ONE-WAY ANOVA AND T TEST TO UNDERSTAND INVESTOR'S PERCEPTION REGARDING INDIAN COMMODITY MARKET

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Abstract

The commodities' markets are one of the fastest growing areas in the investment world. A commodity market is an exchange for buying and selling of commodities for future delivery. This research paper on 'Investor Perception regarding Indian Commodity Market' is a detailed study of the Modus Operandi of commodity exchange in India, Price Discovery Methodology, Commodity future market, Trading mechanism & Instruments of trading, fundamental of demand & supply concern with the main objective of making a successful career in the sector by getting placed with one of the commodity research companies. This paper is based on the commodity markets, their significance in the economy and their contribution towards the GDP of the country. This research is a sincere attempt to provide a basic understanding of the complexities of commodity market of world finance in simple manner.

Key words: *Commodity future market, GDP, Modus Operandi, ANOVA, t test*

1.0 Introduction

Any product that can be used for commerce or an article of commerce which is traded on an authorized commodity exchange is known as commodity. The article should be movable of value, something which is bought or sold and which is produced or used as the subject or barter r sale. In short commodity includes all kinds of goods. Indian Forward Contracts (Regulation) Act (FCRA), 1952 defines "goods" as "every kind of movable property other than actionable claims, money and securities". Today the market is much shaken by one word i.e. "Banning", so here there is detail analysis is done on Inflation, Banning & Politics. After understanding the presence of Commodity Futures Market in India the focus is made on the Future Outlook of Commodity Futures in the way of suggestions. It includes the evolution of Commodity Futures Market and at present how commodity Futures Market are working, their contribution in economy & their future. As Commodity Futures Market are now new revenue generators for investors. It achieved Rs. 12,000 Cr. Volume in just a 4 years span of time which is having more than 200% growth

p.a. Their turnover is now equal to GDP of country i.e. 37 Lakh Cr. It contains analysis of 10 commodities, the demand and supply affecting the commodities etc.

1.1 Factors effecting commodities market

The factors affecting the prices of various commodities can be divided into two.

Generic Factors:
These are the factors affecting all the commodity prices in general are Demand and Supply, Indian Rupee Vs other currencies, Export/Import parity, Political environment.

Specific Factors:
These are the factors affecting a particular commodity or a class of commodities are as follows.

Precious Metals: Stock market dynamics, Geo-political tensions, US dollar Vs other major currencies, Global macroeconomics, Miner's reports.
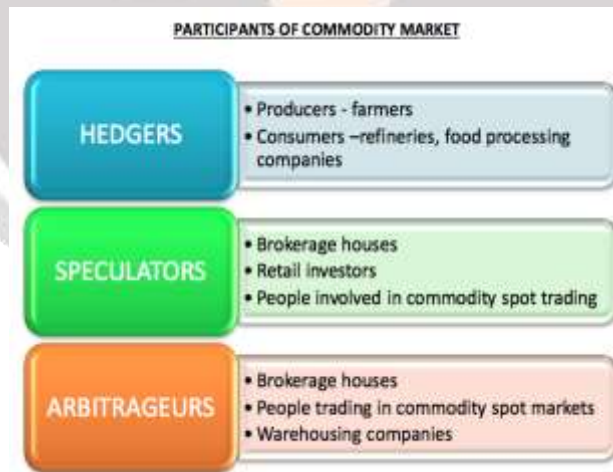
Agricultural: Climatic conditions, Crop production, Government regulations, Export rejection/orders.

Softs: Climatic conditions, Crop production, Import duty.

Industrial Metals: Industrial demand, Substitute metals supply, Government regulations, Infrastructure projects,

Energy: Production, New excavations, Geo-political tensions.

1.2 PARTICIPANTS OF COMMODITY MARKET

PARTICIPANTS OF COMMODITY MARKET

HEDGERS
• Producers - farmers
• Consumers –refineries, food processing companies

SPECULATORS
• Brokerage houses
• Retail investors
• People involved in commodity spot trading

ARBITRAGEURS
• Brokerage houses
• People trading in commodity spot markets
• Warehousing companies

1.3 Need for study

This research is a sincere attempt to provide a basic understanding of the complexities of commodity market of world finance in simple manner.

