

**An Analysis on Performance of Commodity Future Market
with Reference to Gold and Silver**

M.NITHYA

(REG NO.15PBM009)

**A Major Project Submitted to
Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore- 641 043**

**In Partial Fulfilment of the Requirements for the Degree of
Masters in Business Administration
(IT Organisation Administration)**

April 2017

**An Analysis on Performance of Commodity Future Market
with Reference to Gold and Silver**

M.NITHYA

(REG NO.15PBM009)

A Major Project Submitted to

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore- 641 043

In Partial Fulfilment of the Requirements for the Degree of

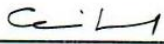
Masters in Business Administration

(IT Organisation Administration)

CERTIFIED AS BONAFIDE RESEARCH WORK



**Signature of the
Supervisor**



**Signature of the
Head of the Department**

**Signature of the
External Examiner**

CERTIFICATE

Annamalai Capital Services (P) Ltd.

14, Arts College Road, Coimbatore - 641 018.
Phone : +91 422 2211487, Fax : +91 422 2218749
E mail : helpdesk@annamalaicapital.com, Web : www.annamalaicapital.com



Date: 29/03/2017

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss. M.Nithya** Reg.No.15PBM009, II MBA IT Organisation Administration, Avinashilingam Institute for Home Science and Higher Education for Women Coimbatore, has done a Project Work titled “ **An Analysis on Performance of Commodity Future Market with Reference to Gold and Silver** ” in our Organization during 26/12/2016 to 20/02/2017 as a part of her curriculum.

During the period, her performance & character are highly commendable.

For Annamalai Capital Services (P) Ltd.,



(S.Chitra)

Director

Services :
Equity Trading
Commodity Trading
Currency Trading
NRI Services
IPO
Mutual Fund

Business Associate :
 **AXIS SECURITIES**

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

The researcher takes this opportunity to express her gratitude to the people who have been instrumental in the successful completion of this project.

The researcher is indebted to thank our Padma Shri **Dr.P.R.Krishnakumar**, Chancellor, **Dr.Premavathy Vijayan**, Vice Chancellor and **Dr.S.Kowsalya**, Registrar, of Avinashilingam Institute of Home Science and Higher Education for Women, for their supportive encouragement and academic interest shown towards the students.

The researcher wishes to express her deep sense of gratitude and grateful thanks to **Dr.Saroja Prabhakaran**, Director, The Hall of Residence, for her endless support and encouragement throughout the project.

The researcher conveys her utmost gratitude to **Dr.U.Jerinabi**, Dean, Faculty of Business Administration for her valuable support, and for her constant encouragement for all endeavors.

The researcher extends her heartfelt thanks to **Dr.P.Chitramani**, Head of the Department, Avinashilingam School of Management Technology, for her valuable assistance and for providing the opportunities to carry out the project successfully.

It is the researcher's honor and privilege to express her immense gratitude to her project guide **Mrs.A.Pankajam**, Associate Professor of Avinashilingam School of Management Technology, for her generous guidance, sustained inspiration and valuable suggestions rendered throughout the project work.

The researcher expresses her sincere gratitude to all the **Faculty Members** of Avinashilingam School of Management Technology for their timely help, continuous support and guidance throughout the project work.

The researcher owes her thanks to **Mr.K.Annamalai**, Managing Director of Annamalai Capital Services Pvt.Ltd., for having permitted her to carry out the project, for providing facility and ambient environment to carry out the project work.

Last but certainly not the least, the researcher would like to extend her deep sense of gratitude to her family members and all her friends for their constant encouragement with timely suggestions and moral support behind this project work.

CONTENTS

TABLE OF CONTENTS

Synopsis

List of Tables

List of Charts

Chapter No.	Particulars	Page No.
I	Introduction	1
	1.1 Commodity Market	1
	1.2 Annamalai Capital Services Pvt.Ltd.	5
	1.3 Introduction to the Topic	7
	1.4 Objective of the Study	13
	1.5 Scope of the Study	14
	1.6 Limitation of the Study	15
II	Review of Literature	16
III	Research Methodology	32
	3.1 Research Design	32
	3.2 Nature of Data	32
	3.3 Sources of Data	32
	3.4 Period of the Study	33
	3.5 Tools for the Analysis	33
IV	Analysis and Interpretation	34
	4.1 Factors Affecting Gold and Silver Future Prices	35
	4.2 Performance of Gold Future Trading	39
	4.3 Performance of Silver Future Trading	48
	4.4 Cause and Effect Relationship between Spot and Future Prices of Gold and Silver	57
V	Summary	61
	5.1 Findings	61
	5.2 Suggestions	62
	5.3 Conclusion	63
	Bibliography	64

SYNOPSIS

SYNOPSIS

“An Analysis on Performance of Commodity Future Market with Reference to Gold and Silver” at Annamalai Capital Services Pvt.Ltd. Coimbatore was done to assess the performance of commodity future market of gold and silver along with to find out the factors affecting the spot and future prices of gold and silver. The study is also analyzed the performance of gold and silver future market before and after Modi Government and found the cause and effect relationship between spot and future prices of gold and silver before and after Modi Government.

The study is based on the secondary data for which the historical data of volume traded, value traded, and number of contracts traded in gold and silver were collected for 5 years and spot and future prices of gold and silver were collected for 26 months.

Granger Causality Test is used for finding out the cause and effect relationship between spot and future prices of gold and silver.

The factors affecting future prices of gold and silver are inflation, interest rates, global crisis, demand and supply. Congress Government has better performance in gold and silver future market than in Modi Government. In Modi Government, there is Uni-directional causality between spot and future prices of gold and silver. Before Modi Government there is Bi-directional and No-causality between spot and future prices of gold and silver respectively.

The recommendations are made based on the interpretation and findings.

LIST OF TABLES

LIST OF TABLES

Table Number	Particulars	Page Number
1.1	Company Profile	6
4.1	Gold Volume Traded in Congress Government	39
4.2	Gold Volume Traded in Modi Government	40
4.3	Gold Value Traded in Congress Government	42
4.4	Gold Value Traded in Modi Government	43
4.5	Gold Contracts Traded in Congress Government	45
4.6	Gold Contracts Traded in Modi Government	46
4.7	Silver Volume Traded in Congress Government	48
4.8	Silver Volume Traded in Modi Government	49
4.9	Silver Value Traded in Congress Government	51
4.10	Silver Value Traded in Modi Government	52
4.11	Silver Contracts Traded in Congress Government	54
4.12	Silver Contracts Traded in Modi Government	55
4.13	Granger Causality Test for Gold Spot and Future Prices - Before Modi Government	57
4.14	Granger Causality Test for Gold Spot and Future Prices - After Modi Government	58
4.15	Granger Causality Test for Silver Spot and Future Prices - Before Modi Government	59
4.16	Granger Causality Test for Silver Spot and Future Prices - After Modi Government	60

LIST OF CHARTS

LIST OF CHARTS

Chart Number	Particulars	Page Number
1.1	Organizational Structure of Commodity Market	3
4.1	Gold- Volume Traded	41
4.2	Gold-Value Traded	44
4.3	Gold-Contracts Traded	47
4.4	Silver – Volume Traded	50
4.5	Silver – Value Traded	53
4.6	Silver- Contracts Traded	56

INTRODUCTION

CHAPTER I

INTRODUCTION

1.1 COMMODITY MARKET

A commodity may be defined as an article, a product or material that is bought and sold. It can be classified as every kind of movable property, except Actionable Claims, Money & Securities. Commodities actually offer immense potential to become a separate asset class for market-savvy investors, arbitrageurs and speculators. Retail investors, who claim to understand the equity markets, may find commodities an unfathomable market. But commodities are easy to understand as far as fundamentals of demand and supply are concerned. Retail investors should understand the risks and advantages of trading in commodities futures before taking a leap.

It is similar to an equity market, but instead of buying or selling shares one buys or sells commodities and also it is a place where buyers and sellers can trade any homogenous good in bulk. Grain, precious metals, electricity, oil, beef, orange juice and natural gas are traditional examples of commodities, but foreign currencies, emissions credits, bandwidth, and certain financial instruments are also part of today's commodity markets. A commodity market is a market that trades in primary economic sector rather than manufactured products. Investors access about 50 major commodity markets worldwide with purely financial transactions increasingly outnumbering physical trades in which goods are delivered.

A commodity exchange is an association or a company or any other body corporate organizing futures trading in commodities for which license has been granted by regulating authority. The products which possess the following characteristics are fit for dealing in commodity exchange. **(i) Homogeneity:** The commodity must be homogeneous i.e., all units of a particular commodity must be perfectly identical so that all dealers may mean the same commodity when they mention it in their dealings. **(ii) Durability:** It must be durable so as to last for a period of a future contract (ordinarily more than one year). If it perishes rather quickly, contracts for its purchase and sale will

be frustrated. **(iii) Gradability:** The commodity should be such as will lend itself to grading. If the commodity cannot be classified into well-known grades, trading will be difficult for every time the quality will have to be ascertained. **(iv) Price Fluctuation:** There must be frequent fluctuations in the price of the commodity. If there were no price fluctuations, the speculators would have no intention to speculate in it at the exchange. **(v) Open Supply:** The supply of the commodity should be open and free and should not be monopolized by one or a few persons. Again, the supply of the commodity or its price must not be controlled by the Government.

History of Commodity Market in India

The history of commodity market can be traced back to the 17th century when cotton producers, buyers, and traders used it for hedging against price fluctuations, non-delivery of physical cotton and low production. The contract specifications were set by the two parties involved and was settled post expiry. However, this system failed due to counter party risk. Disputes became common as it didn't involve a party to settle the contract. This led to the establishment of commodity exchange, which guaranteed settlement of derivative contracts. The CBOT started in 1848. It became the first organized trading exchange in the world.

In India, organized trading in commodities started with the constitution of the Bombay Cotton Trade Association in the year 1875. The commodities futures market discontinued in the mid 1960's due to war, natural calamities and the resultant shortages.

The economic liberalization in the early nineties laid the foundation of the Indian commodity trading. By 2002, there were 20 commodity exchanges in India, trading in 42 commodities. In 2002, the Indian Government re-introduced commodity futures. Commodity futures contracts and the exchanges they trade are governed by the Forward Contracts Regulation Act, 1952. The FMC approved multi-commodity exchanges. The FMC merged with SEBI in 2015. The commodity exchanges set up by the FMC include:

- **National Commodity & Derivative Exchange (NCDEX)** - This exchange was promoted by NSE, NABARD, ICICI Bank, and LIC. NCDEX is popular for trading in agricultural commodities.

- **National Multi Commodity Exchange (NMCE)** - NMCE was promoted by Kailash Gupta, an Ahmadabad based trader, and the CWC. NMCE is popular for trading in spices and plantation crops.
- **Multi Commodity Exchange (MCX)** - This exchange was originally promoted by Financial Technologies Limited. MCX is a professionally managed public company. It is well known for trading in metals and energy contracts.

Forward Market Commission (FMC): Commodity regulator

Headquartered in Mumbai, FMC is a regulatory authority for commodity futures market in India. FMC is the chief regulator of forward and futures markets in India. FMC comes under the Ministry of Consumer Affairs, Food and Public Distribution because futures traded in India are traditionally in food commodities.

