



## A STUDY ON INVESTOR'S AWARENESS TOWARDS COMMODITIES MARKET WITH REFERENCE TO CHENNAI CITY

Ms. VIDHYASHREE R

Assistant Professor

Shri Krishnaswamy College for Women

**Abstract:** The commodity market plays a vital role in India's economic growth. It is known that India's major growth sector of the future are commodities and commodity market. India is set to become a major producer, consumer, exporter and importer of a wide range of commodities. Recently, many investors have been attracted to trade in commodities market due to many factors such as transparency in the price mechanism, low margins, risk management, benefits to farmers due to price clarity and a well-organized market. Moreover, commodity market ensures uniform standardization of the product quality due to its stringent terms and it has enabled to predict the price of the commodities there by reducing the risk. The exporters can hedge their price risk and improve their competitiveness by making use of commodity futures market. The Indian commodity market has been integrating with the global market as a result of the free-trade environment. Unlike the share market, commodities market offers a different avenue for investment as they are less volatile when compared with equities and bonds is a highly liquid asset class and offers the investors an opportunity to gain from the price movements in commodities. Also the long trading hours of the commodity market enables easy access to markets all the time..

*Index Terms* - Commodities Market, Investors

### I INTRODUCTION

In India, commodity markets largely remained underdeveloped in earlier years. Free trade in many commodity items remains restricted under the essential commodities Act (ECA), 1955 and forwards as well as future contracts are limited to specific commodity items listed under the forward contracts (Regulation) Act (FCRA) 1952. Following the introduction of economic reforms in 1991 and the expert committee report in June 1993, reintroduction of futures which were banned in 1966 and expansion of coverage to agricultural commodities along with silver was done. The National Agricultural policy 2000 envisaged external and domestic market reforms and dismantled all controls and regulations in the agricultural commodity markets.

Today, commodity exchanges are purely speculative in nature when compared to the earlier period when the prices of any commodity were not fixed in an organized way. But, at present, before investing in commodity markets, the buyer can reach to the producers, end-users, and even retail investors at a grass root level, thus having price transparency and risk management in the vital market. Since 2002, the commodities market in India has experienced unexpected changes in terms of modern exchanges and the number of commodities allowed in 2006 became 94 as compared to 59 commodities in 2005. These commodities included major agricultural commodities such as rice, wheat, jute, cotton, coffee, major pulses such as Urad, Aarahar and Chana, edible oilseeds such as mustard seed, coconut oil, groundnut oil and sunflower oil, spices like pepper, chillies, cumin seeds and turmeric, metals such as aluminium, tin, Nichel, and copper, bullion as gold and silver, crude oil, Natural gas and polymers among others. Gold accounted for the largest share of trade in terms of value.

In India, there are 26 exchanges operating in India and carrying out commodity trading activities in as many as 146 commodity items at present. There are at present 6 nation-wide markets multi-commodity exchanges accepted by the Government of India, the National Multi Commodity Exchange (NMCE), Ahmadabad, Multi Commodity Exchange (MCX), National Commodity and Derivatives Exchange (NCDEX), Mumbai Indian Commodity Exchange (MICEX), the Ace Derivatives Exchange (ACE) and the Universal Commodity Exchange (UCX). The chief regulator of these commodity futures markets in India is the Forward Markets Commission (FMC), Mumbai and is overseen by the Ministry of Finance. At present, it regulates Rs 17 trillion

worth of commodity trade in India for the year 2014-15. It is evident that an efficient and well-organised commodities market is generally helpful in price discovery for traded commodities.

India, being one of the top producers of a large number of commodities, and also having a long history of trading in commodities and related derivatives, the knowledge about commodity markets among our Indian citizens is very important and essential. Since the commodity market has made enormous progress in terms of technology, transparency and the trading activity, but the people are still unaware of the commodity market and its activities. Therefore, the study has been undertaken entitled, "A study on investors' awareness towards commodities market with reference to Chennai city, Tamil Nadu" to find out the awareness of investors' towards commodities market. It also finds out the preference and opinion of the investors regarding different commodities traded in the market.

## II REVIEW OF LITERATURE

**Ramandev (1998)** observed the management appraisal of Cashew processing industry in Uttara Kannada district of Karnataka. He found line organizational structure in cashew processing industry, which is simple and clear cut responsibility and authority with fast and easy feedback from the employees. The discipline among employees maintained easily and effectively. Similarly, increase in size of the unit their salary expenditure also increased.