2.0 Research Methodology

2.1 Defining the Research Problem:

 It is said, "A problem well defined is half solved". The first step in research methodology is to define the problem and deciding the research objective. The objective of the study is to know about the ***Investor perception regarding Indian Commodity Trading.***

2.2 Objectives of Study

1. To know about the Commodity Exchanges avenues preferred by investors.
2. To know the investors risk taking apatite in investment in particular commodity.
3. To know the reason for trading in commodity market.
4. To understand the Period for Investment of commodity exchanges.
5. To know about the commodity in which the investors mostly trade.
6. To understand risk and returns of the investors for commodity
7. To understand the preference of commodities over equities

2.3 Scope of Study

The research on **'Investors Perception Regarding Indian Commodity Trading'** has a wide scope and is indeed a great help in understanding the core concept of trading in various commodities. The scope of my study was confirmed to current time period. A limited sample was selected to fulfill the various objectives of the study. Also Scope was related to have a general view of the investors towards the commodity trading.

2.4 Data Collection

- **Primary data:** Primary data are those, which are collected afresh and for the first time, and thus happen to be original in character. It is the backbone of any study. Questionnaire is the only primary data in my research.

- **Secondary data:** Secondary data are those which have already been collected by someone else and which have already been passed through the statistical process. In this case one is not confronted with the problems that are usually associated with the collection of original data. Secondary data either is published data or unpublished data.

2.5 Research instrument

Research instrument is that with the help of which the researcher collects the data from respondents. The questionnaire of the present research consists of close ended and open ended questions

2.6 Research Design
Research Design is a blueprint or framework for conducting the research project. It specifies the details of the procedures necessary for obtaining the information needed to structure and solve research problem. The research design used in present study is descriptive research.

2.7 Sampling design

Sampling can be defined as the section of some part of an aggregate or totality on the basis of which judgment or an inference about aggregate or totality is made. The steps involved in sampling design are as follows:

2.7.1 Universe

Universe refers to the total of the units in field of inquiry. Universe of the present study is all the investors who trading in Commodity market

2.7.2 Sampling unit

Sampling unit of the present study is Investors of Commodity Market and potential investors of same.

2.7.3 Sampling size

Sampling size is the total no. of units which we covered in the study. In present study sample size is 55.

2.7.4 Limitations of The Study
Although the sincere efforts have been done to collect authentic and relevant information, the study may have the following limitations -:

- **Hard Enough to Fetch Information**: It was not an easy task to get information from investors who invest in commodity. The investors were not always open and forthcoming with their views, even agitated and not disclosing. The Major contribution in Commodity market is by wholesalers and big companies they were not sharing their strategies they use in share market. Hence information is restricted to individual investors.

- **Limited Scope**: Scope of study is limited potential Investors and Individual Investors only and because of limited time the results of study may not be generalized for India as a whole.

- **Results may be Inaccurate**: This study is based on the assumption that perceptions are true and factual although at times that may not be the case.

- **Existence of Biases:** Though every care has been taken to eliminate such biases, but considering the human factor the possibility of small bias having come up cannot be ruled out altogether.

- **Investor Behaviour**: Investor behaviour is dynamic in nature and thus over the time, finding today may become invalid tomorrow.

- **Small Sample Size:** The sample size taken is small and may not be sufficient to predict the result with 100% accuracy and hence findings may not be generalized.

3.0 Data Analysis and Findings

3.1 To know about the Commodity Exchanges avenues preferred by investors.

Table 3.1.1 Avenues for investment

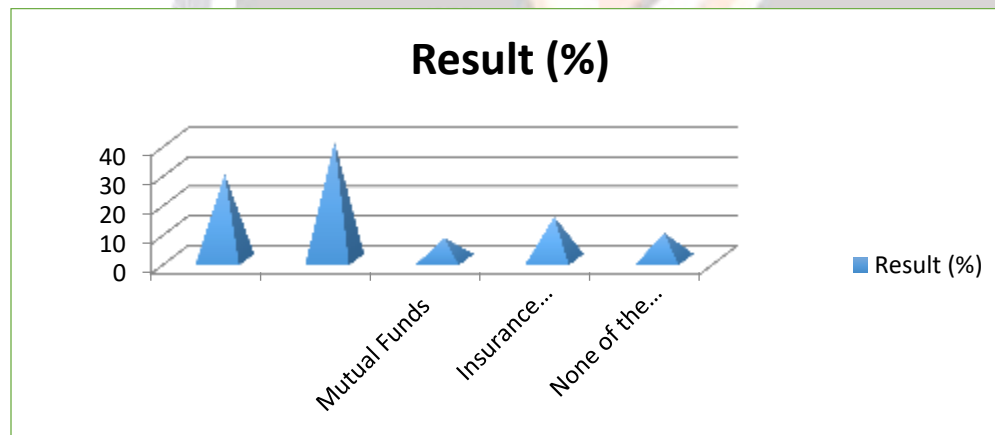| Avenues for investment	No of respondent	Percentage
Equities/ Derivatives	16	29.09
Commodity Futures	22	40
Mutual Funds	4	7.27
Insurance (Includes ULIP)	8	14.54
None of the above	5	9.09