FMC is a legal body set up under Forward Contracts (Regulation) Act 1952. The Act provides that the Commission should consist of minimum two and maximum four members appointed by the Central Government.

ORGANIZATIONAL STRUCTURE OF INDIAN COMMODITY MARKET

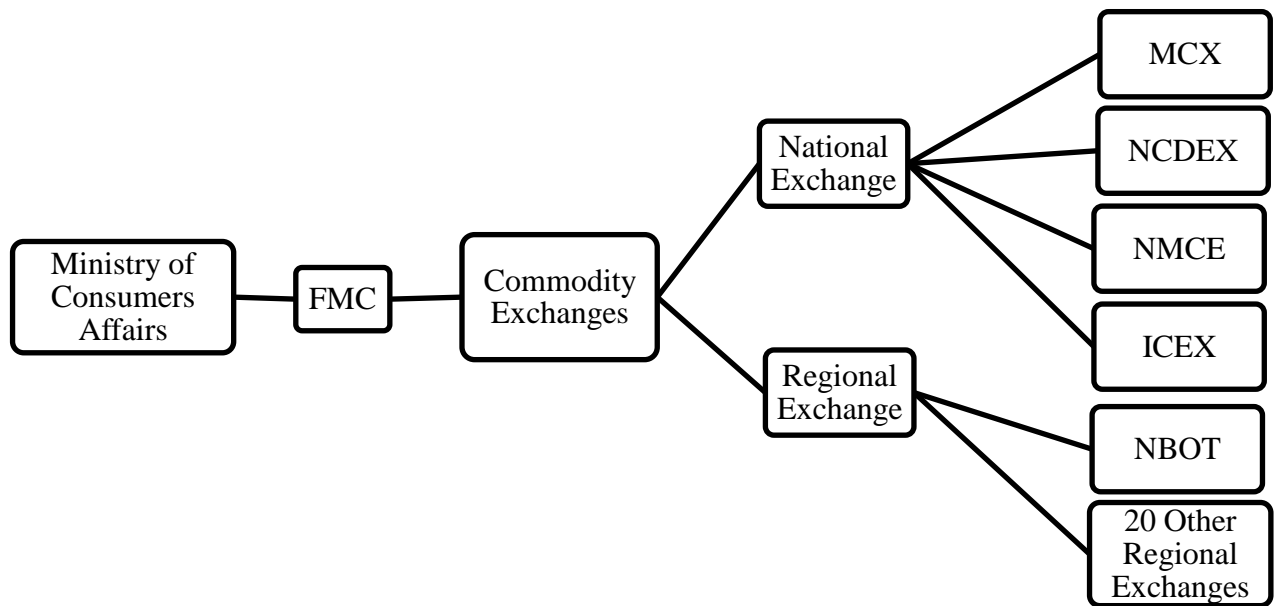


Chart 1.1 Organizational Structure of Indian Commodity Market

Commodity Market Participants

- **Hedgers** - They are generally the commercial producers and consumers of the traded commodities. They participate in the market to manage their spot market price risk. Commodity prices are volatile and their participation in the futures market allows them to hedge or protect themselves against the risk of losses from fluctuating prices. For e.g. a copper smelter will hedge by selling copper futures, since it is exposed to the risk of falling copper prices.
- **Speculators** - They are traders who speculate on the direction of the futures prices with the intention of making money. Thus, for the speculators, trading in commodity futures is an investment option. Most Speculators do not prefer to make or accept deliveries of the actual commodities; rather they liquidate their positions before the expiry date of the contract.
- **Arbitrageurs** - They are traders who buy and sell to make money on price differentials across different markets. Arbitrage involves simultaneous sale and purchase of the same commodities in different markets. Arbitrage keeps the prices in different markets in line with each other. Usually such transactions are risk free.

Types of Commodities

- **Soft Commodities** - Soft commodities are typically grown. Corn, wheat, soybean, Soybean oil, sugar are all examples of "soft" commodities. Many soft commodities are subject to spoilage, which can create huge volatility in the short term. Weather plays a huge role in the market, which makes predicting supply especially difficult.
- **Hard Commodities** - Hard Commodities are typically mined from the ground or taken from other natural resources: gold, oil, aluminum. In many cases, initial products are refined into further commodities, as oil is refined into gasoline. Because "hard" commodities are easier to handle than "soft" and because they are more integrated into the industrial process, most investors focus on these products.

1.2 ANNAMALAI CAPITAL SERVICES PVT.LTD.

Annamalai Capital Services (P) Ltd.,(ACS) is promoted by Mr. K. Annamalai, who is a through professional in capital Market and corporate consultant, have 35 years of experience in an engineering company and also in financial market. Mr. K. Annamalai, Served as an executive in various business areas such as accounts, administration, personal and HRD in a Multinational company in Coimbatore.

ACS is a Business & Associate of AXIS SECURITIES LTD [owned by AXIS BANK] for equity trading and research. Within a short span of two years ACS has grown into a premier broking house in India with vast branch network and clientele. ACS has a team of professionals managing the company and provides an excellent platform to clients to trade in equity and commodity markets.

Areas of consultancy

- Since 1991, providing corporate and financial consultancy to many corporate.
- Founder member, treasurer, vice-president, president of Coimbatore stock exchange ltd
- Handled and associated with many corporate for their Initial public Offer and corporate funding
- Providing investment, stock and commodity broking services to over 5000 retail clients
- Expert in future & options - equity, commodity and currency trading.
- Identify the suitable location to set up a corporate office and factory
- Registration of a company includes name choice, preparing memorandum and articles of association.
- Get approvals from various government agencies.
- Selection of manpower, training & motivation.
- Establishing manuals for admin & HR departments.
- Regular liaison with various government and private bodies for smooth functioning of factories.
- Co-ordinate to ensure that all legal complains is met.

- Advisor and coordinator in Mergers and Acquisitions.
- Specialized in Bank and Corporate financing.

Services provided by ACS

- Equity & Derivative trading
- Commodity Services
- Spot Exchange
- IEX
- Initial public offering
- Fixed Income Securities
- Government Securities/ bonds
- Mutual funds
- Certification Training Program
- Corporate Social Responsibility

Table 1.1 Company Profile

Company Name	ANNAMALAI CAPITAL SERVICES PRIVATE LIMITED
Company Activity	Finance
CIN	U67120TZ2004PTC011190
Registration Date	21/06/2004
Registration No.	011190
Category	Company Limited by Shares
Sub Category	Indian Non-Government Company
Authorized Capital	50,000,000.00
Paid Up Capital	6,879,800.00
Company Class	Private

1.3 INTRODUCTION TO THE TOPIC

There are two types of commodity markets: spot and derivatives. In a spot market, a physical commodity is sold or bought at a price negotiated between the buyer and the seller. The spot market involves buying and selling of commodities in cash with immediate delivery. There are spot markets for individual consumers and the business-to-business category.

On the other hand, a commodity can be sold or bought via derivatives contract as well. A futures contract is a pre-determined and standardized contract to buy or sell commodities for a particular price and for a certain date in the future.

For instance, if one wants to buy 10 tons of rice today, one can buy it in the spot market. But if one wants to buy or sell 10 tons of rice at a future date, one can buy or sell rice futures contracts at a commodity futures exchange. The futures contracts provide for the delivery or receipt of a physical commodity of a specified amount at some future date.

Under the physically settled contract, the full purchase price is paid by the buyer and the actual commodity is delivered by the seller. But in a futures contract, actual delivery takes place later. For instance, a farmer enters into a futures contract to sell 10 tons of rice at \$100 per ton to a miller on a future date. On that date, the miller will pay the full purchase price (\$1,000) to the farmer and in exchange will receive the 10 tons of rice.

A Derivative Contract

A derivative contract is an enforceable agreement between two parties where the value of the contract is based or derived from the value of an underlying asset. Some of the widely used derivative contracts are as following:

Forwards: A forward contract is a non-standardized or customized contract between two parties to undertake an exchange of the underlying asset at a specific future date at a pre-determined price. It is a bilateral agreement whose terms are negotiated and agreed upon between two parties. It is transacted over-the counter and is not traded on an exchange. The contract is executed by both parties on the due date by delivery of asset by the seller and payment by the buyer.

Futures: Commodity futures contracts are agreements made on a futures exchange to buy or sell a commodity at a pre-determined price in the future. The futures contracts are traded on regulated exchanges and the terms of the contract are standardized by the exchange. What is negotiated by the counterparties (buyer and seller of a futures contract) is only the price. The price is discovered through the offers and bids process. As explained in the previous chapter, all contracts are settled by cash or physical delivery of the underlying commodity on the expiry date of the contract. In Indian exchanges, almost all commodity futures contracts are cash-settled.

Options: Commodity options are contracts that give the owner the right, but not the obligation, to buy or sell an agreed amount of a commodity on or before a specified future date.

Swaps: A commodity swap is an agreement between two parties to exchange cash (flows) on or before a specified future date based on the underlying value of commodity, currency, stock or other assets. Unlike futures, swaps are not exchange-traded instruments. Swaps are usually designed by banks and financial institutions that also arrange the trading of these bilateral contracts.

Two Types of Derivative Contracts

Broadly speaking, there are two groups of derivative contracts

- Exchange traded
- Over the Counter (OTC) – based on the manner in which they are traded in the market.

Exchange-traded derivatives are those instruments that are traded on derivatives exchanges. The last decade has witnessed tremendous growth in this segment. In terms of number of traded contracts, the commodity derivative markets have experienced a rapid increase due to heightened activity of financial players in these markets, and a robust rise in volumes in mainland Chinese exchanges. The commodity derivatives markets are only a small part of global derivatives trading that is based on underlying assets such as currencies, interest rates, stocks and other financial instruments.

OTC derivatives are contracts that are privately negotiated and traded between two parties, without going through an exchange. The market players trade with one another

through telephone, email, and proprietary electronic trading systems. The most common products traded in OTC derivative market are swaps, exotic options and forward rate agreements. The OTC derivative market is mainly dominated by banks, hedge funds and other highly sophisticated financial players. However, OTC commodity derivatives are used for non-standardized contracts that can meet specific demands of the contracting parties. The OTC derivative market is the largest market in the world of which the commodity OTC derivatives are the smallest part and the interest rate and foreign exchange derivatives contracts are the most significant.

The key functions of the commodity derivatives exchanges include:

- Providing and enforcing rules and regulations for uniform and fair trading practice.
- Facilitating trading in a transparent manner.
- Recording trading transactions, including circulating price movements and market news, to the participating members.
- Ensuring execution of contracts.
- Providing a system of protection against default of payment (clearing).
- Providing a dispute settlement mechanism.
- Designing the standardized contract for trading which cannot be modified by either party.

FEATURES OF COMMODITY FUTURES

1. Organized: Commodity Futures contracts always trade on an organized exchange, e.g. NCDEX, MCX, etc in India and NYMEX, LME, COMEX etc. internationally.

2. Standardized: Commodity Futures contracts are highly standardized with the quality, quantity, and delivery date, being predetermined.

3. Eliminates Counterparty Risk: Commodity Futures exchanges use clearing houses to guarantee that the terms of the futures contract are fulfilled. The Clearing House guarantees that the contract will be fulfilled, eliminating the risk of any default by the other party.

