

Research Paper

FUTURES TRADING IN RUBBER- ARE THE STAKEHOLDERS IN KERALA BENEFITTED?

Abstract

Futures trading in agricultural commodities were introduced to provide the stakeholders, price information, which would help them to make production decisions as well as to lock spot prices for future derivatives and help the stakeholders access the markets easily. This study is an attempt to find out the utilization of price discovery and price risk management functions of Commodity Exchanges by the dealers of rubber and manufacturers of rubber products in Kerala.

Key words: Rubber *futures* trading, Price discovery, Price risk management, Hedging, Dealers of rubber and Manufacturers of rubber products

JEL Classification: G13, G14

Introduction

Futures market helps the stakeholders through two vital economic functions, viz., Price Discovery and Price Risk Management. At the macro level, the liquid and vibrant futures markets, which have nationwide participation, helps in restraining inter-seasonal and intra-seasonal price fluctuations. This not only helps in bringing about reasonable stability in the prices of commodities, but also supports farmers to get remunerative prices without adversely affecting interests of consumers. At the micro level, farmers can get an idea of the future price likely to prevail at a future point of time and therefore can choose between different crops. Exporters are able to quote a realistic price and get an export contract in the competitive market as they get advanced information of future prices. As consumers also get an idea of the price at which a commodity would be available in future, they can hedge their risk. In the futures market, some participants aim to reduce or remove risk (hedgers) while others come to the market to take risk and make money by participating in it (speculators). Farmers generally want certainty for the value they will receive for their crop and for this they are ready to forego very high prices.

Indian rubber industry is unique in the sense it is a major producer and consumer of natural rubber. India is the fifth largest producer of rubber in the world and the second largest consumer of natural rubber. Most of the rubber production is consumed by the tyre industry which is almost 52% of the total production of India. The two broad groups of the Indian rubber industry are the tyre and the non-tyre sectors, the former promoted mostly by large industrial houses and multinational companies and the latter comprising mostly by small and medium scale units. There are about 6000 unit comprising 30 large scale, 300 medium scale and around 5600 small scale and tiny sector units. These units are manufacturing more than 35000 rubber products, employing 400000 people, contributing Rs. 40 billions to the National Exchequer through taxes, duties and other levies. The Indian Rubber Industry plays a vital role in the Indian national economy.

Among the states, Kerala is the leading consumer of rubber, followed by Punjab and Maharashtra.

Statement of the problem

The commodity futures market has a vital role to play in the economy of the country due to the two important functions of price discovery and price risk management performed by the futures contract. Price discovery is the information about future spot price through futures market. Price Risk Management is very closely related to Hedging, which means

transfer of some or all of that risk to those who are willing to accept it, which are in turn called Speculators.

In manufacturing industries, where there is considerable elapse of time between the purchase of raw products and the sale and delivery of the manufactured products, the fluctuations in the price of the raw materials will cause loss to the parties. They can protect themselves against such loss by hedging on the Commodity Exchanges.

In a declining market, if a dealer has heavy stock of his produce, he can protect himself against loss on this stock by selling contracts on the Exchange for future delivery. If he finds it advantageous to sell some or all of this produce in the outside market, before the delivery months are reached, he will close his exchange contracts. But if he does not sell in the outside market, he will make his delivery on the Exchange. Thus in both the cases, he was protected against loss.

Futures trading will not be an effective tool for price discovery and price risk management unless production process and supply chains are strengthened. Also lack of awareness about futures trading in rubber as well as its benefits of price discovery and hedging is another reason for the ineffectiveness of rubber futures trading in Kerala.

Review of Literature

Efforts have been made to review available studies pertaining to the characteristic aspects of commodity exchanges globally as well as pertaining to India.

Commodity Exchange characteristic specific:

This section is organized into three parts based on the relevant characteristics of the commodity exchanges. These are performance and role of commodity exchanges; Price Discovery and Hedging on commodity exchanges.

Performance and Role of Commodity Exchanges

Studies conducted on the role of commodity exchanges and their performances are mentioned in this section.

Sahadevan (2002), in his study, focused on the problems and prospects of the futures market in agricultural commodities in India. He has observed that in spite of the setting up the exchange, traders are not keen to participate in trading actively as trading was unprofitable and could not be relied on it as a full-time business. He found that lack of efficient and modern infrastructural facilities including warehousing facilities and independent clearing house are a major bottleneck in the growth of futures markets in India.