**Efremenko (2000)** presented an overview of the main aspects of organizational structure that currently exists in the Belarussian agricultural sector. Prospects for the development of new organizational and legal forms of commercial enterprises in the agricultural sector were considered, taking into account the impact of the new Civil Code of the Republic of Belarus. It was suggested that a new structure for "agribusiness" could gradually be established, and this would embrace a whole range of ownership and management types, including corporations (open and closed joint stock companies, and limited liability companies), partnerships, cooperatives (production and consumer) and individual ownership (unitary enterprises, and daughter or subordinate companies).

**Ghosh and Madhusudan (2000)** investigated the intra-state spatial integration of rice markets in India by using ML method of co-integration. Intra-state regional integration of rice markets was evaluated by testing the long run linear relationship between the prices of the state-specific variety of rice quoted in spatially separated locations in four selected states. The cointegration results for Uttar Pradesh indicated that the regional markets are integrated to such an extent that the Law of one price (LOP) holds for III and IV ARWA variety of rice. However, no evidence was found in favour of the LOP for the coarse or common variety of rice marketed in Bihar, Orissa and West Bengal, even though, the regional rice markets were found to be integrated. The results pertaining to inter-state regional integration of rice markets represented by four market centers chosen from the four selected states, revealed that even though the markets are integrated, the LOP does not hold.

**Kumar Ranjit (2000)** analyzed the relationship between prices of rice in domestic market (New Delhi) with major rice markets of the world viz., Bangalore and Houston (USA) by using the co integration approach. The results clearly revealed that all the price series were not stationary and were not integrated in the long run.

## III RESEARCH METHODOLOGY

### STATEMENT OF THE PROBLEM

A commodity market facilitates trading in various commodities. Commodity markets have diverse avenues for investment, away from traditional avenues of equity, bonds and real estates. A better exposure to commodity markets and awareness of their services helps to increase the investor's returns while lowering their risks. Not much people know that commodities marketing has something for everyone with ample opportunities to trade, hedge and speculate, commodities have long been the asset class to invest in. Hence, the awareness about such commodities market among the people has to be studied and analysed to further improve the commodities trading in India.

There is a general fear among the people that most investors lose money in commodities marketing. This happens only when market participants do not trade with discipline and fall victim to greed and fear. One more reason for the loss is that they lack proper awareness about the commodities market. It is important that all commodity trading decisions should be based on good knowledge and commercial intelligence. Since many people do not have proper knowledge about commodity market, the role of

brokers is mainly relied on. The broker plays an important role in giving depth and liquidity to the market, and informing investors about the risks involved. But if the investors have no knowledge about their commodity trade, there are chances of facing loss.

Demand for commodities both in domestic and global market is estimated to grow by four times than the current demand in the next five years. In this context, it is quite evident that how far the investors or the people are aware of the commodity market so as to attract more investors by removing the general fear of the people needs to be extensively studied. Moreover, the proposed study on "A study on investors' awareness towards commodities market with reference to Chennai city, state of Tamil Nadu, India) is considered more important to analyse the people's awareness to recommend for further improvement in commodity market, there by uplifting Indian economy. The study has been chosen to analyze and examine the risk-return aspects in investing in commodities market.

### **Research Design - Descriptive and Analytical Research Design**

In this study the researcher has made an attempt to describe the socio-economic status of investors and functioning of commodities market at Chennai city. There has also been an attempt to find out whether there is any association between the socio-economic status and preference of investors towards commodities market by applying statistical tools. Hence, in order to achieve these targets the researcher elects descriptive and analytical study.

#### **3.1.1 Data Collection Method**

The task of data collection begins after a research problem has been identified and research design chalked out. The data collection method offered by the researcher is,

- a) Primary data
- b) Secondary data

##### **a) Primary Data**

The primary data are those which are collected afresh and for the first time. These were collected from the investors residing at Chennai city concerning their awareness in commodities market. The researcher has used interview schedule method to collect primary data from the employees.

##### **b) Secondary Data**

The secondary data are those which have been collected for some other purpose and are in existence. The records and documents pertaining to the functioning and activities of commodities market, its current scenario will constitute the secondary source for the study.

##### **c) Research Instrument**

A structured questionnaire is framed which contains,

- Open-ended questions
- Closed-ended Questions

#### **3.1.2 Sampling Technique**

It would be practically impossible for anybody to collect data from the whole population elements. Even though it is possible it would be prohibitive in terms of time, cost also possibility for errors in results. Therefore sampling is chosen by the researcher to collect needed information. Sampling is the process of selecting a sufficient number of elements from the population so that a study of the sample and understandings of its properties would make it possible to generalize the same to the population elements.