4. Facilitates Margin Trading: Commodity Futures traders do not have to put up the entire value of a contract. Rather, they are required to post a margin that is roughly 4 to 8% of the total value of the contract (this margin varies across exchanges and commodities). This facilitates taking of leveraged positions.

5. Closing a Position: Futures markets are closely regulated by government agencies, e.g. Forward Markets Commission (FMC) in India, Commodity Futures Trading Commission in (CFTC) USA, etc. This ensures fair practices in these markets.

6. Regulated Markets Environment: Commodity Futures contracts are highly standardized with the quality, quantity, and delivery date, being predetermined.

7. Physical Delivery: Actual delivery of the commodity can be made or taken on expiry of the contract. Physical delivery requires the member to provide the exchange with prior delivery information and completion of all the delivery related formalities as specified by the exchange.

Gold Commodity Trading

India is world's biggest gold consumer followed by China and US. Jewellery and investment are the key areas of Indian gold demand.

What makes gold commodity a wise investment?

- Gold is considered a hedge against inflation
- Gold has a history of being used as a currency. With increasing devaluation of major currencies it is seen today as an alternative currency.
- It is also considered an alternative asset in time of economic uncertainty and geopolitical crisis.
- Gold is also ideal for diversification.
- Gold forms an integral part of Indian customs and traditions. Its demand rises sharply just before the wedding season and preceding certain Hindu festivals.

Why is gold commodity a wise investment for an Indian trader?

- India is world's biggest gold consumer and Jewellery and investment demand is on a rise.
- Inflation pressure is high in India making gold an ideal investment.
- The nation's GDP is growing and with improving standard of living demand for Jewellery may remain high.
- Indian gold demand is also bound by traditions and customs and is likely to remain high.
- Increasing worldwide appeal and availability of various instruments has increased trading interest in gold in India.
- Gold is one of the most traded commodities on Indian bourses.

Silver Commodity Trading

Silver is highly malleable and ductile, one of the best electrical conductors and the most reflective metal. Consequently, about 54% of the annual global silver fabrication is used for industrial applications. However, silver is even scarcer than gold.

What makes silver commodity a wise investment?

- Silver is a very versatile metal. It has extensive industrial application and is used to make Jewellery and utensils.
- Silver demand is on a rise in India and China.
- Industrial usage is expected to rise with growing industrialization.
- Higher gold price has also shifted some people towards silver.
- Investment interest has increased in silver also with introduction of more products.

Why is silver trading in India recommended?

- India is primarily a silver-importing country, contributing very little in terms of global production.
- Yet, the metal is considered a symbol of auspiciousness and forms an integral part of Indian customs and traditions.
- Silver is less expensive than gold and aptly known as poor man's gold.

- With increasing gold price, demand has shifted to silver.
- India's silver demand is largely for silverware and Jewellery. However with increasing economic growth, industrial usage will rise further.
- Silver is a metal with wide usage and benefits from its dual use of being an industrial metal and a precious metal.
- Silver price in India has risen sharply over past few years and has a positive correlation with gold which is in a bull run for over a decade. Silver is a wise investment due to dual facets.

1.4 OBJECTIVES OF THE STUDY

Primary Objective

- To assess the performance of commodity future market with reference to gold and silver

Secondary Objectives

- To find out the factors that lead to market imperfection in both spot and future market of commodity. (Gold and Silver)
- To compare the performance of commodity future market of gold and silver before and after the Modi Government
- To find out cause and effect relationship between spot and futures prices in the commodity market before and after Modi Government.

1.5 SCOPE OF THE STUDY

- The study will help to know the performance of commodity future market with reference to gold and silver before and after Modi Government.
- The study will help to know the cause and effect relationship between spot and future prices of gold and silver before and after Modi Government.
- The study may be taken as a guide to investors who invest in gold.
- The study also helps one to understand the factors that lead to market imperfections in the spot and future market of commodity.
- The study aims to provide directional inputs that can help predict future trends in the gold and silver prices.

1.6 LIMITATION OF THE STUDY

- This study includes a sample size of only two commodities. The findings of this study may not apply to other commodities.
- The commodity market is having seasonal trends; we cannot predict every price movement about the market.
- This analysis will be holding good for a limited time period that is based on present scenario and study conducted, future movement on gold and silver price may or may not be similar.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

A literature review is an evaluative report of information found in the literature related to selected area of study. A literature review is a critical analysis of published sources, or literature, on a particular topic. It is an assessment of the literature and provides a summary, classification, comparison and evaluation.

A literature review demonstrates a familiarity with a body of knowledge and establishes the credibility of the researcher's work; summarizes prior research and says how the project is linked to it; integrates and summarizes what is known about a subject; Demonstrates that researcher have learnt from others and that research is a starting point for new ideas.

Padmanaban.R and Monica.S (2016)¹, have analyzed the national commodity exchanges to study the evolution and organizational structure of commodity exchanges. They have also analyzed the performance of commodity exchanges. Secondary data was used by them for data analysis. After analysis, they have concluded that the exchanges are playing vital role in the trading activities.

Peter Arendas (2016)² has examined the Gold-Silver Ratio and its utilization in long term silver investing. He has also found that whether gold-silver ratio is suitable as a basis for profitable long term investment strategies. He has used secondary source for data collection. Wilcoxon Signed-Rank Test was used for the data analysis. The result brought by him was the gold-silver ration was more reliable in predicting the silver price movements than in predicting gold price movements.

Rahul K.Kapale and Kartik B.Uttarwar (2016)³, have studied the commodity market to analyze the history, evolution, regulatory framework of the market. They have also analyzed the forms of investing and segments in the market. Secondary data collection was used by them for the analysis. After analysis, they have made conclusion that price risk management assumed to be greater importance in future.

Ashok.B (2016)⁴ has studied the commodities derivative market to explain the growth of contracts traded in various commodities. He has also imparted a comprehensive view of commodity futures as risk management tool. They have used secondary source for data collection. After the analysis, he came up with the result that the market has tremendous growth in terms of volume of traded, number of products on offer and technology.

Kirithiga.S and Naresh.G (2016)⁵, have studied the commodity market to find out the links between gold and silver prices. They have also examined the stationary properties of the spot and future prices of gold and silver. Secondary source was used by them for data collection. Augmented Dickey-Fuller test, Phillips-Perron test are some of the tools used by them for data analysis. Finally, they have concluded that the gold and silver are related to each other.

Ranpreet Kaur (2016)⁶, has examined the commodity market to analyze the investors' expectations from commodity trading. She has also identified the factors influencing the commodity markets. She has used both primary and secondary source for the data collection. Percentage method was used by her for data analysis. After the analysis, she has concluded that there is a long way to go ahead in commodity trading so need for more promotion and awareness is required.

Vivek kumar and Jatin Garg (2016)⁷, have studied the commodity future market to analyze the importance, structure, turnover of commodity market and exchanges. They have also studied the types of markets, participants, regulation of the market. Secondary data was used by them for the analysis. After the analysis, they have concluded that the commodity future market has two significant economic functions of price discovery and price risk management.

Raghavendra.R.H, Velmurugan.P.S, Saravanan.A (2016)⁸, have studied the agricultural commodities to analyze the relationship between spot and future market. They have used secondary source for data collection. Johansen's co-integration test, Regression test was some of the tools used by them for data analysis. After the

analysis, they have concluded that there is a bidirectional relationship between commodity futures and spot market.

Shree Bhagwat and Angad Singh Maravi (2016)⁹, have analyzed the future trading on agricultural and non-agricultural commodities to study and understand the commodities. They have also analyzed the performance of those commodities from 2009 to 2014. They have used secondary source for data analysis. After analysis, they have concluded that commodity future might be the risk free market where the investors can make their investment.

Ruchi Vohra (2016)¹⁰, has studied the performance of commodity futures to analyze the trends in the market. She has also analyzed the pros and cons of the commodity future market. Secondary data was used for data analysis. Finally, they have made a conclusion that there has been tremendous growth in the market in terms of volume traded, number of products on offer, participants and technology.

Shree Bhagwat and Angad Singh Maravi (2016)¹¹, have studied the commodity market and Multi Commodity Exchange to analyze the development of the exchange. They have also analyzed the performances of Multi Commodity Exchange. Secondary data was used by them for analysis. After analysis, they have concluded that Multi Commodity Exchange is playing vital role in trading the commodity futures.

Chellasamy.P and Anu.K.M (2015)¹², have studied the commodity derivative market to examine the stationary of and relationship between spot and future price returns of the market. They have also examined the cause and effect relationship between spot and future price returns of the market. Secondary data was used by them for the data collection. Unit root test, Johansen Co-integration and Granger causality test are the tools used by them for data analysis. Finally, they have made conclusion that the spot prices are co-integrated with future prices of commodity market.

Saranya.V.P (2015)¹³, has studied the spot and future market of non-agricultural commodities to examine the stationary of and lead-lag relationship between spot and futures returns of the commodities. She has also studied the volatility of the spot and

future market of commodities. She has used secondary data for the data collection. Unit root test, Ganger causality are some of the tools used by her for data analysis. After analysis, the conclusion made by her was spot and future prices of selected commodities are co-integrated together.

Poornima.S and Deepthy.K (2015)¹⁴, have analyzed the commodity market to understand the market share of commodity exchanges. They have also found that the future opportunities and challenges in the market. Secondary data was used by them for the data analysis. After the analysis, they have concluded that the commodity market has a great potential for market participants.

Sheeba K.H (2015)¹⁵, has analyzed the Gold exchange market to determine how gold an asset of security and asset of investment. She has also analyzed the role of Gold exchange in making gold as asset of investment. Both primary and secondary source was used by her for data analysis. Finally, she came up with the result that the investor can utilize the technical fundamental analysis before they make investment in gold due to its volatility and risk.

Chinmaya Behera (2015)¹⁶, has analyzed the future market to study the price discovery and market efficiency. She has used secondary source for the data collection. Engle-Granger co-integration test was the tool used by her for data analysis. After the analysis, she came up with the result that both spot and future price are co-integrated together.

Shree Bhagwat and Angad Singh Maravi (2015)¹⁷, have studied the commodity market to analyze the role and performance of forward market commission. They have also analyzed the important developments of FMC. They have used secondary source for the data collection. After the analysis, they have concluded that commodity derivatives and futures are playing vital role in the price risk management process.

Bhaskar Goswami and Isita Mukherjee (2015)¹⁸, have studied the commodity derivative market to analyze the risk-return of different commodity futures. They have also focused on the volatility aspects of various commodity futures groups. They

have used secondary data for the analysis. After the analysis, they have concluded that high returns are generally associated with high risk.

Rajendran.L (2015)¹⁹, has analyzed the commodity market to study the need of commodity derivatives and trends in volume contribution on the national exchanges. He has also studied the trade strategy, beneficiaries and key market moving factors. Secondary source was used by him for data collection. After the analysis, he came up with the result that one has to take initiative to standardize and popularize the commodity market.

Chinmaya Behera (2015)²⁰, has examined the Indian future market to analyze the long memory and spill-over effects in metal and energy futures. She has used secondary source for data analysis. After the analysis, she has concluded that volatility spill-over has significant impact in all the commodity spot and future returns.