Kabra (2007), in his study emphasised that the theory of futures market predict cannot become operational in India, since the preconditions for delivery of the products from the farm sector are difficult to be satisfied. According to him, price discovery function has little relevance for farmers in their present conditions because the infrastructure for involving farmers located in rural areas in the futures trade does not exist. Also, a warehouse receipt for enabling one to hedge in a distant metropolitan futures exchange is difficult in the Indian farm sector. Because, if a contract has to be concluded by physical delivery, there are a lot of transaction costs to be incurred as well as difficulty in fulfilling the technical conditions necessary for the effective use of futures market.

UNCTAD (2007) conducted a study on emerging commodity exchanges and found that Exchanges have developed in countries where production is predominantly done by small holders. The study found that particularly in China and India, where smallholder production is the predominant pattern, exchanges must broaden access to markets; empowering farmers to make better cropping and selling decisions; reducing information asymmetries that have been previously taken advantage by the more powerful market actors; upgrading storage, grading and technology infrastructure and expanding access to cheaper sources of finance.

Irwin and Sanders (2012) studied existing literature on structural changes in commodity futures market. The study observed that there were several beneficial impacts of the structural changes like the expanding market participation had decreased risk premiums, and thus, the cost of hedging, reduced price volatility.

The studies show that the commodity markets in developed countries helped in reducing risks, lowering cost of hedging, reducing price volatility etc. but in a country like India, the scope has become narrow. This is due to lack of adequate participation of the hedgers, because of which many of the commodity futures exchanges fail to provide an efficient hedge against the risk emerging from volatile prices though the turnover of the commodity futures market had grown exponentially in a short span of time.

Price discovery

Studies were carried out to examine whether the national exchanges organized futures markets are efficient and therefore perform adequately the intended functions. Also researchers observed whether the changes in the market conditions adequately reflect changes in prices or whether the price discovery mechanism has been efficient.

Thomas and Karande (2001) analyzed price discovery in India's castor seed market and concluded that markets that trade exactly the same asset in the same time zone, do react differently to information. Also study revealed that small markets may lead the large markets in terms of price discovery.

By looking at the Indian market, Thenmozhi (2002), Anand Babu (2003) etc. have found that the futures market in India has more power in disseminating information and therefore, has been found to play the leading role in the matter of price discovery.

Simaan and Wu (2003) analyzed price discovery in the U.S option market. The aim of the study was to investigate the price discovery process on the most actively traded option that was listed on all five stock option exchanges. Based on real time feeds from the option price reporting authority in January 2002 the researcher analyzed both the quotes and trades on the 50 most actively traded stock option. They measured the Hasbrouck (1995) information by using the second by second quotes book and the link between price discovery and other market conditions also were analyzed. This study found that new exchanges which were electronically equipped, were the leaders in providing the most informative quotes.

Doshit (2011) studied whether the commodity futures market in India are efficient through the study of four commodities- gold, silver, copper and rubber- traded on commodities exchanges. He found that Indian Commodity futures markets are inefficient across all the four commodities tested. According to the study, market inefficiency implies that the price discovery in Indian commodity exchanges is inefficient and not meaningful for large number of potential participants and primary producers of commodity. He has pointed out that operational inefficiencies in physical market, like, troubles in handling, transportation, warehousing and delivery of products to contract specification are directly affecting the efficiency of the spot market.

Even though commodity exchanges in India were operational for a long time, however they were more region-specific until in 2003 when national exchanges came into operation. Being an emerging economy, price discovery was the main function that commodity exchanges were expected to perform and thus various studies were conducted on the effect of trading on the prices of the commodities.

Scope of the study

The study focuses on the effectiveness of price discovery and price risk management functions of *futures* trading among the different stakeholders in Kerala. The study also analyses the effectiveness of the awareness programs conducted in Kerala for the rubber

stakeholders in rubber *futures* trading by the National Multi Commodity Exchange, which is the only exchange in Kerala which deals with rubber *futures* trading in Kerala.

Objectives of the study

1. To analyse the utilization of the price discovery and hedging benefits of *futures* trading offered through the commodity exchanges by the dealers and manufacturers of rubber goods.
2. To study the impact of the awareness programs on rubber *futures* trading, conducted by the National Multi Commodity Exchange in Kerala on the different rubber stakeholders.

