

IS BAN ON JUTE FUTURES TRADING A NECESSITY? STUDY IN CONTEXT TO PREVIOUS BAN ON JUTE FUTURES TRADING

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Abstract: Since its inception and evolution, commodity derivatives markets have faced intermittent hurdles, leading to ban on a number of commodities off and on. Even after recommendations of expert committees and modifications in trading methods and full-fledged allowance of futures trading in 2003, jute futures trading was banned soon after the allowance. However it was resumed after gap of a year. Thereafter again pleas of its ban are pronounced owing to the rise in prices of jute. This paper studies the impact of the previous ban to understand whether another ban can actually cool down the jute prices. The paper does so by investigating whether the spot prices and volatility of the spot price increases when the derivative traders are functional in the markets.

Keywords: futures trading, trading methods, derivative traders, functional, markets.

1. INTRODUCTION

The origin of commodity futures trading if traced back evidently shows its necessity to curb down prices, reduce the necessity of dumping crops thus leading to more just prices for the crop farmers. But contrary to the above mentioned cause at present there are off and on pleas to ban commodity futures trading alleging it to be the reason being price shoot ups and price volatility. This allegation has actually led to ban of futures on some commodities like urad, never to be resumed for futures trading. Some other commodities like potato, soybean, jute, wheat etc. however faced bans to be lifted later. On one hand commodity futures both historically as well as after its full-fledged allowance on 2003 have been the reason of praise for its role in price risk reduction and management of price volatility and on the other hand it has been eyed for being responsible for price rise in commodities.

Historical evidences cite the presence of future delivery types of contracts existing in Babylonia several centuries b.c. Here traders bought goods to be delivered in some distant location and sought financing. A risk sharing agreement used to be signed between money financiers and traders whereby the money financiers provided loan to the traders, whose repayment was contingent upon safe delivery of the goods. The traders paid a higher cost for the loan as compared to ordinary loans to purchase 'option of default', on the loan contingent upon loss of cargo. Such facility could be provided by the lenders because they used to make such contracts with a large number of traders thus pooling the risks and making their costs affordable. Evidence has been found regarding prevalence of forwards contracts between traders in the medieval European trade fairs too. In the 12th century, a period of flourishing trade, merchants created a forward contract called 'lettre de faire' (letter of the fair). The merchant traded on the basis of samples using the letter as the negotiating instrument. This relieved them of the risk of carrying their merchandise across long distances without the guarantee of it being bought. The letter served as the evidence that the full consignment of the traded commodity is held at a ware house for future delivery. The first recorded futures trading occurred in rice in 17th century in Japan. This was during the Edo period when the feudal Japanese landlords used to ship rice to storage warehouses to Osaka, thereafter they used to issue tickets termed rice tickets in order to raise cash. The tickets indicated a promise of delivery of rice at a future date. The buyer of the rice tickets had the right to take delivery of the specified quantity of rice on a specified date at a pre-decided price. Each prefecture set up its own ware house in Osaka, Japan's economic center. A number of merchants gathered to

create one market called 'Yodoya – Komeichi', the first securities exchange in the nation. This market moved to Dojima in 1697, and was called Dojimakomekaisho, which meant a physical market to trade in rice tickets. In 1716 'chogomai—torihiki' was introduced. This was a book transaction that allowed opening and closing contracts for rice without actual physical delivery, just like our modern day futures contracts. This was recognized by the government later in 1730. Moving forward to the 19th century Chicago thrived as the buzzing commodity forwards market. In 1848, Chicago board of trade (CBOT) appeared as the debutant in the category of organized futures exchange. In the 1870s and 1880s New York Coffee, Cotton and Produce Exchanges were born. In 1872 a group of dairy merchants from Manhattan together created the Butter and Cheese Exchange of New York. Soon egg trade also joined in and the name modified to Butter, Cheese and Egg Exchange. In 1882 the name finally changed to New York Mercantile Exchange. Further in 1933 COMEX was established by merger of four exchanges, the National Metal Exchange, the Rubber Exchange of New York, the National Raw Silk Exchange, and the New York Hide Exchange.