Durga.S and Soujanya.K (2015)²¹, has studied the commodity derivatives to analyse the trends and growth in the market. They have also analyzed the impact of FMC with SEBI. They have used secondary source for data collection. After the analysis, they have concluded that the information and warehouse networks should be efficient for price discovery and price-risk management even though the merger may provide a stronger regulator.

Jeelan Basha.V (2015)²², has studied the commodity market with reference to bullion commodities to analyze the trend and progress of the market. He has also analyzed the volume and value of gold and silver in the market. Secondary source was used by him for the data collection. Percentage method, T-Test is some of the tools used by him for data analysis. After the analysis, they have concluded that the bullion market provides Investment Avenue for the investors due to its liquidity, consistency, durability.

Senthil.D (2015)²³, has analyzed the investors' behavior towards commodity future market to study the relationship between demographical data and contributing variable like goals of investors, risk, etc. He has also studied the factors influencing

investor's behavior in the market. The data source and the tool used by them were primary data and correlation co-efficient respectively. After the analysis, he came up with the result that there was no association between demographic data and contributing variable.

Prabhu C.Basarkod and Basavaraj.C.S (2015)²⁴, have analyzed the commodity derivative market to study the growth, issues, and current scenario of the market. Secondary data was used by them for data collection. They have used simple percentage method as statistical tool. After analysis, they have concluded that the commodity derivative market has tremendous growth and there is a wide scope for investment into futures.

Shree Bhagwat, Angad Singh Maravi, Ritesh More and Deepak Chand (2015)²⁵, have analyzed the commodity future market to study the development, structure, regulatory framework of the market. They have also analyzed the current scenario of the market. They have used secondary data in nature. After analysis, they have concluded that the commodity future market would contribute its strength to the Indian economy.

Priya Tiwari, Pooja Mundada and Sandeep sarkala (2015)²⁶, have studied the silver commodity trading to analyze the factors affecting and fluctuations of silver prices. They have also analyzed the usage of silver in various applications. They have used partially primary and partially secondary data for data collection. Time series and Trend analysis were some of the tools used for data analysis. After the analysis, they have concluded that the prices of gold and silver are correlated each other.

Shefali Dani and Riddhi Ambavale (2015)²⁷, have studied the investor's preference and risk-return analysis of precious metals to analyze the price drivers affects the gold and silver. They have also analyzed the fluctuation of gold and silver price. Primary source was used by them for data collection. After analysis, they have concluded that investor prefers gold and silver for their stability.

Bimal Jaiswal and Shiva Manoj (2015)²⁸ have analyzed the price variation of gold and silver and its impact on commodity market to examine the reasons for gold price

fluctuations. They have also analyzed the pros and cons of various gold alternatives. Secondary source was used by them for data analysis. After analysis, they have made a conclusion that the gold prices are affected by inflation and currency strength or weakness.

Angad Singh Maravi (2015)²⁹, has studied the agricultural commodity market to analyze the development and performance of the market. They have also examined the share of agricultural commodities in commodity derivative market. Secondary source was used by them for data analysis. After the analysis, they have concluded that the agricultural commodity market has increasing trend in commodity derivative market.

Shree Bhagwat, Angad Singh Maravi (2015)³⁰, have studied the commodity exchanges to analyze its performance. They have also studied the organizational structure of commodity market. Secondary data was used by them for data analysis. After the analysis, they have made conclusion that MCX is well-performed commodity exchange among the others.

Nilanjana Kumari (2014)³¹, has analyzed the commodity market to study the recent trends in the market. She has also studied the working of the commodity market and challenges prevailing in the commodity market. She has used secondary data for the analysis. After analysis, the conclusion made by her was the price risk management would be the success factor to the commodity market.

Mukesh.H.V (2014)³², has analyzed the commodity exchanges to find out the importance of the exchanges. They have also analyzed the benefits of commodity future market and Indian commodity exchanges from investors' perspective. They have used secondary source for data collection. After the analysis, they have concluded that an investor can invest into the exchanges in which they can get arbitrage opportunity.

Piyush Pandey (2014)³³, has studied the gold market to analyze the price discovery and volatility spillover in spot and futures. He has used secondary data collection for the analysis. Augmented Dickey Fuller Test, Vector error correction model are some

of the tools used by him. After the analysis, he has concluded that investors looking for price signals to make returns in the spot market and hedge their exposure in the futures market.

Periasamy.P and Sathish.R (2014)³⁴, have made a descriptive study on commodity future market and new initiatives taken the forward market commission to regularize and popularize the commodity future market among the potential investors. They have used secondary source for data collection. After the analysis, they have concluded that the regulatory authority of commodity market has taken initiatives for the development of the market.

Salim A.Shamsher and Sanjay Mali (2014)³⁵, have studied the commodity derivative market to analyze the options and commodity index investing. They have also studied the origin of options. They have also found that whether the speculation lead to price fluctuation. Secondary source was used by them for data collection. After the analysis, they have concluded that the options would be the tool for price risk management and it would provide enhanced liquidity.

Periasamy.P and and Sathish.R (2014)³⁶, have analyzed the commodity derivative market of gold, crude oil and copper. They have studied the price volatility and found out the reasons for price volatility. They have also analyzed the future price movements of gold, crude oil, copper market using past data. Secondary data was used by them for the analysis. Simple moving average, Relativity Strength Index, Rate of change were some of the tools used for data analysis. After analysis, they have concluded that investors feel satisfied with the price movement.

Rohit Bansal, Varsha Dadhich and Naveed Ahmad (2014)³⁷, have studied the commodity market to analyze its performance. They have also found the share of commodity group in commodity future market. They have used secondary source for the data collection. After analysis, they have concluded that commodity future market has wide scope for investment due to its enhanced risk-free trading.

Somasundaram.K.N and Veeramani.G (2014)³⁸, have analyzed the arbitrage opportunities in spread trading of gold and silver to see the swing of the variations.

Secondary data was used by them for data collection. Correlation was used as a tool for data analysis. After the analysis, they have concluded that there was a wide scope for simultaneous buy/sell of two different contracts to earn more profit.

Prakash.P and Sundararajan.S (2014)³⁹, have analyzed the relationship between prices of gold and silver to study the factors influencing gold and silver prices. They have also found out the reasons for fluctuation and movement of prices. Secondary data was used by them for data collection. Correlation, Regression and ANOVA were used for the data analysis. After the analysis, they have made conclusion that the investor can invest into gold market to gain short term benefit.

C.Srinivas Yadav and Rakesh Roshan Panigrahi (2014)⁴⁰, have examined the weak form efficiency and the unbiasedness of commodity future market to test the efficiency of Aluminum and Copper and to verify the unbiasedness in the spot and future prices of the Commodities. The Secondary data was used by them for data collection. Regression, Co-integration is some of the tools used for data analysis. Finally, they have concluded that strong policy support is needed for price rises.

Rajmohan.S, Hudson Arul Vethamanikam.G and Vijayakumar.C (2014)⁴¹, have studied commodity futures market to analyze the structure and turnover of the commodity market and exchanges. They have used secondary source for the data collection. After the analysis, they have concluded that the volatility is based on commodities performance and it has been providing continuous support for Indian economy.

Harwinder Pal Kaur and Bimal Anjum (2013)⁴², have analyzed the commodity derivative market to know the regulatory framework and various developments of the market and commodity exchanges. Secondary source was used by them for data collection. After analysis, they have concluded that the investors can make their investment in commodities since the price discovery and risk management are two important functions of commodity future market.

Sharma.K.R.S (2013)⁴³, has studied the commodity futures to analyze the factors influencing the growth of the market. He has also analyzed the factors lead to

efficient and transparent price discovery. He has used both primary and secondary source for data collection. Chi-Square test was used by him as a tool for data analysis. After the analysis, they have concluded that the investors may invest into the future market after having depth knowledge of factors affecting the market.

Ritu Kothwal and Ankur Goel (2012)⁴⁴ have analyzed the commodity market to study the history, participants, structure of the commodity market and exchanges. They have also analyzed the regulatory authority and working of the commodity market. They have used secondary source for data collection. After the analysis, they have concluded that commodity future trading can help India to become a global trading hub.

Takeshi Inoue and Shigeyuki Hamori (2012)⁴⁵ have examined the market efficiency of the commodity futures market. They have also found that long run equilibrium relationship between multi commodity spot and future prices. They have used Secondary source for data collection. DOLS and FMOLS were some of the tools used by them for data analysis. After the analysis, they have concluded that there was a co-integration between spot and future prices of the commodity market.

Sanjay Sehgal, Namita Rajput and Rajeev Kumar Dua (2012)⁴⁶ have analyzed the Indian commodity market to study the future trading and spot market volatility. They have also found the relationship between future and spot price of the commodity market. They have used secondary source for the data collection. The Hodrick-Prescott filter, GARCH model, Granger Causality test were some of the tools used by them for data analysis. After the analysis, they have concluded that there was no relationship between futures market trading activity and spot market volatility.

Nirmal Kumar.R.T and Balaji.K (2011)⁴⁷ have studied the commodity derivative market to analyze the investors' perception and the level of awareness towards commodities futures trading. They have also dealt with historical perspective of the market. They have used Primary source for the data collection. Chi-square, ANOVA

were some of the tools used by them for data analysis. After the analysis, they came up with the result that the many investors prefer to take future contract in gold.

Dharambeer and Barinder Singh (2011)⁴⁸, have analyzed the Indian commodity market growth and prospects and studied the commodity future as risk management tool. The authors have also analyzed the traded contracts in each segment of both spot and derivative market. The data source used by them was secondary. After analysis, they came up with the result that the commodity derivatives has reduced the transaction cost and enabled risk-free trading.

Ashutosh Vashishtha and Satish Kumar (2010)⁴⁹, have studied the financial derivative market to analyze the historical roots of derivative trading, types of derivative products, regulation and policy developments. They have also analyzed the trend, growth, future prospects and challenges of derivative market. They have used secondary source for data collection. After the analysis, they have concluded that the benefits of derivatives have materially exceeded the costs associated with it.

Kalaiselvi.S (2010)⁵⁰, has studied the commodity trading to examine the history, evolution, and structure of the commodity market. She has also studied the commodity future trading on ten key commodities. She has used secondary source for data collection. After the analysis, she came up with the result that commodity market has tremendous growth due to its attractiveness.

Based on Literature Review, the researcher has learnt the structure and regulatory framework of commodity market, working, trends and current scenario of Commodity Future Market which has been useful for the research. With the help of these reviews, an analysis has been framed and data is collected.