Hypotheses of the Study

H₀₁: The dealers and manufacturers in Kerala are not utilising the price discovery and price risk management benefits of rubber *futures* trading.

H₀₂: The awareness programs on rubber *futures* trading in Kerala conducted by the National Multi Commodity Exchange for the stakeholders are not effective.

Methodology

Sources of Data

The study is based on both primary as well as secondary data. In Kerala, there is a regional concentration of production of NR in Kottayam District by producing 21.27% of the total production of the State, followed by Ernakulam producing 11.08% and Pathanamthitta producing 9.44%. Hence the primary data have been collected from the farmers in Kottayam, Pathanamthitta and Ernakulam districts of South Kerala with the help of structured questionnaire. The questionnaires were tested by conducting a pilot survey of a few respondents selected on random basis. Utilising the information from the pilot study, questionnaire was modified for the final study. The questionnaire was administered personally using face to face method in order to improve the response rate. Nominal and ordinal scales were used to take the responses of respondents regarding demographic variables, while Likert's (1970) three point scale was used to take the responses regarding the level of awareness about rubber futures trading and role of commodity exchanges in the development of rubber markets in Kerala, on awareness scale ranging from little to not at all and role scale ranging from highly significant to not at all significant respectively. Cross tabulation has been utilized to represent the responses of the respondents.

The secondary data have been collected from annual reports and official websites of the Rubber Board and different Commodity Exchanges like MCX and NMCE and journals like *Rubber Mithram*.

Sample Design

The researcher has adopted Multistage Random Sampling technique. The researcher has selected dealers and manufacturers in the study area and much care has been taken to ensure that the sample group represents the whole area of the study. In the first stage, the three districts, Kottayam, Ernakulam and Pathanamthitta which are having the highest Natural Rubber production in Kerala were selected. In the second stage, addresses of dealers and manufacturers were collected from 10 Regional offices of the Rubber Board in each District - 5 Regional Offices in Kottayam district, 3 Regional offices in Ernakulam district and 2 Regional Offices in Pathanamthitta district. In the third stage, from each regional office, 3 Rubber Producers' Societies were selected and from each RPS, 75 dealers and 25 manufacturers were selected from these districts at random.

Results and Discussion

1.1. Educational Level and level of awareness about *futures* trading among dealers and manufacturers

Dealers and manufacturers can protect themselves against price variations by buying and selling *futures* contracts on the exchange, for which awareness about *futures* trading is necessary.

1.1.1. Educational Level and level of awareness about *futures* trading among dealers

In order to find out whether awareness about *futures* trading is related to the educational level of the dealers, the following analysis was done.

Table 1. Educational Level and Level of awareness about *futures* trading among dealers

Educational level	Level of awareness of <i>futures</i> trading			Total
	Little	Much	Not at all	
Upto matriculation	19 70.4%	5 18.5%	3 11.1%	27 100.0%
Graduation	18 41.9%	16 37.2%	9 20.9%	43 100.0%
PG/ Professional& above	1 20.0%	4 80.0%	0 0.0%	5 100.0%
Total	38 50.7%	25 33.3%	12 16.0%	75 100.0%

Pearson Chi-square:10.750, df=4, p=0.030

Source : Survey data

Thus it can be inferred that among the dealers, graduates are more aware about rubber *futures* trading than dealers who are having educational qualification up to matriculation.

1.1.2. Educational Level and level of awareness about *futures* trading among manufacturers of rubber goods

In order to find out whether awareness about *futures* trading is related to the educational level of the dealers, the following analysis was done.

Table 2. Educational Level and Level of awareness about *futures* trading among manufacturers

Educational level	Level of awareness of <i>futures</i> trading			Total
	Little	Much	Not at all	
Up to matriculation	2 50%	1 25%	1 25%	4 100%
Graduation	6 40%	7 46.67%	2 13.33%	15 100%
PG/ Professional & above	1 16.67%	4 66.66%	1 16.67%	6 100%
Total	12 48%	9 36%	4 16%	25 100%

Source : Survey data

Among the manufacturers, majority are only little aware about the *futures* trading in rubber. Also, among them, graduates and Post Graduates/ Professionals are much aware about *futures* trading.

Thus among the stakeholders, those who are having higher educational qualifications are more aware about rubber *futures* trading and so awareness about futures trading is related to the educational level of the stakeholders.