**a) Universe/ population:** It consists of investors residing at Chennai city.

**b) Element:** It is the single member of the population. Each investor residing at Chennai city constitutes an element.

**c) Sample size/ unit:** The sample size chosen by the researcher is about 200 investors.

**d) Subject:** Each investor from the sample size consists of subject.

e) **Sampling technique:** Due to unknown population, the sampling method adopted is called probability sampling. In that convenient sampling technique has been chosen to select the sample respondents according to the convenient accessibility and proximity to the researcher.

### 3.1.3 Formulation of Hypotheses

Based on the objectives of the study, the following Null Hypotheses ( $H_0$ ) have been framed and tested:

- There is no significant difference in the mean ranks towards preference of commodity in commodities market.
- There is no significant relationship between awareness and satisfaction of investors towards commodities market.

### 3.1.4 Statistical Tools Used

- To study the socio-economic status of the investors, Frequencies are used.
- To identify the preferences of investors towards commodities, Friedman test is used.
- To find out the most significant statement/item in each product of commodities market, Mean and Standard Deviation (descriptives) are used.
- To ascertain the significant relationship between awareness and satisfaction of investors towards commodities market, Bivariate Correlation and Regression are used.

## OBJECTIVES OF THE STUDY

- To study the socio-economic status of the investors in Chennai city.
- To study the factors influencing the awareness of investors towards commodities market.
- To examine the opinion of the investors towards operations and functions of commodities markets.
- To find out the preference of the investors towards various commodities.
- To examine the impact of socio-economic status and investors' preference in investment towards commodities market.

## IV DATA ANALYSIS AND INTERPRETATION

### 4.1 SOCIO-ECONOMIC STATUS OF THE RESPONDENTS

In order to study the socio- economic status of employees, percentage analysis is applied.

| 1 | Gender                       | Male<br>43.5                 |                            | Female<br>56.5          |                          |                            |
|---|------------------------------|------------------------------|----------------------------|-------------------------|--------------------------|----------------------------|
| 2 | Profession                   | Govt<br>9.5%                 | Private<br>51.5%           | Business<br>14%         | Profession<br>13%        | Retired<br>12%             |
| 3 | Age group                    | Less than<br>25 years<br>16% | 26-35 years<br>24%         | 36-45 years<br>31%      | 46-55 years<br>15.5%     | Above 55<br>years<br>13.5% |
| 4 | Educational<br>qualification | Upto HSC<br>25%              | Diploma<br>36.5%           | UG<br>14.5%             | PG<br>24%                |                            |
| 5 | Annual income                | 10000 to<br>25000<br>16.5%   | 25001 to<br>50000<br>26.5% | 50001 to 75000<br>17.5% | 75001 to 100000<br>20.5% | Above<br>100000<br>19%     |

Source : Primary data

From the above table 4.1 it could be inferred that 56.5% of the respondents are female and 43.5% of the respondents are male. It is observed from the analysis that majority of the respondents (56.5%) are female who have invested in commodities. Age of the respondents is classified in to five categories such as less than 25 years which comprises of 16% of respondents, 24% of

respondents are between 26-35 years, 31% of respondents are between 36-45 years, 15.5% of respondents are between 46-55 years and 13.5% of respondents are of above 55 years. It is understood that 36.5% respondents are qualified with diploma, 25% are qualified with HSC, 24% are qualified with post graduate degree, and 14.5% are qualified with under graduate qualification. It is known that 26.5% of respondent's income ranges between Rs. 25001 and Rs. 50000, 20.5% of them are earning between Rs. 75001 and Rs. 100000 with, 19% of them are earning above Rs. 100000 with, 17.5% of them are earning between Rs. 50001 and Rs. 75000 and 16.5% of them are earning between Rs. 10000 to Rs. 25000. It is observed from the table that 51.5% of the respondents are private employees, 14% of them are business people, 13% of them are professionals, 12% of them are retired persons and 9.5% of them are government employees.