In the Indian context the book titled 'BACK TO THE FUTURE: roots of commodity trade in India' authored by Jignesh Shah and Biswajit Rath, talks of evidence of futures trading in Arthashastra written during the Maurya period. In the most recent records Bombay Cotton Trade association established in 1875 was the first futures exchange in India. It was set up soon after the establishment of cotton trade in the UK since Bombay was the hub of cotton trade in the British Empire. In 1893 Bombay Cotton Exchange Limited was established following great discontent amongst the owners and merchants over the functioning of the Bombay Cotton Trade association. Thereafter in 1900 futures trading in oilseeds started through the Gujarati Vyapari Mandali. Futures trading in groundnut castor seed, cotton picked up pace from this exchange. Several places and Punjab and up were already using wheat future trading. In 1913 futures exchange for wheat was established at chamber of commerce, Hapur. Trading in bullion futures marked its entry in 1920 in Bombay. In 1919, Calcutta hessian exchange was established for future trading in raw jute and jute goods, however organized futures trading in raw jute started only in 1927 post the establishment of East Indian jute association ltd. In 1945 these two associations amalgamated and generated East India Jute and Hessian Ltd. Gradually a number of markets sprouted in various parts of India which carried out trading like the cotton markets of Bombay, Karachi, Ahmedabad, Indore, the wheat markets of Bombay, Hapur, Karachi, Lyallpur, Amritsar, Okara and Calcutta; the groundnut markets of Madras and Bombay; the linseed markets of Bombay and Calcutta; Jute and Hessian markets of Calcutta; Bullion markets of Bombay, Calcutta, Delhi and Amritsar and sugar markets of Bombay, Calcutta, Kanpur and Muzaffarnagar.

In spite of the revered position that forward and futures trading held in history post 1940s various aspects of the economic and prevailing environment started deterring the futures trading, after lots of hurdles and post liberalisation gradually futures trading came back. However full-fledged trading started only post 2003 after all commodities were allowed for trading. But only a few days post which again the hurdles started cropping allegations started being hurled accusing futures trading of price rises.

Objective of the Paper:

Post 2003 commodity futures were being traded through national level commodity exchanges. soon after a number of crops were brought under scanner, of which one is jute which succumbed to the allegations and its futures trading was banned in 2005. This paper would study the impact on spot prices of jute post its ban in 2005, in order to understand whether there is any necessity to adhere to the recent demand of ban on futures trading on jute yet again. Post 2013 jute industry has been vocal about its demand of banning jute futures claiming the futures in raw jute is a 'fatka' trade and is only causing price surges. They are alleging futures trade solely for the price rise. This paper in a simple process intends to study the probable effectiveness of the ban by scrutinizing the effects of the previous ban on jute futures in 2005. If jute futures actually led to spurt in prices then a ban should lower the spot prices. Hence the spot traders should be reaping lower returns on spot prices when the ban is in place in comparison to the period when futures are being traded. This paper studies whether the mean spot returns in the markets have actually changed or have increased or decreased during the period of futures trading for the crop jute. It also investigates the variance in returns in the pre and post futures periods. According to the outcome of the study on the impact of the previous ban, justification of another ban on jute futures can be analyzed.

Sample Selection and Data Collection:

Jute has been chosen for the study since it is an important commercial crop of India. In India over 4 million families are involved in cultivation of jute. And there are over 76 jute mills in the country. India produces its own jute seeds. The state seed corporation of Andhra Pradesh and Maharashtra produces more than 90 percent of seeds. USA, UK, South Africa

and Belgium are the main importers of Indian jute in the world. They import 25% of the total India's production of jute. India has excellent infrastructure facilities in meeting foreign (export) commitments. Apart from India, other countries like Bangladesh, China, and Myanmar are other important exporters of jute. As a matter of fact, the total production of jute in the world is 3 million tonnes (roughly around 24-25K Rs. Crore). The cultivation of Jute in India is mainly confined to the eastern region states - West Bengal, Bihar, Assam, Tripura, Meghalaya, Orissa and Uttar Pradesh. Nearly 50 percent of total raw jute production in India alone figures in West Bengal. Government has decided to take firm initiatives in strengthening the jute sector of India because millions and millions of Indians are directly or indirectly dependent on the jute industry. Government of India makes sure that farmers are not forced to sell their raw jute below the market price or the MSP (minimum support price). Plastic, a cheap and hazardous material was being used in packaging of some commodities. Because of its property of not being bio-degradable (and since it was not eco-friendly), the government ordered the compulsory use of jute packaging for select commodities. This has given the industry a huge boost and helped it to stabilize, ensuring a better return for the jute farmers