1.2. Awareness about the benefits of *futures* trading among dealers and manufacturers

The two economic benefits of futures trading are price discovery and hedging. The future prices are discovered in a transparent manner on the online platforms of the national commodity derivatives exchanges. With the help of information on future price trends, and probable supply and demand of various commodities, the farmers can plan their cultivation as well as storage and sale of their produce in advance. Even when rubber market remains subdued due to global uncertainties, futures trading will provide an effective hedging mechanism for farmers. They will not be forced to exclusively depend on spot markets alone or hold the commodity expecting a price rise in future.

Table 3. Awareness about Benefits of *future* trading among dealers

Level of awareness of	Awareness about benefits of future trading among dealers	Total
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futures trading among dealers	Price Discovery	Hedging	Not aware	
Little	7 25.9%	2 7.4%	18 66.7%	27 100.0%
Much	14 32.6%	5 11.6%	24 55.8%	43 100.0%
Not at all	2 40.0%	2 40.0%	1 20.0%	5 100.0%
Total	23	9	43	75
	30.7%	12.0%	57.3%	100.0%

Source :Survey data

Table 3 depicts that majority of the dealers 80% (70) are aware about *futures* trading, but among them majority 97.67% (42) are not aware about the benefits of rubber *futures* trading. While 57.3% (43) of the dealers are unaware about the benefits of rubber *futures* trading, 30.7% (23) are aware about price discovery and only 12% (9) are aware about hedging.

Thus it can be inferred that although majority of the dealers were educated, they were not aware about the benefits of rubber *futures* trading, especially about hedging.

1.2.1. Awareness about benefits of futures trading among manufacturers of rubber goods

To understand whether the manufacturers of rubber goods are aware about the benefits of rubber *futures* trading, the following analysis was done.

Table 4. Awareness about benefits of *futures* trading among manufacturers of rubber goods

Level of awareness about <i>futures</i> trading among manufacturers	Using <i>futures</i> price for procurement decisions		Total
	Yes	No	
Little	0 0.0%	16 100 %	16 100%
Much	1 16.7%	5 83.3%	6 100%
Not at all	0 0.0%	3 100.0%	3 100%
Total	1 4.0%	24 96.0%	25 100%

Source: Survey data

**Table 5. Binomial Test
Awareness about benefits of *futures* trading among manufacturers**

Using futures price for procurement decisions	Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Group 1	No	24	.96	.50	.000
Group 2	Yes	1	.04		
Total		25	1.00		

Source : Computed

Table 4. indicates that among the 25 manufacturers, majority 96% (24) are not using futures prices for decisions on raw material procurement. Among these, 64% (16) are little aware about rubber futures trading, 24% (6) are much aware about futures trading and only 12% (3) are not aware about rubber futures trading. Also among those who are much aware about rubber futures trading, only 16.67% (1) is using rubber futures prices for raw material procurement decisions. This proportion is statistically significant @ 5% level of significance in the binomial tests, as seen in Table 5.

Thus it can be inferred that although manufacturers are aware about futures trading, they are not using the same for decisions on raw material procurement.

1.3. Source of Awareness about *Futures* Trading

There are different sources through which awareness about *futures* trading is created among the dealers and farmers. The Commodity Exchanges are creating awareness through awareness programs conducted at different places for the various stake holders. The Rubber Board is also conducting classes for the benefit of the stakeholders.

The following analysis was done to find out about the source of awareness about *futures* trading.

Source : Survey data

Table 6.
Source of Awareness about *Futures* Trading for dealers

Trading details	Source of awareness for dealers					Total
	NMCE	Rubber Board	Media	Co-op Society	Others	
Fully engaged in rubber trading	12 33.3%	6 16.7%	4 11.1%	4 11.1%	10 27.8%	36 100%
Partly engaged in rubber trading	12 30.77%	10 25.65%	6 15.38%	4 10.25%	7 17.95%	39 100%
Total	24 64.07%	16 42.35%	10 26.48%	8 21.35%	17 45.75%	75 100%

Among the 75 dealers who are aware about the *futures* trading in rubber, majority 64.07% (24) dealers became aware about it through the National Multi Commodity Exchange (NMCE), 42.35% (16) were created awareness through the Rubber Board, 26.48% (10) through media, 21.35% (8) through Cooperative Societies and 45.75% (17) through other sources.