## 4.2 Years of Participation of Respondents in Commodities Market

The four categories of year of participation of respondents in commodities market are given in the following table 5.6. The four categories are less than 5 years, 5 to 10 years, 11 to 15 years and above 15 years respectively. The details are furnished in the following table, 4.2

**Table 4.2**  
**Year of Participation of Respondents in Commodities Market**

| Years of Participation | Frequency  | Percentage |
|------------------------|------------|------------|
| Less than 5 years      | 90         | 45.0       |
| 5 to 10 years          | 90         | 45.0       |
| 11 to 15 years         | 10         | 5.0        |
| Above 15 years         | 10         | 5.0        |
| <b>Total</b>           | <b>200</b> | <b>100</b> |

(Source: Primary Data)

It is observed from table 5.1.6 that 45% of the respondents have participated in the commodities market trading for less than 5 years and between 5 and 10 years, 5% of the respondents have participated between 11 and 15 years and above 15 years for trading in commodities market.

### 4.2.1 Satisfaction towards Rate of Return in Commodities Trading

The satisfaction of the investors' towards rate of return in commodities trading is divided into five categories namely highly satisfied, satisfied, neither satisfied nor unsatisfied and unsatisfied. The details are furnished in the following table, 5.1.19.

**Table 4.2.1**  
**Satisfaction towards Rate of Return in Commodities Trading**

| Satisfaction towards Rate of Return | Frequency  | Percentage |
|-------------------------------------|------------|------------|
| Highly satisfied                    | 10         | 5          |
| Satisfied                           | 120        | 60         |
| Neutral                             | 40         | 20         |
| Dissatisfied                        | 30         | 15         |
| Highly Dissatisfied                 | 0          | 0          |
| <b>Total</b>                        | <b>200</b> | <b>100</b> |

(Source: Primary Data)

It is observed from the above table that 60% of the respondents are satisfied with the rate of return in commodities trading, 20% of them are neutrally satisfied, 15% of them are dissatisfied and 5% are highly satisfied with the rate of return in commodities trading.

### 4.3 SIGNIFICANT DIFFERENCE IN THE MEAN RANKS TOWARDS PREFERENCE OF COMMODITY IN COMMODITIES MARKET

In order to study the major variables affecting the investors' preference towards commodities market, Friedman test is applied.

#### 4.3.1 Significant Difference between the Purchases of Commodities

**Null Hypothesis:** There is no significant difference in the mean rank towards purchase of the commodities.

**Alternative Hypothesis:** There is a significant difference in the mean rank towards purchase of the commodities.

**Table 4.3.1**

**Significant Difference between the Purchases of Commodities (Friedman test)**

| Commodities   | Mean Rank | Chi-square value | P value  |
|---|-----------|------------------|----------|
| BULLION   |           |                  |          |
| Gold  | 1.00      |                  |          |
| silver  | 2.90      |                  |          |
| METAL   |           |                  |          |
| Aluminium, Zinc, Lead                                 | 5.65      |                  |          |
| Nickel, copper, sprongr iron                          | 7.60      |                  |          |
| FIBER   |           |                  |          |
| Cotton, yarn, kapas                                   | 8.00      |                  |          |
| ENERGY  |           |                  |          |
| Crude oil   | 5.70      |                  |          |
| natural gas   | 7.30      |                  |          |
| SPICES  |           |                  |          |
| Cardomom, jeera, pepper, red chilli                   | 8.05      | 1.261            | <0.001** |
| PLANTATIONS   |           |                  |          |
| Coffee, Rubber  | 7.90      |                  |          |
| PULSES  |           |                  |          |
| Chana, /masur, Yellow peas, Nuts                      | 8.75      |                  |          |
| OIL   |           |                  |          |
| Castor oil, palm oil, coconut oil, mustard oil        | 10.20     |                  |          |
| OIL SEEDS   |           |                  |          |
| Caster seeds, Mustard seeds, cotton seed, sesame seed | 11.20     |                  |          |
| CEREALS   | 10.85     |                  |          |
| OTHERS :- Wheat/Rice/Sugar                            | 9.90      |                  |          |

[Source: Primary Data]

Note: \*\* Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a significant difference among the commodities purchased by the investors. Based on the mean rank, the most significant commodity that greatly attract the investors to invest is Gold (1.00), followed by silver (2.90), Metal (5.65), Nickel, crude oil (5.70), natural gas (7.30) Nickel, copper, sprongr iron (7.60), Cotton, yarn, kapas (8.00) Cardomom, jeera, pepper, red chilli (8.05) Chana, /masur, Yellow peas, Nuts (8.75) Wheat/Rice/Sugar (9.90) Castor oil, palm oil, coconut oil, mustard oil (10.20), cereals (10.85), Caster seeds, Mustard seeds, cotton seed and sesame seed (11.20).

