension period is also much higher as compared pre-suspension period.

- The lack of domestic hedging options would force domestic hedgers to access the international futures market, which exposes them to basis risk. Basis risk is the residual risk faced by hedgers, which is the difference between spot and futures prices for a commodity. It arises from factors influencing futures prices and spot prices varying from time to time. The findings show that NCDEX Spot and NCDEX Futures for both Soyoil and Soybean are far more stable and closer to 1 as compared to the correlation coefficient between NCDEX Spot and CME futures. A higher positive correlation indicates lesser basis risk, thus clearly indicating higher basis risk in hedging at international exchanges. In one of the press releases, Adani Wilmar Ltd's MD & CEO, Angshu Mallick, has clarified the additional risk associated with hedging in international exchange due to sharply falling edible oil prices. He stated that local oils, particularly in India, cannot be contra-hedged due to the lack of a hedging mechanism.

- The suspension of futures markets in India has led to increased volatility in mandi prices for Mustard Seed and Soybean seeds, with daily volatility increasing from

April 2021 onwards. The absence of an NCDEX price anchor has resulted in fluctuating prices, with the average dispersion for Soyoil and Mustard Seed being significantly higher.

Major finding of the primary survey involving FPOs who use to participate in commodity derivatives market prior to trading suspension are as follows: FPOs face many challenges such as lack price risk management avenues, market manipulation and price exploitation at Mandi(s). Futures markets provide a transparent platform for price discovery, helping FPOs understand market sentiment and future price expectations. Without futures contracts, FPOs cannot hedge against price fluctuations, making them vulnerable to market volatility. Commodity exchanges play a crucial role in addressing these issues by providing training, warehousing facilities, price anchors, quality checks, and better bargaining power. Futures contracts help mitigate price risks and ensure farmers' confidence in selling their agricultural produce.

7. Policy recommendation

Need for market driven instruments: Commodity prices will be volatile as India's commodity market ecosystem is getting increasingly integrated with the world market. Exacerbating climate risk, export-import and tariff dynamics, geopolitical risks will affect commodity availability and supply. Hence commodity prices will fluctuate. The quicker Indian regulators, policymakers, Indian farmers, producers, consumers and other value chain partners realize this, better it will be as regulatory interventions can shield them from unpredictable prices up to a limited extent only. Thereby emanating the need for market driven tools like commodity derivatives (futures & options).

Commodity derivatives lead to evolution of the entire commodity ecosystem: Just like exchanges offering trading facilities for financial products promote entrepreneurial activity in an economy by allowing early-stage investors to exit through IPO, commodity exchanges reach goes even further. They not only offer a platform for price risk mitigation, but also put significant effort in developing the commodity market ecosystem such as warehousing capacity enhancement, quality assessment, and many more. More importantly, commodity exchanges disseminate continuous transparent prices for the benefit of all market participants. In a nutshell, commodity derivatives market offers three important value propositions i.e. *price risk hedging, price discovery, and pricing benchmarks.*

Drastic measures like suspensions through consultative approach: SEBI must create an enabling and conducive environment so that these exchanges continue to provide price risk hedging, price discovery, and pricing benchmark benefits to commodity market participants. As the market watchdog, SEBI should only decide to undertake drastic measures to halt derivative trading after consulting and interacting with all relevant stakeholders in the ecosystem. In fact, commodity exchanges should be treated as systematically important financial institutions. SEBI must create an enabling and conducive environment so that these exchanges continue to attract hedgers to their platforms. In fact, periodic suspension of commodity derivative contracts has been a recurring theme in India that is not only hampering the growth of the derivative sector but also the growth of the overall commodity ecosystem. Though, world over commodity exchanges have continued to offer uninterrupted

commodity derivatives contracts even in the face of supply-demand mismatch and variations in price. Hence, this research study deep-dives into the underlying prevalent belief system behind suspensions in India via empirical research and understands its impact on the foremost entity – our farmers and value chain participants. Our study articulates that the belief that derivatives futures trading leads to price inflation may be misplaced. Our analysis of retail and wholesale price determines that specifically for edible oils, not only have prices increased across categories during the post-suspension period, but retail consumers are paying even higher prices.

Use of commodity derivatives by government agencies: The government is the largest buyer and seller of agricultural commodities in India. At least one-fourth of the domestic agri produce is procured by the government for various PDS (Public Distribution schemes) & PSS (Price support scheme) schemes along with MSP (Minimum Support Price). This leaves the government agencies also exposed to price risk and offers limited support to farmers. There is a need to elevate to market-driven tools which will reduce the dependencies on these schemes.

Revocation of suspended commodity Derivatives: Commodity price fluctuations are inevitable and market-driven which has been proven by not only this research but numerous researches in the past on the subject. Commodity derivatives serve as important price benchmarks for effective decision-making by the value chain. Post suspensions the market has lost these benchmarks and the price variance amongst various mandis, spot and futures, and international markets has increased. Also, the suspensions have been ineffective in controlling inflation, which was the initial premise of imposing suspensions. With edible oil and oilseed prices being largely driven by international price movements – the industry is vulnerable to these international price shocks in the absence of commodity derivatives. Hence these contracts should be restored.