Jute futures trading:

Raw jute had been allowed for futures trading since April 2003. NCDEX launched jute futures in April 2004 and futures on jute sacking in July 2004. It was introduced in MCX in 2007 and in June 2004 at NMCE. Following sudden shoot up of jute market prices, government banned jute futures for the period December 2005 to April 2006. Again in 2009 there was severe demand from various sectors for banning jute futures following a 134% rise in prices in June 2009 in comparison to May 2007.

2. LITERATURE REVIEW

On reviewing the existing literature claims research papers could be found both in favour of and against the role of commodity derivatives in triggering spot prices of agricultural commodities. Hart (1977) showed that a sophisticated speculator could destabilize the futures prices by exploiting the naïve forecasting technique of less sophisticated speculator. But Newbery (1990) observes that since forward markets reduce risk, they encourage fringe firms to supply more output and thus, reduce the spot price. Furthermore, forward markets concentrate trading in one location and reduce information and other transaction costs, which can also lower prices. Again Theoretical studies conducted by Cox, 1979; Figlewski, 1981; Clifton; 1985; Grammatikos and Saunders, 1986; McCarthy and Najand, 1993; Chatrath et al., 1996 have criticised the futures market for destabilising the spot markets. The basic argument put forward is that futures markets have low transaction cost and provide high leverage as compared to spot market. As a result, it is likely that the uninformed speculative investors will shift from the spot market to futures market. The shift of uninformed trader from spot market to futures market will decrease the market depth and de-stabilize the market by increasing spot volatility. Furthermore, spot and futures prices are linked by arbitrages. The effect of manipulation in the futures markets, if any, may trickle down (spill over effect) to spot market and destabilize the market through high spot volatility. On the other hand Netz (1995) and Morgan (1999) concluded that the level of inventories held in the spot market will be determined by the *basis* and will ensure a more efficient process of private storage, which in turn, ensures a smoother pattern of prices in the spot market. From another view Kawai (1983) shows that when the storage is subject to shocks, increased storage can destabilise prices. It is also revealed that risk reduction encourages producers to undertake more risky investment projects, and risky investment destabilise spot prices. According to Turnovsky and Campbell (1985), since forward markets reduce the price risk of holding inventories, larger inventories are held and prices tend to stabilise as a consequence. Danthine, 1978; Kyle's, 1985, and Froot and Perold, 1991, Power (1970), Taylor and Leuthold (1974), Turnovsky (1979), Brorsen et al (1989), Gilbert (1989) and Netz (1995) have all found that the variance of cash prices decreased substantially after futures market began. The underlying logic is that futures markets were designed to provide a medium of hedging. It has an inherent role in price discovery which would let traders know the fair prices of commodities and hence improve market efficiency. Hence we find works citing bot the role of futures market as price manipulator and also as a price risk manager.

3. METHODOLOGY

The methodology includes studying the mean gross spot returns as well as the inflation adjusted spot returns in periods when futures were present and when it was not present.

Gross spot returns have been calculated by the following formula

Gross spot returns = Lognormal (spot price_t/spot price_{t-1})*100

Inflation adjusted spot returns have been calculated using the following formula

Inflation adjusted spot returns = $((1 + (\text{gross returns}/100)) / (1 + \text{WPI inflation}/100)) -$

*1)*100....equation 3.2*

Lognormal of returns were taken since returns are calculated as continuously compounded.