BIBLIOGRAPHY

JOURNALS

1. Padmanaban.R and Monica.S, (2016). An Analytical study of National Commodity Exchanges. *International Journal of Business and Administration Research Review*, 3(15), pp. 88-92.
2. Peter Arendas, (2016). Gold-Silver ratio and its utilization in Long Term Investing. *Mediterranean Journal of Social Sciences*, 7(1), pp. 285-290.
3. Rahuk K.Kapale and Karthik B.Uttarwar, (2016). A Study of Commodity Market in India, its Issues and Challenges. *GE-International Journal of Management Research*, 4(4), pp. 116-121.
4. Ashok.B, (2016). Commodities Derivative Market in India-Growth and Prospects. *International Journal of Academic Research*, 3(4), pp. 34-42.
5. Kirithiga.S and Naresh.G, (2016). Casual links between gold and silver of Indian Commodity Market. *International Journal of Commerce and Management research*, 2(7), pp. 95-101.
6. Ranpreet Kaur, (2016). Empirical Analysis of Investors' Expectations from Commodity Trading with Special Reference to Kothrud Area, Pune. *International Journal of Multifaceted and Multilingual Studies*, 3(4), pp. 1-11.
7. Vivek Kumar and Jatin Garg, (2016). Future Market of India: An Overview. *International Journal of Applied Research*, 2(9), pp. 703-713.
8. Raghavendra.R.H, Velmurugan.P.S and Saravanan.A, (2016). Relationship between Spot and Futures Markets of Selected Agricultural Commodities in India: An Efficiency and Causation Analysis. *Journal of Business and Financial Affairs*, 5(1), pp. 1-8.
9. Shree Bhagwat and Angad Singh Maravi, (2016). Analysis of Futures Trading on Agricultural and Non Agricultural Commodities in Indian Commodity Markets. *GE-International Journal of Management Research*, 4(1), pp. 16-31.
10. Ruchi Vohra, (2016). A Study on the Performance of Commodity Futures in India. *International Journal of Advanced Research*, 4(11), pp. 315-321.

11. Shree Bhagwat and Angad Singh Maravi, (2016). A Study of Commodity Market v/s Multi Commodity Exchange of India Limited. *International Journal of Research in Management, Economics and Commerce*, 6(4), pp. 27-41.
12. Chellasamy.P and Anu.K.M, (2015). An Empirical Study on Commodity Derivatives Market in India. *International Journal of Economic and Business Review*, 3(6), pp.117-121.
13. V.P.Saranya, (2015). Volatility and Price Discovery Process of Indian Spot and Futures Market for Non-Agricultural Commodities. *International Journal in Management and Social Science*, 3(3), pp. 346-354.
14. Poornima.S and Deepthy.K, (2015). Commodity Market in India. *International Journal of Multidisciplinary Research and Development*, 2(11), pp. 31-35.
15. Sheeba.K.H, (2015). Investing through Gold ETF in the Gold Exchange Market. *International Journal of Informative and Futuristic Research*, 2(10), pp. 3909-3916.
16. Chinmaya Behera, (2015). Price Discovery and Market Efficiency in Indian Futures Market. *International Journal of Innovative Research in Engineering and Management*, 2(4), pp. 40-47.
17. Shree Bhagwat and Angad Singh Maravi, (2015). The Role of Forward Markets Commission in Indian Commodity Markets. *International of Research-Granthaalayah*, 3(11), pp. 87-105.
18. Bhaskar Goswami and Isita Mukherjee, (2015). Risk-Return Analysis of Different Commodity Futures in Indian Derivative Market. *International Journal of Research in Finance and Marketing*, 5(6), pp. 73-78.
19. Rajendran.L, (2015). Commodity Market-Current Scenario. *Global Journal for Research Analysis*, 4(2), pp. 191-193.
20. Chinmaya Behera, (2015). Long Memory and Spill-over Effects of Indian Futures Markets: An Econometrics Investigation into Metal and Energy Futures. *International Journal of Business Quantitative Economics and Applied Management Research*, 2(1), pp. 42-65.
21. Durga.S and Soujanya.K, (2015). A Study on Commodity Derivatives. *North Asian International Research Journal of Multidisciplinary*, 1(3), pp. 232-239.

22. Jeelan Basha.V, (2015). Empirical Study on Trend and Progress of Commodities Market with reference to Bullion Commodities. *Samzodhana-Journal of Management Research*, 4(1), pp. 121-127.
23. Senthil.D. (2015), Investor's Behavior towards Commodity Future Market: with Special Reference to Tamil Nadu. *International Journal of Management and Social Science Research Review*, 1(7), pp. 37-42.
24. Prabhu C.Basarkod and Basavaraj.C.S, (2015). Growth of Indian Commodity Derivative Market over the years and its Current Scenario. *International Journal of Research in Commerce, IT and Management*, 5(10), pp. 16-21.
25. Shree Bhagwat, Angad Singh Maravi, Ritesh More and Deepak Chand, (2015). Commodity Futures Market in India: Development, Regulation and Current Scenario. *Journal of Business Management and Social Science Research*, 4(2), pp. 215-231.
26. Priya Tiwari, Pooja Mundada and Sandeep Sarkale, (2015). A Study on Silver Commodity Trading Worldwide. *ASM's International E-Journal on Ongoing Research in Management and IT*, 1(3), pp. 102-111.
27. Shefali Dani and Riddhi Ambavale, (2015). A Study of Investors' Preference and Risk Return Analysis of Precious Metals (Gold and Silver in India). *International Journal of Advanced Research in Management and Social Sciences*, 4(2), pp. 51-60.
28. Bimal Jaiswal and Shiva Manoj, (2015). An Analysis of Gold Price Variation and its Impact on Commodity Market in India. *A Journal of Economics and Management*, 4(7), pp. 59-79.
29. Angad Singh Maravi, (2015). Performance Analysis of Indian Agricultural Commodity Market. *International Journal of Commerce, Business and Management*, 4(2), pp. 1125-1135.
30. Shree Bhagwat and Angad Singh Maravi, (2015). Commodity Exchanges in Commodity Markets of India: An Analytical Study of National Commodity Exchange. *International Journal of Management and Social Science Research*, 4(12), pp. 1-13.
31. Nilanjana Kumari, (2014). Recent Trends in Commodity Markets of India. *Abhinav International Monthly Refereed Journal of Research in Management and Technology*, 3(12), pp. 1-6.

32. Mukesh.H.V, (2014). Commodity Exchanges and its Growing Importance: An Indian Perspective. *International Journal of Humanities and Social Science Invention*, 1(12), pp. 30-35.
33. Piyush Pandey, (2014). Price Discovery and Volatility Spillover in Spot and Futures: An Empirical Study of Gold Market in India. *Tactful Management Research Journal*, 2(10), pp. 1-5.
34. Periasamy.P and Satish.R, (2014). Commodity Future Market and New Initiatives taken the Forward Market Commission in India to regularize and popularize Commodity Future Market among the potential investors – A Descriptive Study. *IOSR Journal of Business and Management*, 15(6), pp. 1-9.
35. Salim A. Shamsheer and Sanjay Mali, (2014). The Commodities Derivative Market – An Intricate Study of Commodity Options and Commodity Index Investing. *Asian Journal of Management Research*, 5(1), pp.112-123.
36. Periasamy.P and Satish.R, (2014). A Study on Commodity Derivative Market of Selected Non-Agricultural Products (Gold, Crude Oil, Copper) in the Chennai Market - An Analysis. *IOSR Journal of Economics and Finance*, 2(6), pp. 38-44.
37. Rohit Bansal, Varsha Dadhich and Naveed Ahmad, (2014). Indian Commodity Market-A Performance Review. *International Research Journal of Marketing and Economics*, 1(5), pp. 19-34.
38. Somasundaram.K.N and Veeramani.G, (2014). Arbitrage Opportunities in Spread Trading of Gold or Silver in Multi Commodity Exchange, India. *The International Journal of Business and Management*, 2(6), pp. 267-275.
39. Prakash.P and Sundararajan.S, (2014). An Empirical Analysis on the Relationship between Gold and Silver with Special Reference to the National Level Commodity Exchanges, India. *International Journal on Recent and Innovation Trends in Computing and Communication*, 2(8), pp. 2224-2233.
40. Srinivas Yadav.C and Rakesh Roshan Panigrahi, (2014). Evaluation of Efficiency Form of the Commodities Market: An Empirical Study of the Indian Scenario. *Asia Pacific Journal of Research*, 1(16), pp. 77-95.

41. Rajmohan.S, Hudson Arul Vethamanikam.G and Vijayakumar.C, (2014). Commodity Futures Market in India. *International Journal of Advanced Research in Management and Social Sciences*, 3(10), pp. 52-58.
42. Harwinder Pal Kaur and Bimal Anjum, (2013). Commodity Derivatives in India. *International Research Journal of Business and Management*, 5(10), pp. 20-29.
43. Sharma.K.R.S, (2013). A Study of Commodity Futures in India. *Asia Pacific Journal of Research*, 2(4), pp. 1-9.
44. Ritu Kothiwal and Ankur Goel, (2012). Understanding Indian Commodity Markets. *Radix International Journal of Research in Marketing*, 1(3), pp. 1-19.
45. Takeshi Inoue and Shigeyuki Hamori, (2012). Market Efficiency of Commodity Futures in India. *Institute of Developing Economies (IDE)*, IDE Discussion Paper No, 370, pp. 2-8.
46. Sanjay Sehgal, Namita Rajput and Rajeev Kumar Dua, (2012). Futures Trading and Spot Market Volatility: Evidence from Indian Commodity Markets. *Asian Journal of Finance and Accounting*, 4(2), pp. 199-217.
47. Nirmal Kumar.R.T and Balaji.K, (2011). An Empirical Investigation on the Investors' Perception towards Commodities Futures Trading in India with special reference to Pondicherry, India. *International Journal of Business Economics and Management Research*, 1(2), pp. 175-189.
48. Dharambeer and Barinder Singh, (2011). Indian Commodity Market: Growth and Prospects. *International Journal of Marketing and Technology*, 1(2), pp. 75-86.
49. Ashutosh Vashishtha and Satish Kumar, (2010). Development of Financial Derivatives Market in India-A Case Study. *International Research Journal of Finance and Economics*, 2(37), pp. 1-15.
50. Kalaiselvi.S, (2010). Buoyancy in the Commodity Trading-A Road Map. *Indian Journal of Commerce and Management Studies*, 1(1), pp. 30-42.

RESEARCH METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

Research Methodology is a way to find out the result of a given problem on a specific matter or problem that is also referred as research problem. In Methodology, researcher uses different criteria for solving/searching the given research problem. Different sources use different type of methods for solving the problem. It is a way to systematically solve the problem. It may be understood as a science of studying how research is done scientifically.

3.1 RESEARCH DESIGN

A research design is the arrangement of conditions for collecting and analyzes the data in a manner that aims to combine relevance to the research purpose with economy in procedure.

Here, the researcher has used **Descriptive Research** which deals with the statement of affairs as they are at present with the researcher having no control over variable. Moreover, descriptive research may be characterized as simply the attempt to determine, describe or identify what is.

3.2 NATURE OF DATA

The task of data collection begins after research problem has been defined and research design has been planned out. **Secondary Source** is used for data collection by the researcher. Secondary data refers to data that are already available and they refer to the data which have already been collected and analyzed by someone else.

3.3 SOURCE OF DATA

Secondary data is collected from commodity market and their various publications, reputed journals, and various websites of www.mcxindia.com, www.i-charts.com.

3.4 PERIOD OF THE STUDY

The research has been conducted from December 2016 to March 2017.

3.5 TOOLS FOR THE ANALYSIS

The researcher has used Granger Causality Test to find out the cause and effect relationship between spot and future prices in the commodity market.

Granger-Causality Test

The **Granger causality test** is a statistical hypothesis test for determining whether one time series is useful in forecasting another, first proposed in 1969. Ordinarily, regressions reflect "mere" correlations, but Clive Granger argued that causality in economics could be tested for by measuring the ability to predict the future values of a time series using prior values of another time series.

Granger causality test is test of the prediction ability of time series models. A variable X is causal to variable Y if X is the cause of Y *or* Y is the cause of X.