Source: Survey

Fig 3.1.2

Findings

Using one-way ANOVA, it is observed that p value for Equites/ Derivatives, Mutual funds and commodity futures is less than 0.05, thus these factors are significant factors for Avenues considered for investment.

From the fig 3.1.2 it is observed that 40% of the people invest in commodities,29.09% prefer equities and 14.54 % prefer Insurance the minimum is mutual funds ie 7.27%

3.2 To know the investors risk taking apatite in investment in particular commodity

Table 3.2.1 Risk taking apatite

Answer	No of respondent	Percentage
Risk Seeking	13	23.63
Moderate Risk	27	49.09
Risk Average	10	18.18
No Answer	5	9.09
Source: Survey		

Fig 3.2.2

Findings

From the fig 3.2.2 it is observed that 50 % of the people prefer to take moderate risk 23% people are risk seeking. Also Using t test, it is observed that p value for Risk Seeking, and Moderate Risk is less than 0.05, thus these factors are significant factors for risk considered for investment.

3.3 To know the Reasons for trading in commodity market.

Table 3.3.1 Reasons for trading

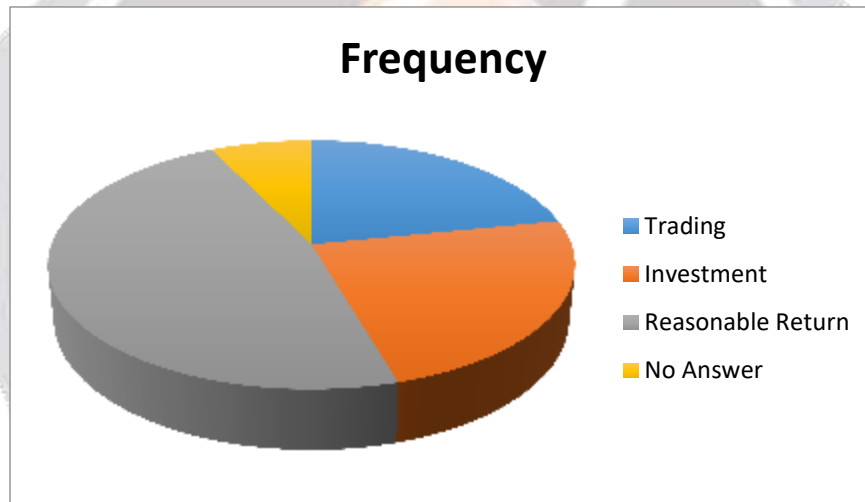| Answer	No of respondent
Trading	12
Investment	13
Reasonable Return	26
No Answer	4

Source: Survey

Fig 3.3.2

Findings

Using t test, it is observed that p value for Investment, and Reasonable Return is less than 0.05, thus these factors are significant factors for Reason for trading in commodity market considered for investment. From the fig 3.3.2 it is observed that 47.27% invest in commodity to get reasonable return and 21.81% are engaged in trading of commodity whereas 23.63% consider as an investment