Thus, it can be inferred that the role of commodity exchanges in creating awareness about *futures* trading among the dealers is high.

1.3.1. Level of awareness of *futures* trading and Participation in awareness programs

To find out whether participation in awareness programs depended on the level of awareness about *futures* trading, the following analyses were done.

Table 7.

Participation in Awareness Programs after becoming aware about rubber *futures* trading among the dealers

Level of awareness of futures trading	Participation in awareness program		Total
	Yes	No	
Little	9 23.7%	29 76.3%	38 100.0%
Much	13 52.0%	12 48.0%	25 100.0%
Not at all	2 16.7%	10 83.3%	12 100.0%
Total	24 32.0%	51 68.0%	75 100.0%

Pearson Chi-square:7.100, df = 2, p=0.029

Source : Survey data

Table 8.

Participation in awareness programs by dealers

Binomial Test

Participation in awareness program	Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Group 1	No	51	.68	.50	.002
Group 2	Yes	24	.32		
Total		75	1.00		

Source : Computed

Table 7 depicts that among the 38 dealers who had little knowledge about *futures* trading in rubber, majority 76.3% (29) have not participated in any awareness programs and only 23.7% (9) have participated in awareness programs. Among the 25 dealers who are much aware about the awareness programs, majority 52% (13) have attended the awareness programs.

The Chi-square test proves that there is close association between level of awareness about *futures* trading and participation in awareness programs. This proportion is statistically significant @ 5% level of significance in the binomial tests.

Thus it can be inferred that only those dealers who had much awareness about rubber *futures* trading took interest in participating in the awareness programs.

Table 9.

Level of awareness of futures trading and Participation in awareness programs by the manufacturers of rubber goods

Level of awareness of futures trading among manufacturers of rubber goods	Participation in awareness program		
	Yes	No	Total
Little	6 37.5%	10 62.5%	16 100%
Much	5 83.33%	1 16.67%	6 100%
Not at all	---	3 100%	3 100%
Total	11 44%	14 56%	25 100%

Source : Survey data

Among the manufacturers, majority 64% (16) have only little awareness about rubber *futures* trading and majority 56% (14) have not participated in awareness programs. Among the manufacturers having little awareness, majority 62.5% (10) have not participated in awareness programs but among the manufacturers who have much awareness about *futures* trading, majority 83.33% (5) have participated in awareness programs. So it can be inferred that participation in awareness programs depends on the awareness about rubber futures trading.

1.4. Creation of interest in trading in rubber *futures* after participating in awareness programs by the dealers and manufacturers

In order to assess whether the 24 dealers who participated in awareness programs got interested in trading in rubber futures the following analysis was done.

Table 10.

Creation of interest in trading in rubber *futures* after participation in awareness programs for the dealers

Participation in awareness program	Interest in futures trading after awareness program	Total
Yes	18 100.0%	18 100.0%
No	6 100.0%	6 100.0%
Total	24 100.0%	24 100.0%

Source : Survey data

Table 11. Binomial Test
Interest in trading in rubber *futures* after participating in awareness program

		Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Interest in futures trading after awareness program	Group 1	No	6	.25	.50	.023
	Group 2	Yes	18	.75		
	Total		24	1.00		

Source :Computed

Table 10 reveals that among the 24 dealers who participated in awareness programs, majority 75% (18) became interested in trading in rubber *futures*. This proportion is statistically significant @ 5% level of significance in the binomial tests as shown in Table 11.

Thus it can be inferred that participating in awareness programs can create interest in trading in rubber in futures, among the dealers.

Table 12.
Creation of interest in trading in rubber futures among the manufacturers after participation in awareness programs

Participation in awareness program	Interest in futures trading after awareness program		Total
	Yes	No	
Yes	14 56%	11 44%	25 100%
Total	14 56%	11 44%	25 100%

Source: Survey Data

Majority 56% (14) of the manufacturers have become interested after participating in the awareness programs, where as 44% (11) who participated in awareness programs have not become interested in trading in rubber futures.

Thus it can be inferred that participating in awareness programs have created interest in trading in rubber in futures, among the manufacturers.

1.5. Trading behavior of dealers and manufacturers of rubber goods after participating in awareness program.

In order to analyse whether the dealers and manufacturers of rubber goods started trading in rubber futures after participating the awareness program, the following analyses were done.