The test for causality is based on an F-statistic that is computed by running the regressions in both the unconstrained form (full model) and the constrained form (reduced model). The reduced model is obtained from the equations by dropping the lagged values of the predictor variables. The F-statistic is given by

$$F = ((SSE_r - SSE_f)/m) / (SSE_f/(T - 2m - 1))$$

Where SSE_r and SSE_f are the sum of squares of residuals of the reduced as well as the full models respectively; m is the number of lags; and T is the number of observations.

Underlying principles

Granger defined the causality relationship based on two principles:

1. The cause happens prior to its effect.
2. The cause has unique information about the future values of its effect.

ANALYSIS AND INTERPRETATION

CHAPTER IV

ANALYSIS AND INTERPRETATION

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings. Data analysis is a process used to inspect, clean, transform, and remodel data with a view to reach to a certain conclusion for a given situation.

Data analysis helps in structuring the findings from different sources of data. It is very helpful in breaking a macro problem into micro parts and acts like a filter when it comes to acquiring meaningful insights out of huge data set. Data analysis helps in keeping human bias away from the research conclusion with the help of proper statistical treatment.

Interpretation has two major aspects namely establishing continuity in the research through linking the results of a given study with those of another and the establishment of some relationship with the collected data. Interpretation can be defined as the device through which the factors, which seem to explain what has been observed by the researcher in the course of the study, can be better understood.

Interpretation provides a theoretical conception which can serve as a guide for the further research work. Interpretation leads to the establishment of explanatory concepts that can serve as a guide for future research studies; it opens new avenues of intellectual adventure and stimulates the quest for more knowledge.

4.1 FACTORS AFFECTING GOLD AND SILVER FUTURE PRICES

4.1.1 Gold Future Trading

A future is simply a deal to trade gold at terms (i.e. amounts and prices) decided **now**, but with a *settlement day* **in the future**. The *settlement day* is the day when the actual exchange takes place - i.e. when the buyer pays, and the seller delivers the gold. It's usually up to 3 months ahead.

Factors Affecting Gold Future Price

Global Crisis

Because gold prices tend to rise when people lack confidence in governments or financial markets, it often gets called a crisis commodity. World events often have an impact on the price of gold because gold is viewed as a source of safety amid economic or geopolitical tumult. In other cases, military action may actually increase reassurance with geopolitical situations. Hence, Global crisis also has been playing important role in gold spot and future prices.

Inflation

A common reason cited for holding gold is as a hedge against inflation and currency devaluation. Currency values fluctuate, but gold values, in terms of what an ounce of gold can buy, might stay more stable in the long term. Because gold holds value outside of politics—it is valued the world over—gold is attractive as a low-risk, solid investment in the midst of floundering currencies. Investors may feel encouraged to buy gold when they believe the value of their paper money will decline.

Value of the U.S. Dollar

The U.S. dollar is still the world's dominant reserve currency, making it one of the main currencies that different countries hold for international trades. The price of gold and the strength of the dollar have a pretty clear inverse relationship; when the dollar is strong, gold is weaker, and vice versa. On the other hand, people buying gold may see a strong dollar as a buying opportunity, and that could provide some price support.

Central Bank Instability

Most countries have central banks, and other dominant ones include the European Central Bank, the Bank of Japan, and the Swiss National Bank. Bank failures and irregular economic policies make buying gold seem like a safe haven investment. Once again, people flock to gold when the current paper money system experiences uncertainty. Some investors prefer the physical and tangible security of holding gold when central banks are going through deficits as a protection of wealth. In turn, an increased demand drives up the value of gold even more.

Interest Rates

Gold does not pay interest like treasury bonds or savings accounts, but current gold prices often reflect increases and declines in interest rates. As interest rates increase, gold prices may soften as people sell gold to free up funds for other investment opportunities. As interest rates decrease, the gold price may increase again because there is a lower opportunity cost to holding gold when compared to other investments. Low interest rates equate with greater attraction to gold.

Government Reserves

Central banks hold both gold and paper currency in reserve. When these central banks start to buy gold in greater quantities than they sell, it drives gold prices up. This is because the supply of currency increases and available gold becomes scarcer.

Conclusion

Gold's historical significance and electrical conductivity ensures that it will be in demand for a long time to come. As an investment, gold has cyclically come into and out of favor, and has experienced some of the most extreme pricing of any of the commodity markets. Whether gold will continue to be considered a viable inflationary hedge remains to be seen, but the simple fact that it is a rare and beautiful metal will always keep it in the news.

4.1.2 Silver Future Trading

Silver futures are standardized, exchange-traded contracts in which the contract buyer agrees to take delivery, from the seller, a specific quantity of silver at a predetermined price on a future delivery date.

Factors affecting Silver Future Prices

Gold Prices

Despite all of silver's fundamental drivers, gold is considered as the primary driver for both silver spot and future prices. In a bullish environment, speculators tend to be interested in most of the precious metals. So it leads to an increase in the investment demand for silver. Silver having a comparatively smaller market as compared to gold, it does not take much time to drive the prices higher. At the same time when the environment is bearish, investors lose confidence in silver very fast and cause the prices to fall. From the analysis of the trend of the gold-silver ratio, it can be seen clearly that silver has a tendency to follow the prices of gold.

Inflation

Inflation has an immense effect on the market of precious metals including silver. When economy is going downhill many investors switch their investment portfolios from stocks into gold and silver.

Demand

Silver demand is another important aspect that has direct influence on silver futures prices. The main field that is increasingly using up a lot of silver is manufacturing field for batteries, medical equipment is more. The following main consumer of silver is jewelry, coin and bullion industries. If demand for silver is high, the silver futures prices are to remain high.

Supply

Silver supply is one of the main factors driving silver futures prices. Silver is obtained by direct mining and as a byproduct of precious and base metal mining

industries. In addition, silver is recovered from scrap sources like broken old jewelry, electronics and various types of scrap silver objects.

US Dollar

There exists an inverse relationship between silver spot and future prices and USD Index. During recession, US Dollar is considered a safe haven, people around the world tend to disinvest in commodities and invest into US Dollar. Prices of precious metals such as silver, palladium, titanium, etc. declines during recessionary periods.

Oil Prices

The mining of silver is an energy intensive process and hence as the oil prices rise or fall, the prices of silver would also rise or fall. This however would be over simplification as it undermines various other important factors. Silver and oil should have greater correlation than silver and gold as they are industrial elements and the factors affecting their demands would be common. However, contrary to this silver is not a perishable commodity whereas oil is.

Global macro- economic events such as wars or economic situations can also affect silver prices.

Conclusion

Silver is one of the most versatile metals available. Used as both an industrial metal and a hard asset, it plays double duty in the commodities market. Trading it and predicting its price is a careful balancing act between what consumers need and what the currency market demands.

4.2 COMPARATIVE ANALYSIS ON PERFORMANCE OF GOLD FUTURE MARKET IN MODI & CONGRESS GOVERNMENT

4.2.1 Performance of Gold Future Market – Volume Traded

The performance of gold future market is measured in terms of Volume traded in the period of both Congress and Modi Government.

Table 4.1 Gold Volume Traded in Congress Government

Congress Government					
Gold Volume					
Month	Year	Volume traded ('000s) (in grams)	Month	Year	Volume traded ('000s) (in grams)
AUG	2011	2077107	JAN	2013	902974
SEP	2011	2109999	FEB	2013	824977
OCT	2011	967808	MAR	2013	778512
NOV	2011	1123501	APR	2013	1150782
DEC	2011	1019699	MAY	2013	1199863
JAN	2012	969584	JUN	2013	1085950
FEB	2012	853450	JUL	2013	735041
MAR	2012	869808	AUG	2013	606174
APR	2012	607578	SEP	2013	501510
MAY	2012	1019039	OCT	2013	433728
JUN	2012	998315	NOV	2013	357385
JUL	2012	928965	DEC	2013	367707
AUG	2012	743139	JAN	2014	387238
SEP	2012	928681	FEB	2014	303851
OCT	2012	721539	MAR	2014	366184
NOV	2012	869663	APR	2014	269725
DEC	2012	777848			

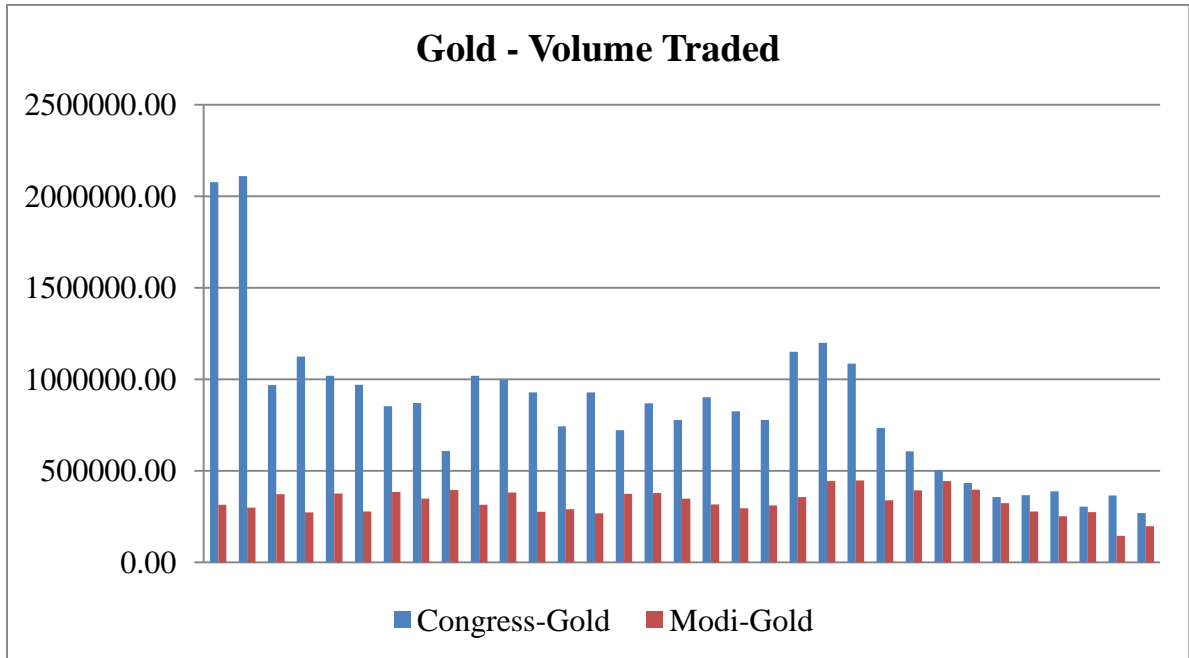
The above table shows that the gold volume traded during the period of August 2011 to April 2014. The quantity of 27857324000 grams was traded in the Congress Government.