Hypothesis framed are as follows:

Hypothesis 1

Null hypothesis H_{01} = Mean gross spot returns are equal in all the phases

Alternative hypothesis H_{11} = mean gross spot returns are not equal in all the phases

Hypothesis 2

Null hypothesis H_{02} = Mean inflation adjusted spot returns are equal in all the phases

Alternative hypothesis H_{12} = mean inflation adjusted spot returns are not equal in all the phases

Hypothesis 3

Null hypothesis H_{03} = Mean variance in gross spot returns are equal in all the phases

Alternative hypothesis H_{13} = mean variance in gross spot returns are not equal in all the phases

Hypothesis 4

Null hypothesis H_{04} = Mean variance in inflation adjusted spot returns are equal in all the phases

Alternative hypothesis H_{14} = mean variance in inflation adjusted spot returns are not equal in all the phases

The data had been collated in MS Excel and thereafter the required tests were conducted in SPSS.

Data source:

Since spot price data for the mentioned period could not be found from some authentic source, hence it has been substituted with the WPI indexed price series of wheat, with the base year 1993-1994. The same base year has been considered for the entire period; hence no error will arise owing to base effect. WPI price of turmeric and the WPI of all commodities have been taken from the website of the office of economic advisor.

Period of study:

Since NCDEX was the first electronic exchange to have launched jute futures, the date of launch i.e. July 2004 has been considered to be the cut off period used to define pre and post futures period. Therefore for jute the pre futures period has been taken to be from April 1994 to June 2004 and post futures period is from July 2004 to November 2005. The period of ban is from December 2005 to April 2006 and the period of ban resumption is from May 2006 to March 2010. WPI price of jute and the WPI of all commodities have been taken from the website of the office of economic advisor.

4. RESULTS AND DISCUSSIONS

Tests to implicate the impact of wheat futures trading on jute spot prices

The descriptive for the four periods are as under:

Table 1: Group Statistics for gross returns of jute trading								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	119	0.0359	8.4311	0.7729	-1.4946	1.5664	-45.4265	24.1338
2	20	1.5635	4.0188	0.8986	-0.3174	3.4444	-9.5409	9.3325
3	5	2.9895	3.7673	1.6848	-1.6882	7.6671	-1.5065	8.4813
4	47	0.5414	2.9731	0.4337	-0.3316	1.4143	-5.5939	14.3931
Total	191	0.3976	6.9719	0.5045	-0.5975	1.3926	-45.4265	24.1338

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	119	-0.3907	8.4173	0.7716	-1.9187	1.1373	-45.7671	21.5861
2	20	1.0784	4.1542	0.9289	-0.8658	3.0227	-10.1893	8.5878
3	5	2.9271	4.3549	1.9476	-2.4802	8.3344	-2.5894	8.9798
4	47	0.0335	3.0563	0.4458	-0.8638	0.9309	-6.1898	14.4403
Total	191	-0.0456	6.9878	0.5056	-1.0430	0.9517	-45.7671	21.5861

The results show that the mean gross spot returns increased when futures trading was allowed, but it further increased when the ban was imposed. Also it reduced when futures was reintroduced after lifting of the ban. Mean inflation adjusted spot returns have increased on introduction of futures in period two, but it increased further when futures in jute got banned, and it reduced considerably after futures were resumed in jute. All this was in absolute terms. Thereafter independent sample t tests were conducted on gross spot returns as well as inflation adjusted spot returns.

Thereafter one way ANOVA tests were conducted on gross spot returns as well as inflation adjusted spot returns.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	77.317	3	25.772	0.526	0.665
Within Groups	9158.069	187	48.974		
Total	9235.385	190			

Levene Statistic	df1	df2	Sig.
5.344	3	187	0.001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	83.922	3	27.974	0.569	0.636
Within Groups	9193.785	187	49.165		
Total	9277.708	190			

Levene Statistic	df1	df2	Sig.
5.503	3	187	0.001

Results showed that:

H_{01} : there is no difference in mean gross spot returns in pre and post futures period has been accepted at both 1% and 5% significance levels.

And

H_{02} : there is no difference in mean inflation adjusted spot returns in pre and post futures period has been accepted at both 1% and 5% significance levels.