3.4 To understand the Period for Investment of commodity exchanges.

Table 3.4.1 Period for Investment

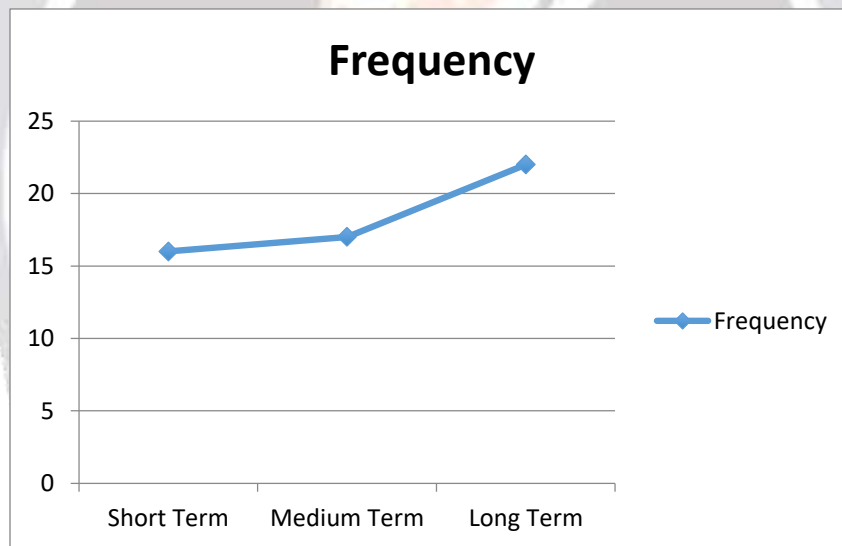| Answer	No of respondent
Short Term (Upto 1 month)	16
Mid Term (Upto 3 months)	17
Long Term (1 year)	22
Source: Survey	

Fig 3.4.2

Findings

Using t test, it is observed that p value for short and long term is less than 0.05, thus these factors are significant factors for Reason for trading in commodity market considered for investment in relation to **the Period for Investment**. From the fig 3.4.2 it is observed People generally prefer to invest for long term period and medium term and short term investors at a par with each other

3.5 To understand risk and returns of the investors for commodity

Table 3.5.1

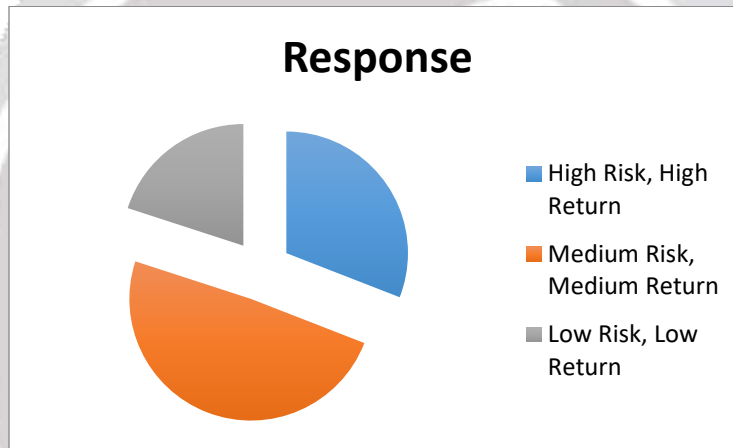| Answer	No of respondent
High Risk, High Return	17
Medium Risk, Medium Return	27
Low Risk, Low Return	11

Source: Survey

Fig 3.5.2

Findings

Using t test, it is observed that p value for short and long term is less than 0.05, thus these factors are significant factors for Reason for trading in commodity market considered for investment in relation to risk and returns. Also it is observed that from fig 3.5.2 50% of the people prefer to invest in commodities which are of medium risk and provide them medium returns.30 % prefer to invest in risky commodities which yields high returns and remaining ion low risk

3.6 To know about the commodity in which the investors mostly trade

Table 3.6.1

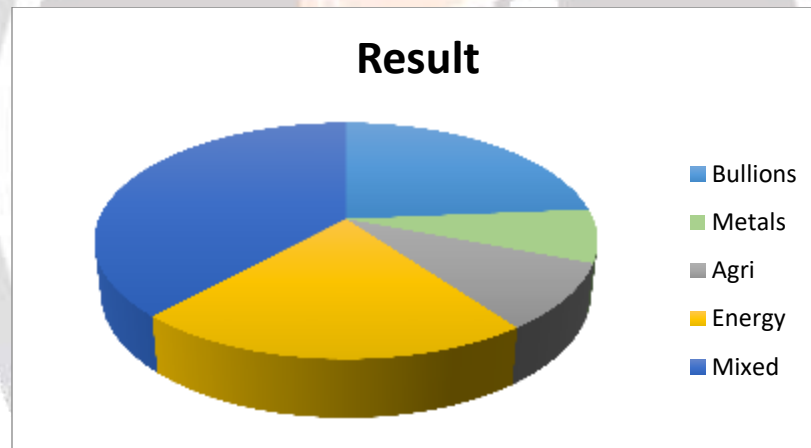| Commodity	No of respondent
Bullions	13
Metals	4
Agriculture	5
Energy	12
Mixed	21

Source: Survey

Fig 3.6.2

Findings

Using t test, it is observed that p value for Bullions, Mixed, short, Metals and Energy is less than 0.05, thus these factors are significant factors for Reason for trading for investment. From fig 3.6.2 it is observed that 38.18% prefer to invest in Mixed commodities, 23.63% prefer to invest in bullions which consist of gold and silver while 21.18% prefer to invest in Energy which consists of ATF, Crude Oil, Thermal Coals etc., investors in metals and agriculture based commodities are at par.