1.5.1. Trading behavior of dealers after participating in awareness program

In order to analyse whether the dealers, who got interested in *futures* trading after attending awareness programs, had started trading in rubber futures, the following analysis was done.

Table 13.
Trading behavior of dealers who got interested in *futures* trading after attending awareness programs

Interest in futures trading after awareness program	Trading in <i>Futures</i>		Total
	Yes	No	
Yes	14 77.78%	4 22.22%	18 100%
Total	14 77.78%	4 22.22%	18 100%

Source: Survey Data

Majority, 77.78% (14) of the dealers who got interested in *futures* trading after participating in awareness programs, started trading in futures trading.

So participation in awareness programs have made the dealers enter into futures trading.

1.5.2. Trading behavior of manufacturers after participating in awareness program

In order to analyse whether the manufacturers, who got interested in futures trading after attending awareness programs, had started trading in rubber futures, the following analysis was done.

Table 14.
Trading behavior of manufacturers who got interested in futures trading after attending awareness programs

Interest in futures trading after awareness program	Trading in <i>Futures</i>		Total
	Yes	No	

Yes	0 0%	14 100%	14 100%
Total	0 0%	14 100%	14 100%

Source: Survey Data

Table 14. shows that although 14 manufacturers got interested in rubber futures trading after attending the awareness programs, none started trading in rubber futures.

So it can be inferred that awareness programs have not generated interest in manufacturers about trading in rubber futures.

1.6. Opinion about benefits of trading in rubber futures for dealers who traded in rubber futures

To understand whether the dealers, who traded in rubber *futures*, after getting interested through awareness programs were benefitted, the following analysis was done.

Table 15.
Opinion about benefits of trading in rubber futures from dealers who traded in rubber futures

Trading in Futures	Whether beneficial		Total
	Yes	No	
Yes	9 64.29%	5 35.71%	14 100%
Total	9 64.29%	5 35.71%	14 100%

Source : Survey Data

Table 15 indicates that among the 14 dealers who traded in rubber *futures*, majority 64.29% (9) found trading beneficial where as the rest 35.71% (5) did not find it beneficial.

1.6.1. Benefits of trading in rubber futures derived by the dealers and manufacturers

Trading in *futures* helps to derive the benefits of price discovery, risk management, price dissemination and market surveillance.

An analysis of the dealers who had done trading in rubber *futures* and found it beneficial was done in the following manner.

Table 16.
Benefits of trading in rubber futures

Benefits of trading in rubber futures	Whether beneficial		Total
	Yes	No	
Price Discovery	3 33.33%	0	3 33.33%
Risk Management	5 55.56%	1	6 11.11%
Price Dissemination	0 0.0%	0	0 0.0%
Market Surveillance	1 11.11%	4	5 55.56%
Total	9 100%	0	9 100%

Source : Computed

Majority of the dealers 55.56% (5) got the benefit of risk management, while 33.33% got the benefit of price discovery and 11.11% got the benefit of market surveillance.

Thus, dealers were benefitted with risk management through rubber *futures* trading.

1.6.2. Opinion about confidence in trading in rubber futures by the dealers.

In order to analyse whether the dealers were confident in rubber *futures* the following analysis was done.

Table 17.
Confidence in rubber futures trading among the rubber dealers

Frequency of futures trading	Confidence in futures trading		Total
	Yes	No	
Daily	1 16.67%	5 83.33%	6 100%
Weekly	0 0%	7 100%	7 100%

Fortnightly	1 33.33%	2 66.67%	3 100%
Monthly	0 0%	2 100%	2 100%
Total	2 11.11%	16 88.89%	18 100%

Source: Data survey

To analyse the confidence of the dealers in *futures* trading in rubber, an analysis of the 18 farmers who traded in rubber futures and the frequency of their trading was done. The traders used to trade daily, weekly, fortnightly and monthly.

Majority 88.89% (16) lost their confidence in rubber futures trading, especially those who traded daily and weekly.

**Table 18. Binomial Test
Confidence in trading in rubber futures**

		Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Confidence in futures trading	Group 1	No	60	.80	.50	.000
	Group 2	Yes	15	.20		
	Total		75	1.00		

Source: Computed

The above table indicates that majority of the dealers are not having confidence in rubber *futures* trading. This proportion is statistically significant @ 5% level of significance in the binomial tests, as seen in Table 18.