Levene's test for homoscedasticity, i.e. homogeneity of variance showed that:

H_{03} : there is no significant difference between variance of gross spot returns has been rejected at both 1% and 5% level of significance, and the alternative hypothesis has been accepted. Descriptive clearly indicate that the variance has reduced in the period when futures trading did exist i.e. in the 2nd and the 4th periods from their earlier periods.

H_{04} : there is no significant difference between variance of inflation adjusted spot returns has been rejected at both 1% and 5 % level of significance, and the alternative hypothesis has been accepted. Descriptive clearly indicate that the variance has reduced in the period when futures trading did exist i.e. in the 2nd and the 4th periods from their earlier periods.

Then Post Hoc Test Tukey was conducted on the spot returns to check if any significant outcome emerges on pair wise comparison of periods.

(I) period for jute		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.528	1.691	0.803	-5.912	2.856
	3	-2.954	3.195	0.792	-11.235	5.328
	4	-0.505	1.206	0.975	-3.631	2.62
2	1	1.528	1.691	0.803	-2.856	5.912
	3	-1.426	3.499	0.977	-10.497	7.645
	4	1.022	1.868	0.947	-3.821	5.865
3	1	2.954	3.195	0.792	-5.328	11.235
	2	1.426	3.499	0.977	-7.645	10.497
	4	2.448	3.292	0.879	-6.085	10.982
4	1	0.505	1.206	0.975	-2.62	3.631
	2	-1.022	1.868	0.947	-5.865	3.821
	3	-2.448	3.292	0.879	-10.982	6.085

Period for jute	N	Subset for alpha = 0.05
		1
1	119	0.036
4	47	0.541
2	20	1.564
3	5	2.989
Sig.		0.672

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 14.302.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

(I) period for jute		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.469	1.695	0.822	-5.862	2.924
	3	-3.318	3.201	0.728	-11.616	4.98
	4	-0.424	1.208	0.985	-3.556	2.707
2	1	1.469	1.695	0.822	-2.924	5.862
	3	-1.849	3.506	0.952	-10.937	7.24
	4	1.045	1.872	0.944	-3.808	5.898
3	1	3.318	3.201	0.728	-4.98	11.616
	2	1.849	3.506	0.952	-7.24	10.937
	4	2.894	3.298	0.817	-5.657	11.444
4	1	0.424	1.208	0.985	-2.707	3.556
	2	-1.045	1.872	0.944	-5.898	3.808
	3	-2.894	3.298	0.817	-11.444	5.657

Table 10: Significance values- Tukey test of inflation adjusted returns of jute		
period for jute	N	Subset for alpha = 0.05
		1
1	119	-0.391
4	47	0.034
2	20	1.078
3	5	2.927
Sig.		0.586

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 14.302.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Results show that there is no significant difference in mean returns was observed on taking periods pair wise.

5. FINDINGS

Hence we can conclude from the above that introduction of futures in jute did not lead to any increase in mean spot returns. Hence the allegation that the traders are specially benefitting from futures can be nullified. Rather we saw a fall in absolute variability of prices in the futures trading period, and statistically the fall was significant. This points out to the fact that futures introduction has not led to increase in variability of prices, rather it has helped in reducing the risk prevailing in the market, since the absolute variability is lesser. Hence we build on the point that futures introduction has not increased the spot prices or the variability in the spot prices.

6. CONCLUSION

After summarizing all of the above findings it can well be concluded that introduction of futures trading in jute had caused no statistically significant change in the gross returns and inflation adjusted returns on spot prices of jute. Also the price fluctuations have remained the same whether futures trading was allowed or disallowed. This implies that the event of futures trading has not resulted in extra gains for the spot traders by giving them higher return. Neither has the price fluctuations turned high. Overall conclusion thus suggests that introduction of jute futures trading has not impacted the jute spot prices adversely. Also, during the period of ban on jute futures there was no reduction in spot returns. To sum up there were no statistically significant differences in returns, whether futures was in place or not. Hence there seems to be less reason as to why jute futures should be banned following the recent demand of ban. The matter of price rise of jute is a fact, but there can be many other reasons which can be attributed for the same. Investigation into the other causes can help identify a more valid cause of price rise.

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