#### 4.3.2 Significant Difference between Factors Affecting Changes in Gold Price

**Null Hypothesis:** There is no significant difference in the mean rank towards factors which affects the change in gold price.

**Alternative Hypothesis:** There is a significant difference in the mean rank towards factors which affects the change in gold price.

#### 4.3.2

#### Significant Difference between Factors Affecting Changes in Gold Price

(Friedman test)

| Factors                         | Mean Rank | Chi-square value | P value  |
|---------------------------------|-----------|------------------|----------|
| Crude oil price changes         | 4.90      | 263.500          | <0.001** |
| Money inflation                 | 3.85      |                  |          |
| Rate of interest                | 3.80      |                  |          |
| American dollar value changes   | 2.55      |                  |          |
| Gap between demand and supply   | 4.95      |                  |          |
| Investment habits               | 4.85      |                  |          |
| Compulsory domestic needs       | 6.05      |                  |          |
| International political changes | 5.05      |                  |          |

[Source: Primary Data]

Note: \*\* Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a significant difference among the factors affecting the changes in gold price. Based on the mean rank, the most significant factor which affects the change in gold price is American dollar value changes (2.55), followed by Rate of interest (3.80), Money inflation (3.85), Investment habits (4.85), Crude oil price changes (4.90), Gap between demand and supply (4.95), International political changes (5.05) and Compulsory domestic needs (6.05).

#### 4.3.3 Significant Difference between Factors Affecting the Changes in Silver Price

**Null Hypothesis:** There is no significant difference in the mean rank towards factors which affects the change in silver price.

**Alternative Hypothesis:** There is a significant difference in the mean rank towards factors which affects the change in silver price.

Table 4.3.3

## Significant Difference between Factors Affecting the Changes in Silver Price (Friedman test)

| Factors                            | Mean Rank | Chi-square value | P value  |
|------------------------------------|-----------|------------------|----------|
| Purchasing power of Investors      | 4.80      | 199.333          | <0.001** |
| Hike of prices                     | 5.05      |                  |          |
| Demand for silver jewels articles  | 4.50      |                  |          |
| Sudden international changes       | 3.00      |                  |          |
| Technological changes              | 4.80      |                  |          |
| American Dollar's Value changes    | 3.65      |                  |          |
| Gap between Demand and Supply      | 4.15      |                  |          |
| International Economic unstability | 6.05      |                  |          |

[Source: Primary Data]

Note: \*\* Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a significant difference among the factors affecting the changes in silver price. Based on the mean rank, the most significant factor which affects the change in silver price is Sudden international changes (3.00), followed by American Dollar's Value changes (3.65), Gap between Demand and Supply (4.15), Demand for silver jewels articles (4.50), Technological changes (4.80), Purchasing power of Investors (4.80), Hike of price (5.05) and International Economic unstability (6.05).

#### 4.3.4 Significant Difference between Factors Affecting the Crude Oil Price Changes

**Null Hypothesis:** There is no significant difference in the mean rank towards factors which affects the change in crude oil price.

**Alternative Hypothesis:** There is a significant difference in the mean rank towards factors which affects the change in crude oil price.

**Table 4.3.4**

**Significant Difference between Factors Affecting the Crude Oil Price Changes (Friedman test)**

| Factors   | Mean Rank | Chi-square value | P value  |
|---|-----------|------------------|----------|
| The gap between demand and supply                 | 4.25      | 103.500          | <0.001** |
| American Dollars Value Changes                    | 4.55      |                  |          |
| International political changes                   | 4.20      |                  |          |
| International economic saturation and growth      | 4.25      |                  |          |
| Naxal attacks on oil wells                        | 5.15      |                  |          |
| Opening of new oil wells                          | 3.30      |                  |          |
| Less production and closure of existing oil wells | 4.85      |                  |          |
| Waiting for higher profits                        | 5.45      |                  |          |

[Source: Primary Data]

Note: \*\* Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a significant difference among the factors affecting the crude oil price changes. Based on the mean rank, the most significant factor that affects the change in crude oil price is Opening of new oil wells (3.30) followed by International political changes (4.20), International economic saturation and growth (4.25), The gap between demand and supply (4.25), American Dollars Value Changes (4.55), Less production and closure of existing oil wells (4.85), Waiting for higher profits (5.45) and Naxal attacks on oil wells (5.15).