1.7. Reasons for not trading in rubber *futures*

Although some of the stakeholders got interested in trading in rubber futures, after participating in the awareness programs, majority of them are not trading in rubber *futures* due to various reasons. To find out the reasons, the following analyses were done for the different stakeholders.

1.7.1. Reason for not trading in rubber *futures* by the rubber dealers

After attending the awareness programs, although 18 dealers became interested in rubber *futures* trading, they were reluctant to enter into trading due to many reasons. Some of them are lack of awareness and lack of technical knowledge about rubber futures trading, risks involved, fall in prices and minimum margin requirement.

**Table 19.
Reasons for not entering into rubber *futures* trading even after becoming interested through awareness programs**

Interest in <i>futures</i> trading after awareness program	Reasons for not trading				Total
	Risk involved	Lack of technical knowledge	Fall in prices	Margin requirement	
Yes	7 38.89%	6 33.33%	3 16.67%	2 11.11%	18 100%
Total	7 38.89%	6 33.33%	3 16.67%	2 11.11%	18 100%

Source: Survey Data

Among the 18 dealers, majority 38.89% (7) were afraid of the risks involved in *futures* trading, while 38.33% (6) lacked technical knowledge necessary for *futures* trading, 16.67% (3) feared the instability of prices of rubber and 11.11% (2) found it difficult to meet the margin requirement.

It can be inferred that risks involved in *futures* trading is the main reason why dealers are hesitant to enter into futures trading.

1.7.2. Opinion about hesitancy to trade in rubber *futures* by the manufacturers

There is a general opinion that *futures* trading results in price fluctuations and many have incurred losses. Hence people hesitate to enter into rubber *futures* trading. To find out whether the manufacturers are hesitating to trade in rubber *futures*, due to the losses incurred due to fluctuating prices, the following analysis was done.

Table 20.
Opinion about hesitancy to trade in rubber futures

Futures trading results in price rise	Loss incurred cause hesitancy			Total
	Agree	Disagree	Not aware	
Agree	3 60.0%	1 20.0%	1 20.0%	5 100.0%
Disagree	8 40.0%	0 0.0%	12 60.0%	20 100.0%
Total	11	1	13	25

	44.0%	4.0%	52.0%	100.0%
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Source: Computed

Table 20 reveals that among the 25 manufacturers, 44% (11) are of the opinion that loss incurred due to rubber futures trading is the reason for hesitancy to enter into rubber futures trading. Also, among those who agree that hesitancy to trade in rubber futures is due to the loss incurred, 72.2% (8) are of the opinion that rubber futures trading do not result in price rise and among those who are not aware about reason for hesitancy in entering into futures trading, 92.3% (12) also are of the same opinion.

Thus, it can be inferred that manufacturers are of the opinion that although hesitancy to trade in rubber futures is due to the loss incurred, rubber futures trading do not result in price rise.

Implications

The study has found that the educational level of the dealers and manufacturers have a significant role in generating awareness about rubber futures trading among the dealers and manufacturers. Majority of the dealers are graduates and they are more aware about rubber futures trading. Dealers and manufacturers with higher educational level are more aware about futures trading.

The study has also found that among the dealers and manufacturers, majority are not aware about the benefits of rubber futures trading and among those who are aware about the benefits, they are aware only about price discovery. The benefit of hedging is known only to a minority.

It is observed that commodity exchanges have been able to create awareness about *futures* trading among dealers and manufacturers.

Suggestions

Intense publicity should be given through print and visual media. The *futures* trading is a complex process and, therefore, requires to be made simple and user-friendly. The participation as well as getting benefit from commodity futures market requires knowledge of English as well as computers. If the process is simplified and information made available in vernacular languages, many dealers and manufacturers will appreciate the market fundamentals and may eventually participate in it. As a part of the training, it would be highly

effective if arrangements could be made for some kind of “mock trading” in *futures* market through demo software, preferably in local language.

These measures will help the local traders and to understand the mechanism well and encourage them to participate in *futures* market.

Conclusion

Commodity Exchanges have been able to create awareness about *futures* trading among the dealers and manufacturers. But the benefit of hedging, which is a very important benefit for the dealers and manufacturers is unknown to them. A good hedging market needs a large volume of trading and so the dealers and manufacturers need to be made aware of *futures trading* and its benefits.

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