Additionally, no other market regulator in the world has ever suspended so many commodity contracts at one go -- making this action exceptional. ***SEBI should not be perceived as a trigger-happy regulator -- futures market is like a messenger, a harbinger of good and bad days to come. Trade suspension is akin to shooting the messenger***.

ANNEXURE A

भारतीय प्रतिभूति और विनिमय बोर्ड
Securities and Exchange Board of India

प्रेस विज्ञप्ति
PRESS RELEASE

संपर्क प्रभाग, सेबी भवन, बांद्रा कुर्ला कॉम्प्लेक्स, बांद्रा (पूर्व), मुंबई - 400 051
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PR No.36/2021

SEBI issues directions to stock exchanges in Commodity Derivatives segment

1. SEBI has issued directions to Stock Exchanges having Commodity Derivatives Segment (Paras 2 to 4) in respect of trading in derivative contracts in following commodities:

1.1. The Paddy (non-basmati)
1.2. Wheat
1.3. Chana*
1.4. Mustard seeds and its derivatives (its complex)*
1.5. Soya bean and its derivatives (its complex)
1.6. Crude palm oil
1.7. Moong

*The derivative contracts in these commodities have already been suspended, vide SEBI press release dated August 16, 2021 and October 08, 2021, respectively.

2. No new contract shall be launched till further orders.

3. In respect of running contracts, no new position will be allowed to be taken. Only squaring up of position will be allowed.

4. These directions will be implemented with immediate effect.

5. The above-mentioned directions are applicable, for a period of one year.

Mumbai
December 20, 2021

ANNEXURE B

List of commodity futures contracts suspended in India	
Year	**Commodity futures suspended**
2005	Raw Jute
2007	Rice, Wheat, Tur and Urad
2008	Chana, Potato, Soyoil, Rubber
2009	Sugar
2012	Guar Seed and Guar Gum
2013	Pepper
2014	Potato
2016	Chana, Castor Seed
2021	Chana, Wheat, Paddy (Non-Basmati), Mustard Seed, Mustard Oil, Soybean, Soyoil and Soymeal, Crude Palm Oil and Moong
Note: 2008 suspension on Potato was revoked after 16 months. 2008 suspension on Chana was revoked after 6 months. 2016 suspension of Chana was revoked after 1 year. Similarly 2008 Soyoil futures suspension was revoked after 6 month. The latest suspension issued on 20th December 2021, expected to remain in force till one year. Data Source: Authors own compilation	

ANNEXURE C

भारतीय प्रतिभूति और विनिमय बोर्ड
Securities and Exchange Board of India

प्रेस विज्ञप्ति
PRESS RELEASE

PR No.25/2023

SEBI issues directions to stock exchanges in Commodities Derivative Segment

SEBI on December 19, 2021 had issued directions to Stock Exchanges having Commodity Derivatives Segment in respect of suspension of trading in derivative contracts in the commodities mentioned below; for a period of one year.

i. Paddy (non-basmati)
ii. Wheat
iii. Chana
iv. Mustard seeds and its derivatives (its complex)
v. Soya bean and its derivatives (its complex)
vi. Crude Palm Oil
vii. Moong

A press release was issued on December 20, 2021 mentioning about the directions issued to the Stock Exchanges.

Thereafter, the suspension in trading in the above contracts was extended for one more year beyond December 20, 2022 i.e. till December 20, 2023.

In continuation of the said directions, the suspension in trading in the above contracts has been extended for one more year beyond December 20, 2023 i.e. till December 20, 2024.

Mumbai
October 27, 2023

Page 1 of 1

Image Source: https://www.sebi.gov.in/media-and-notifications/press-releases/mar-2025/commodity-derivatives-segment_92902.html

ANNEXURE D

List of questions posed to primary survey participants.

1. Can you please share some information about your FPO?
2. Can you please share some information related to Soybean/Mustard futures trading initiatives taken by your FPO.
    a. For how many years, have you been trading on commodity futures?

b. Who decides to enter into Soybean futures (no. of contracts, maturity of contracts, when to close the futures position)?
c. Does commodity future facilitate locking a price for your produce?
d. Did you prefer futures or option contracts?
e. Did you use the exchange platform to deliver Soybean?

3. Without the futures contract since last 2 and half years, how are you mitigating the risk? Are you facing any challenges now?

4. Do you think commodity exchanges like NCDEX/MCX provide other benefits such as creation of warehouse infrastructure, spot price dissemination?

5. What is your opinion on the suspension on commodity futures in Soyabean / Mustard seeds?

6. What would be your message to SEBI/Govt. of India on the imposed suspension.

Screenshots of survey