### 4.3.5 Significant Difference between Factors Affecting Agricultural Commodities

**Null Hypothesis:** There is no significant difference in the mean rank towards factors which affects the agricultural commodities.

**Alternative Hypothesis:** There is a significant difference in the mean rank towards factors which affects the agricultural commodities.

**Table 4.3.5**

**Significant Difference between Factors Affecting Agricultural Commodities (Friedman test)**

| Factors                       | Mean Rank | Chi-square value | P value  |
|-------------------------------|-----------|------------------|----------|
| Time situation                | 3.05      | 393.429          | <0.001** |
| Seasonal Situation            | 3.35      |                  |          |
| Import and export transaction | 2.85      |                  |          |
| Crops production              | 3.40      |                  |          |
| Agri department reports       | 3.90      |                  |          |
| spot Market price             | 5.40      |                  |          |
| Other factors                 | 6.05      |                  |          |

[Source: Primary Data]

Note: \*\* Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a significant difference among the factors influencing agricultural commodities. Based on the mean rank, the most significant factor which affects the agricultural commodities is Import and export transaction (2.85), followed by Time situation (3.05), Seasonal Situation(3.35 Crops production (3.40), Agri department reports(3.90), spot Market price (5.40) and other factors (6.05).

### 4.4 LEVEL OF INVESTORS' BEHAVIOUR, DECISION MAKING AND PROBLEMS FACED BY THEM TOWARDS TRADING IN COMMODITY MARKET

In order to study the investors' behaviour, decision making and problems faced by them towards trading in commodities market, descriptive analysis is used. From the value of mean and standard deviation, their behaviour, decision making and problems faced by them towards trading in commodities market is interpreted.

#### 4.4.1 Investor's Behaviour towards Commodities Market

**Table 4.4.1**

**Mean and Standard Deviation (SD) of Investor's Behaviour towards Commodities Market**

| Investor's Behavior towards Commodities Market                        | Mean | SD    |
|---|------|-------|
| I am confident of my ability to select commodities for investment.    | 4.41 | 0.898 |
| I take full responsibility for the result of my investment decisions. | 4.33 | 0.710 |
| I am confident to manage my investment.                               | 4.30 | 0.794 |
| I have complete knowledge of available commodities.                   | 4.46 | 0.807 |
| I make investment for getting return.                                 | 4.49 | 0.802 |
| I try to invest in risky stock for better return.                     | 4.60 | 0.716 |
| I usually invest in commodities which I know and trust.               | 4.45 | 0.849 |
| I invest mostly in commodities with stable expected returns.          | 4.43 | 0.767 |

[Source: Primary Data]

From the above table, it is observed that the mean value for all the statements is more than 4.00; which means all the investors are having excellent behaviour towards commodities market. Based on the mean value, the statement “I try to invest in risky stock for better return (4.60)” is considered to be the significant behaviour of investors’ towards commodities market, followed by “I have complete knowledge of available commodities (4.46)”, “I usually invest in commodities which I know and trust (4.45)”, “I invest mostly in commodities with stable expected returns (4.43)”, “I am confident of my ability to select commodities for investment (4.41)”, “I take full responsibility for the result of my investment decisions (4.33)” and “I am confident to manage my investment (4.30).

#### 4.4.2 Investors’ Decision towards Commodities Market

**Table 4.4.2**

**Mean and Standard Deviation of Investors’ Decision towards Commodities Market**

| <b>Investors’ Decision towards Commodities Market</b>  | <b>Mean</b> | <b>SD</b> |
|--|-------------|-----------|
| I use past price movement to predict future price.   | 4.38        | 0.825     |
| I make investment decision based on recommendation/advice of professional investors/broker.  | 4.34        | 0.847     |
| I make investment decision based on recommendation/advice of some friend, family, peer etc.  | 4.33        | 0.809     |
| I am taking good investment decision based on my experience.                                 | 4.23        | 0.874     |
| I prefer to invest in potential / profitable investment avenues even if they are more risky. | 4.20        | 0.831     |
| I am getting more returns because I have taken right investment decision.                    | 4.20        | 0.885     |
| Return is determined by external and uncontrollable factors.                                 | 4.20        | 0.839     |
| Good investment opportunities induce me for making investment.                               | 3.98        | 0.836     |
| My investment decision has changed over period of time.                                      | 4.37        | 0.834     |

[Source: Primary Data]