3.7 To understand the preference of commodities over equities

Table 3.7.1

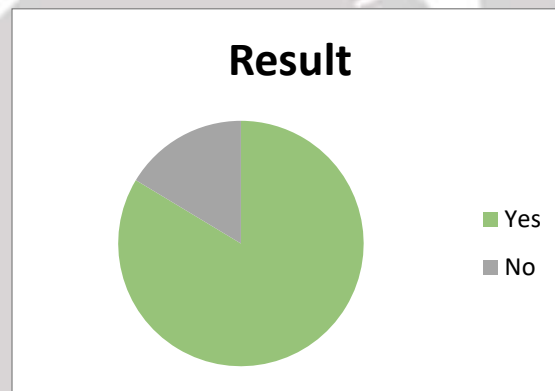| Answer	No of respondent
Yes	46
No	9
Source: Survey	

Fig 3.7.2

Findings

Using t test, it is observed that p value for **preference of commodities over equities** is less than 0.05, thus it is significant factor for trading for investment in **commodities over equities**. Also from fig 3.7.2 it is seen that 83.36% prefer commodities over equities whereas remaining prefer equities Over commodities.

4.0 Conclusion

The investors though are satisfied by the returns as well as feeling risky from the commodity market but still there is a need to create awareness among them and new commodities should be introduced in order to decrease the fluctuation in the market. There are chances of improvement in commodity trading by decreasing brokerage charges and by reducing the lot size. Commodity trading is characterized by high market volatility and risk. Globalization and advances in technology have significantly changed the way trading is done and the factors differencing prices and the frequency with which prices change has increased exponentially timely access to information and analysis is the only way to succeed in commodity.

5.0 Suggestions

- As the Lot size to trade in commodities is very large, so investors with the small amount can't trade in commodities.

- The lot size should be reduced, so that more retail investors can participate in commodity market.

- Margin to be deposited by the brokers for the commodity trading is very high.

- Cash Margin should be reduced, so that broker can trade more in commodities on behalf of the investors.

- Commodity trading is a complex system. Complexity in commodity trading should be
  reduced and people should make aware about the commodity market by delivering time to time seminars on it.

- Some people are still unaware about the various advantages of commodity market, they should be provided with complete information, so that there will be more and more investment by people in commodity market.

- Commodity trading in India can be improved by increasing the awareness, decreasing brokerage charges and by reducing the lot size.

- New commodities should be introduced to decrease the fluctuation in the market and to enhance the volume of trading.

- Some commodity exchanges should spend some money on advertisement for promotional purpose

6.0 References

1.Banerjee, Jasodhara (16 January 2013). "Origins of Growing Money". India: Forbes India Magazine.

2. Dijkman, Jessica Elisabeth Catharina (18 June 2010). "Medieval market institutions: The organisation of commodity markets in Holland, c. 1200 – c. 1450" (PDF). pp. 1–2.

3. Henn, Markus (October 2012). "European Parliament decides to tackle commodity speculation: a little bit". Centre for Research on Multinational Corporations (SOMO) (14).

4. Gaur, A. and Bansal (2010), M.: "A Comparative Study of Gold Price Movements in Indian and Global Markets", Indian Journal of Finance, Vol.4.

5. Michael Sackheim, Michael Schmidtberger & James Munsell, DB Commodity Index Tracking Fund: An Innovative Exchange-Traded Fund, Futures Industry (May/June 2006).

6. *Koyfman, Yevgeniy (21 August 2009).* "No Gas: Barclays Halts Issuance of Natural Gas ETN". *Index universe.com*. Retrieved 3 October 2011.

7. http://www.alphacommodities.co.in

8. http://www.mcxindia.com

9. http://www.nseindia.com

10. http://www.investopedia.com/articles/technical/052201.asp

11. http://money.rediff.com/bse