Table 4.2 Gold Volume Traded in Modi Government

Modi Government					
Gold Volume('000s)(in grams)					
Month	Year	Volume traded	Month	Year	Volume traded
MAY	2014	314087	OCT	2015	315916
JUN	2014	299118	NOV	2015	295996
JUL	2014	371625	DEC	2015	310663
AUG	2014	272943	JAN	2016	356837
SEP	2014	375289	FEB	2016	443442
OCT	2014	277981	MAR	2016	447362
NOV	2014	385128	APR	2016	339725
DEC	2014	348465	MAY	2016	392985
JAN	2015	395562	JUN	2016	443542
FEB	2015	315201	JUL	2016	396612
MAR	2015	381098	AUG	2016	323643
APR	2015	275439	SEP	2016	278242
MAY	2015	290075	OCT	2016	251972
JUN	2015	266567	NOV	2016	273974
JUL	2015	374701	DEC	2016	145236
AUG	2015	378943	JAN	2017	143493
SEP	2015	347014			

The above table shows that the gold volume traded during the period of May 2014 to January 2017. The quantity of 10882519000 grams was traded in Modi Government.

Chart 4.1 Gold-Volume Traded



The above chart shows that the volume traded for gold during the period of both Congress and Modi Government.

In the period of Modi Government, the quantity of 10882519000 grams was traded. In Congress Government, the quantity of 27857324000 grams was traded. From the chart, it is clearly understood that the Congress has better performance in gold future market in terms of volume traded than Modi Government.

4.2.2 Performance of Gold Future Market – Value Traded

The performance of gold future market is measured in terms of Value traded in the period of both Congress and Modi Government.

Table 4.3 Gold Value Traded in Congress Government

Congress Government					
Gold Value (in lakhs)					
Month	Year	Value	Month	Year	Value
AUG	2011	54562763.91	JAN	2013	27770797.20
SEP	2011	57964937.99	FEB	2013	24919062.72
OCT	2011	25881967.76	MAR	2013	23043838.33
NOV	2011	32088136.12	APR	2013	31588018.27
DEC	2011	28743566.42	MAY	2013	31858179.37
JAN	2012	26850228.67	JUN	2013	29393079.28
FEB	2012	24201766.37	JUL	2013	19768104.96
MAR	2012	24320738.05	AUG	2013	18419355.87
APR	2012	17390293.04	SEP	2013	15445775.58
MAY	2012	29372176.88	OCT	2013	12834053.96
JUN	2012	29861658.71	NOV	2013	10721732.75
JUL	2012	27455529.44	DEC	2013	10623616.32
AUG	2012	22566644.55	JAN	2014	11266942.87
SEP	2012	29445023.93	FEB	2014	8958410.47
OCT	2012	22518400.60	MAR	2014	10864835.86
NOV	2012	27475188.58	APR	2014	7691112.48
DEC	2012	24214793.74			

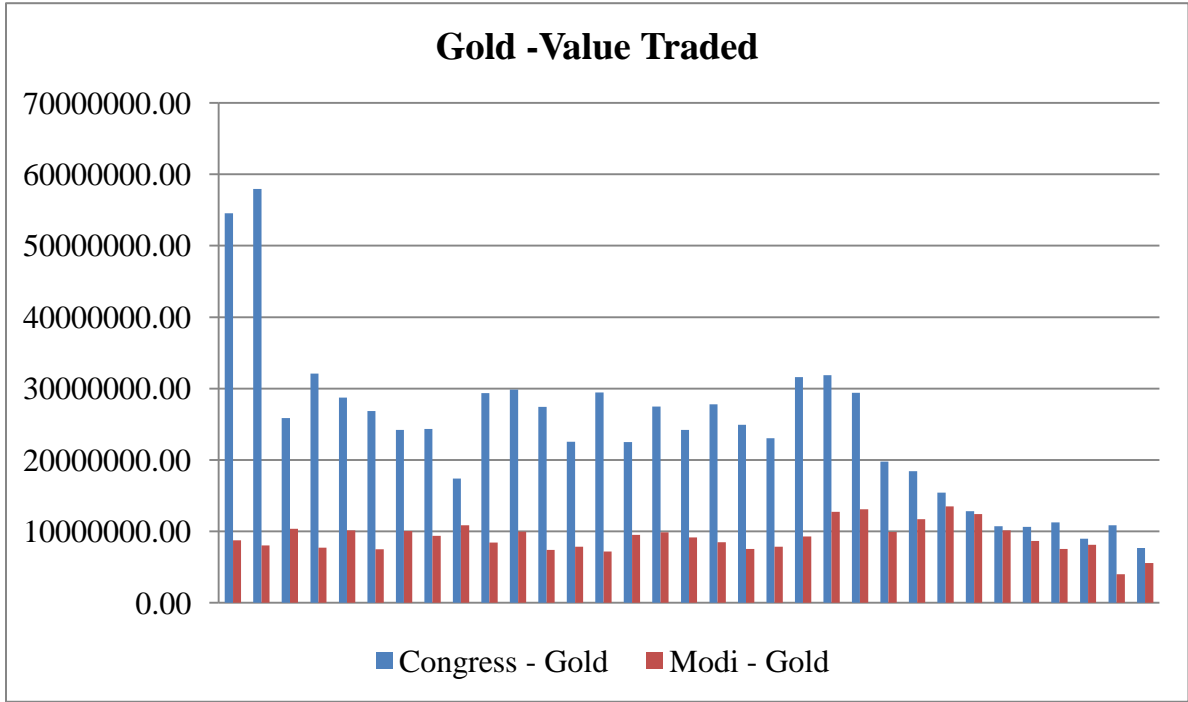
The above table shows the total value of gold traded for the period of Congress Government from August 2011 to April 2014. The value of 800080731.05 lakhs was traded in Congress Government.

Table 4.4 Gold Value Traded in Modi Government

Modi Government					
Gold Value in lakhs					
Month	Year	Value	Month	Year	Value
MAY	2014	8735641.18	OCT	2015	8469179.77
JUN	2014	8020296.29	NOV	2015	7548431.18
JUL	2014	10356115.44	DEC	2015	7854824.00
AUG	2014	7717366.86	JAN	2016	9292778.70
SEP	2014	10140084.89	FEB	2016	12746101.22
OCT	2014	7506123.81	MAR	2016	13095677.03
NOV	2014	10053571.48	APR	2016	9909018.21
DEC	2014	9356017.22	MAY	2016	11683003.01
JAN	2015	10846907.32	JUN	2016	13503051.40
FEB	2015	8414732.50	JUL	2016	12413030.61
MAR	2015	9967724.62	AUG	2016	10139753.92
APR	2015	7381059.32	SEP	2016	8648578.82
MAY	2015	7863679.43	OCT	2016	7535387.65
JUN	2015	7157998.81	NOV	2016	8126262.45
JUL	2015	9494956.81	DEC	2016	3991038.76
AUG	2015	9880285.99	JAN	2017	4057637.67
SEP	2015	9160210.27			

The above table shows the total value of gold traded for the period of Modi Government from May 2014 to January 2017. The value of 302594250.6 lakhs was traded in Modi Government.

Chart 4.2 Gold- Value Traded



The above chart shows that the value of gold traded during the period of both Congress and Modi Government.

In the period of Modi Government, the value of 302594250.6 lakhs was traded. In Congress Government, the value of 800080731.05 lakhs was traded. From the chart, it is clearly understood that the performance of gold future market in terms of value is better in Congress Government than in Modi Government.

4.2.3 Performance of Gold Future Market – Contracts Traded

The performance of gold future market is measured in terms of number of contracts traded in the period of both Congress and Modi Government.

Table 4.5 Gold Contracts Traded in Congress Government

Congress Government					
Gold Contracts Traded (in lots)					
Month	Year	Contracts Traded	Month	Year	Contracts Traded
AUG	2011	2077107	JAN	2013	902974
SEP	2011	2109999	FEB	2013	824977
OCT	2011	967808	MAR	2013	778512
NOV	2011	1123501	APR	2013	1150782
DEC	2011	1019699	MAY	2013	1199863
JAN	2012	969584	JUN	2013	1085950
FEB	2012	853450	JUL	2013	735041
MAR	2012	869808	AUG	2013	606174
APR	2012	607578	SEP	2013	501510
MAY	2012	1019039	OCT	2013	433728
JUN	2012	998315	NOV	2013	357385
JUL	2012	928965	DEC	2013	367707
AUG	2012	743139	JAN	2014	387238
SEP	2012	928681	FEB	2014	303851
OCT	2012	721539	MAR	2014	366184
NOV	2012	869663	APR	2014	269725
DEC	2012	777848			

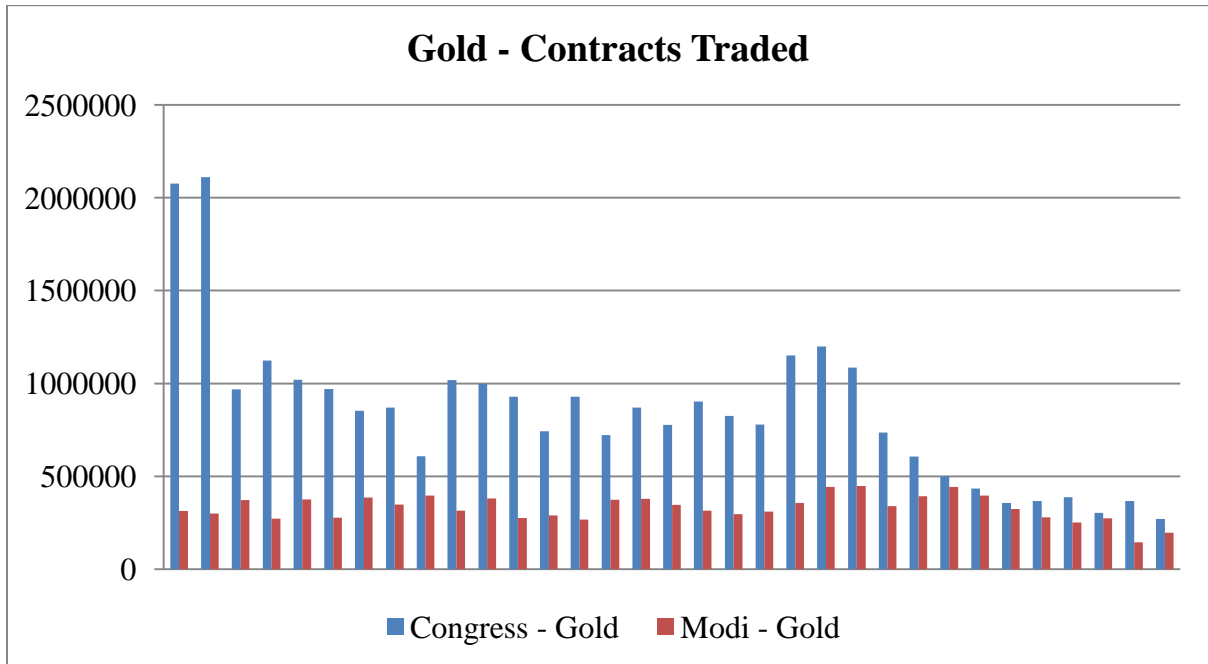
The above table shows the gold contracts traded for the period of Congress Government from August 2011 to April 2014. The number of contracts traded in the Congress Government was 27857324.