From the above table, it is observed that the mean value for all the statements is more than 3.00; which means all the investors are having superior knowledge to take decision regarding investment in commodities market. Based on the mean value, the statement “I use past price movement to predict future price (4.38)” is considered to be the significant decision taken by the investors before investing in commodities market, followed by “My investment decision has changed over period of time (4.37)”, “I make investment decision based on recommendation/advice of professional investors/broker (4.34)”, “I make investment decision based on recommendation/advice of some friend, family, peer etc. (4.33)”, “I am taking good investment decision based on my experience (4.23)”, “prefer to invest in potential / profitable investment avenues even if they are more risky, I am getting more returns because I have taken right investment decision and Return is determined by external and uncontrollable factors (4.20) and “Good investment opportunities induce me for making investment (3.98).

#### 4.4.3 Problems Faced by Investors towards Commodities Market

Table 4.4.3

Mean and Standard Deviation of Problems Faced by Investors towards Commodities Market

| Problems Faced by Investors towards Commodities Market  | Mean | SD    |
|---|------|-------|
| Investment in commodities is highly affected by tracking error of fund house.                 | 2.37 | 1.397 |
| Too many formalities imposed by SEBI for buying or selling of commodities.                    | 3.98 | 1.034 |
| The commodity price may be highly affected by a general price decline in the market price.    | 3.72 | 1.346 |
| The value of the portfolio may be subject to considerable fluctuations.                       | 3.58 | 1.372 |
| Various costs involved in commodities trading make it less effective.                         | 3.91 | 1.206 |
| Lack of knowledge and analytical skills highly affect the investment decisions.               | 3.31 | 1.475 |
| Growth of commodities market is very slow when compared to other emerging investment avenues. | 2.74 | 1.515 |

[Source: Primary Data]

From the above table, it is observed that the mean value for all the statements is more than 3.00 and less than 4.00; which means all the investors are facing moderate problems in investing in commodities market. Based on the mean value, the statement “Too many formalities imposed by SEBI for buying or selling of commodities (3.98)” is considered to be the significant problem faced by the investors’ while investing in commodities market, followed by “Various costs involved in commodities trading make it less effective (3.91)”, “The commodity price may be highly affected by a general price decline in the market price (3.72)”, “The value of the portfolio may be subject to considerable fluctuations (3.58)”, “Lack of knowledge and analytical skills highly affect the investment decisions (3.31)” and “Growth of commodities market is very slow when compared to other emerging investment avenues (2.74).

#### 4.5 RELATIONSHIP BETWEEN INVESTORS’ BEHAVIOUR, DECISION MAKING AND PROBLEMS FACED BY THEM TOWARDS TRADING IN COMMODITY MARKET

In order to study the relationship between investors’ behaviour, their decision making and challenges faced by them towards trading in commodities market, correlation and regression are applied.

**Null Hypothesis:** There is no significant relationship between investors’ behaviour, decision and challenges faced by them towards commodities market.

**Alternative Hypothesis:** There is a significant relationship between investors’ behaviour, decision and challenges faced by them towards commodities market.

#### 4.5.1 Relationship between Investors' Behaviour, Decision Making and Challenges towards Commodities Market

Table 4.5.1

##### Investors' Behaviour, Decision Making and Challenges towards Commodities Market (Pearson Correlation)

| Investors' Awareness towards Commodities Market | Type of Services | Pricing Practices | Delivery System |
|---|------------------|-------------------|-----------------|
| Investors' Behaviour                            | 1                | -                 | -               |
| Investors' Decision                             | 0.859**          | 1                 | -               |
| Investors' Problems                             | -0.284**         | -0.245**          | 1               |

[Source: Primary Data]

Note: \*\*Denotes correlation is significant at 1% level

Since the P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence it is concluded that there is a positive and strong relationship between the investors' behaviour and their decision towards commodities market. This implies that as the level of investors' positive behaviour towards commodities market increases, the effective and efficient decision taken by them towards investing in commodities market also increases.

It is also found that there is a negative and strong relationship between investors' behaviour, investors' decision and challenges faced by them towards commodities market. This implies that as the level of investors' positive behaviour and effective and efficient decision towards investing in commodities market increases, the problems faced by them towards it decreases.

It is also clear from the above table that maximum correlation exists between investors' behaviour and their decision towards investing in commodities market (0.859).

#### 4.5.2 Impact of Investors' Behaviour, Decision Making and Challenges towards Commodities Market

**Null Hypothesis:** There is no significant impact of investors' behaviour and decision on problems faced by them towards commodities market.

**Alternative Hypothesis:** There is no significant impact of investors' behaviour and decision on problems faced by them towards commodities market.

Table 4.5.2

##### Predictor Variables of Multiple Regression Analysis

| Multiple R value | R Square value | Adjusted R <sup>2</sup> value | F value | Standard Error | P value  |
|------------------|----------------|-------------------------------|---------|----------------|----------|
| 0.859            | 0.738          | 0.735                         | 277.520 | 2.860          | <0.001** |

[Source: Primary Data]

Note: \*\*Denotes correlation is significant at 1% level

Table 4.5.3

##### Coefficients between Investors' Behaviour, Decision and Challenges Faced by them towards Commodities Market

| Variables            | USC    | SE    | SC    | t value | P value  |
|----------------------|--------|-------|-------|---------|----------|
| (Constant)           | 4.264  | 1.975 |       | 2.160   | 0.032    |
| Investors' Behaviour | -0.590 | 0.052 | 0.852 | 11.286  | <0.001** |
| Investors' Decision  | -0.894 | 0.102 | 0.784 | 8.762   | <0.001** |

[Source: Primary Data]

Dependent Variable = Problems faced by investors

Independent/predictor variables = Investors' Behaviour (X1) and Investors' Decision (X2)

The investors' behaviour and their decision in the above table revealed that the problems faced by the investors' towards commodities market can be predicted at  $R^2 = 0.735$ . In this model, the value of  $R^2$  denotes that 73.5% of the observed variability in problems faced by the investors' towards commodities market can be significantly explained by investors' behaviour and their decision towards investment in commodities market. The remaining 26.5% is not explained which means the rest 26.5% of the variation of problems faced by the investors' towards commodities market is related to other variables which are not depicted in this model. Since the p value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Hence the linear combination of investors' behaviour and their decision regarding investment in commodities market are significantly related to problems faced by the investors' towards commodities market ( $F = 277.520$  and  $P = <0.001^{**}$ ). It also implies that the most possible combination of predictor variables could contribute to the relationship with the dependent variable.

The Ordinary Least Squares (OLS) equation for predicting problems faced by the investors' towards commodities market is:

$$\text{Problems faced by the investors' towards commodities market (Y)} = -0.590X_1 - 0.894X_2$$

The coefficient of  $X_1$  is 0.590, which represents the indirect relationship between investors' behaviour and problems faced by them towards investment in commodities market, holding other variable as constant. The estimated positive sign indicates that for each additional unit of positive behaviour of investors, there is a 0.590 unit decrease in problems faced by the investors' towards commodities market and it is significant at 1% level.

The coefficient of  $X_2$  is 0.894, which represents the indirect relationship between investors' decision and problems faced by them towards investment in commodities market, holding other variable as constant. The estimated positive sign indicates that for each additional unit of effective decision of investors towards investment in commodities market, there is a 0.894 unit decrease in problems faced by the investors' towards commodities market and it is significant at 1% level.

## CONCLUSION

The study finds out the awareness of the investors in commodities market at Chennai city. Based on the mean and standard deviation, majority of the investors are having positive behaviour and taking right decisions regarding commodities market. In addition, they are facing more problems in investing in commodities market. Hence, few general suggestions for investors to invest in commodities market is that before you invest in commodities; it is recommended that you first get involved in the more elementary areas of investing in the stock market. Be conservative with your first commodities investment; there's no need to put large sums of money into a market unknown to you. It's best to gradually build up your position in the commodities market, as this lowers risk. Alternately, you can sell off shares of stock of mutual funds that you already own to finance your commodity investment.

One way to reduce your costs in trading physical precious metals is to use a remote gold dealing and storage. Several bullion firms offer online trading and safe storage of precious metals. If you're unsure of the legitimacy of a bullion firm, always check the World Gold Council's website first. Buying stocks to relate to certain commodities is a way to bet on the value of a commodity without incurring all of the risk of futures trading.

Based on the correlation, there is a significant positive relationship between the investor behaviour and investment decision taken by them. There is a negative relationship between the investor behaviour, investment decision and problems faced by investors towards commodities market. It means if the investors' behaviour increases positively, their decisions towards commodities market also increases. It means if the investors' behaviour and decision increases positively, their problems faced towards commodities market decreases. Based on regression, there is a positive impact of investor behaviour and investment decision towards problems faced by investors towards commodities market. Finally, if the investors invest in commodities according to the suggestions provided, they may increase their returns of it.

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