Table 4.6 Gold Contracts Traded in Modi Government

Modi Government					
Gold - Traded Contracts (in lots)					
Month	Year	Contract Traded	Month	Year	Contract Traded
MAY	2014	314087	OCT	2015	315916
JUN	2014	299118	NOV	2015	295996
JUL	2014	371625	DEC	2015	310663
AUG	2014	272943	JAN	2016	356837
SEP	2014	375289	FEB	2016	443442
OCT	2014	277981	MAR	2016	447362
NOV	2014	385128	APR	2016	339725
DEC	2014	348465	MAY	2016	392985
JAN	2015	395562	JUN	2016	443542
FEB	2015	315201	JUL	2016	396612
MAR	2015	381098	AUG	2016	323643
APR	2015	275439	SEP	2016	278242
MAY	2015	290075	OCT	2016	251972
JUN	2015	266567	NOV	2016	273974
JUL	2015	374701	DEC	2016	145236
AUG	2015	378943	JAN	2017	143493
SEP	2015	347014			

The above table shows the Gold contracts traded for the period of Modi Government from May 2014 to January 2017. The number of contracts traded in Modi Government was 10882519.

Chart 4.3 Gold- Contracts Traded



The above chart shows that the number of contracts traded for gold in the period of both Congress and Modi Government.

In the period of Modi Government, the number of contracts traded was 10882519. In Congress Government, the number of contracts traded was 27857324. From the chart, it is clearly understood that the performance of gold future market in terms of contracts traded is better in Congress Government than in Modi Government.

4.3 COMPARATIVE ANALYSIS ON PERFORMANCE OF SILVER FUTURE MARKET IN MODI & CONGRESS GOVERNMENT

4.3.1 Performance of Silver Future Market – Volume Traded

The performance of silver future market is measured in terms of volume traded in the period of both Congress and Modi Government.

Table 4.7 Silver Volume Traded in Congress Government

Congress Government					
Silver Volume ('000s)					
Month	Year	Volume traded	Month	Year	Volume traded
AUG	2011	73921.65	JAN	2013	43059.03
SEP	2011	58914.57	FEB	2013	43805.04
OCT	2011	47173.29	MAR	2013	35734.29
NOV	2011	50528.70	APR	2013	53425.80
DEC	2011	45329.94	MAY	2013	42083.19
JAN	2012	46365.54	JUN	2013	38411.25
FEB	2012	48549.15	JUL	2013	21072.99
MAR	2012	45133.44	AUG	2013	21160.59
APR	2012	37977.72	SEP	2013	13866.15
MAY	2012	50008.14	OCT	2013	13972.14
JUN	2012	48105.30	NOV	2013	11313.33
JUL	2012	35746.95	DEC	2013	14740.86
AUG	2012	40999.02	JAN	2014	16761.33
SEP	2012	48145.62	FEB	2014	15432.96
OCT	2012	35366.85	MAR	2014	15260.28
NOV	2012	43529.43	APR	2014	13068.33
DEC	2012	38608.71			

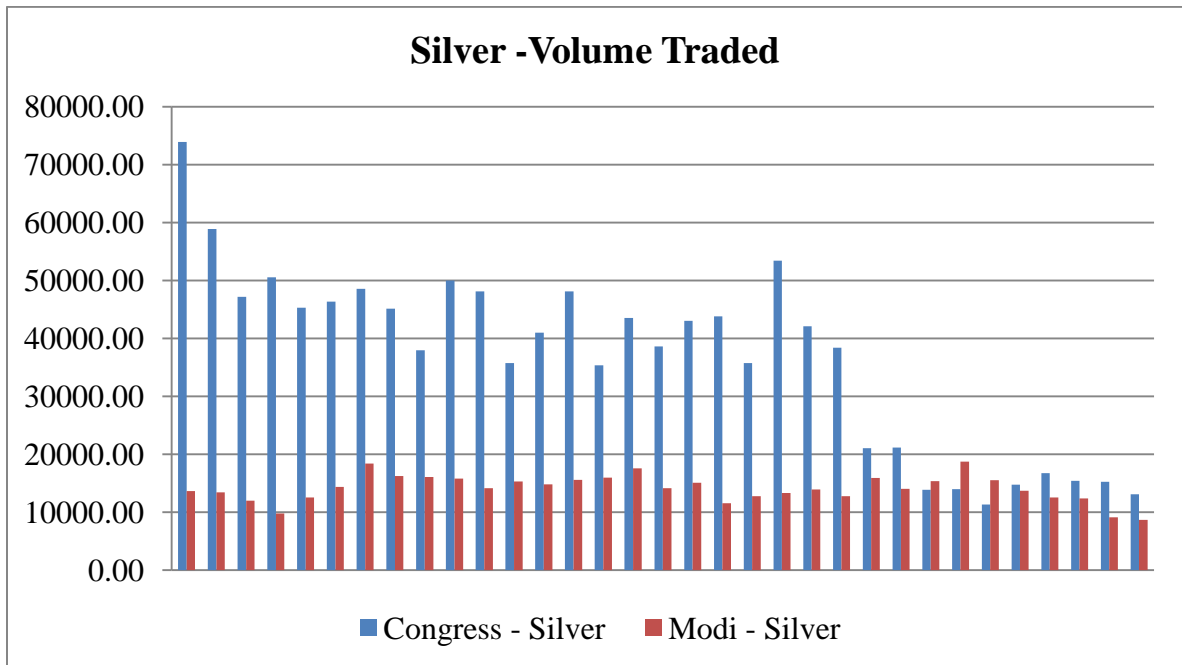
The above table shows the volume of Silver traded for the period of Congress Government from August 2011 to April 2014. The quantity of 1207572000 kilo grams was traded in Congress Government.

Table 4.8 Silver Volume Traded in Modi Government

Modi Government					
Silver Volume ('000s)					
Month	Year	Volume Traded	Month	Year	Volume Traded
MAY	2014	13623.63	OCT	2015	15054.30
JUN	2014	13436.61	NOV	2015	11568.12
JUL	2014	11963.37	DEC	2015	12733.56
AUG	2014	9753.93	JAN	2016	13298.46
SEP	2014	12516.60	FEB	2016	13898.52
OCT	2014	14338.86	MAR	2016	12755.01
NOV	2014	18395.22	APR	2016	15879.09
DEC	2014	16223.31	MAY	2016	14034.66
JAN	2015	16091.04	JUN	2016	15367.02
FEB	2015	15779.37	JUL	2016	18730.17
MAR	2015	14142.96	AUG	2016	15497.79
APR	2015	15310.26	SEP	2016	13704.63
MAY	2015	14823.96	OCT	2016	12544.83
JUN	2015	15565.29	NOV	2016	12368.28
JUL	2015	15971.82	DEC	2016	9089.16
AUG	2015	17543.43	JAN	2017	6851.97
SEP	2015	14137.35			

The above table shows the volume of Silver traded for the period of Modi Government from May 2014 to January 2017. The quantity of 464826000 kilo grams was traded in Modi Government.

Chart 4.4 Silver – Volume Traded



The above chart shows that the volume traded for silver in the period of both Congress and Modi Government.

In the period of Modi Government, the quantity of 464826 Kilo grams was traded. In Congress Government, the quantity of 1207572 kilo grams was traded. From the given chart, it is clearly understood that the Congress Government has better performance than Modi Government in terms of volume traded.

4.3.2 Performance of Silver Future Market – Value Traded

The performance of silver future market is measured in terms of Value traded in the period of both Congress and Modi Government.

Table 4.9 Silver Value in Congress Government

Congress Government					
Silver Value (in lakhs)					
Month	Year	Value	Month	Year	Value
AUG	2011	45036774.87	JAN	2013	25257777.22
SEP	2011	35756838.59	FEB	2013	24538638.63
OCT	2011	25094976.89	MAR	2013	19485183.24
NOV	2011	28396898.63	APR	2013	25198490.72
DEC	2011	24655418.96	MAY	2013	18454665.73
JAN	2012	24979148.76	JUN	2013	16236994.82
FEB	2012	28064944.39	JUL	2013	8650374.35
MAR	2012	26140430.76	AUG	2013	10314109.43
APR	2012	21356630.00	SEP	2013	7159244.41
MAY	2012	27204297.20	OCT	2013	6800343.65
JUN	2012	26022176.75	NOV	2013	5263193.65
JUL	2012	19014578.99	DEC	2013	6556813.74
AUG	2012	22819046.25	JAN	2014	7482484.28
SEP	2012	30463805.59	FEB	2014	7121113.35
OCT	2012	21562567.15	MAR	2014	6961659.19
NOV	2012	26701209.36	APR	2014	5573993.28
DEC	2012	23445662.52			

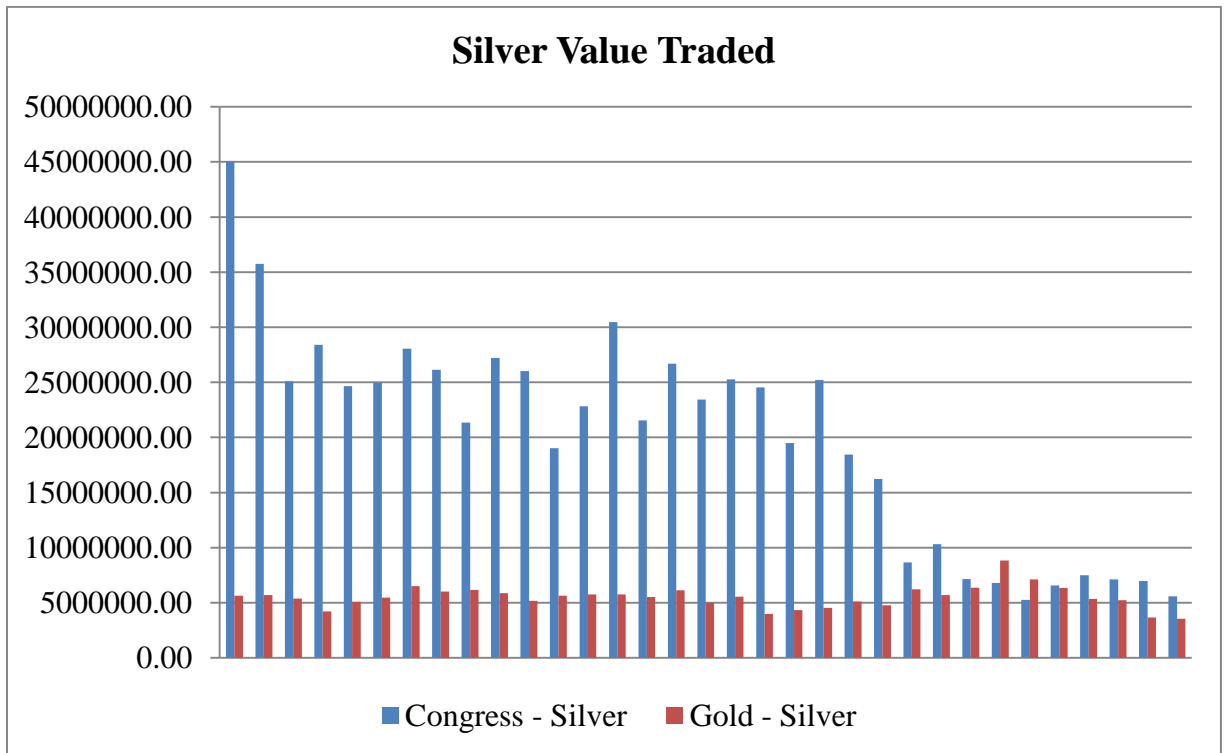
The above table shows the total value of Silver traded for the period of Congress Government from August 2011 to April 2014. The value of 657770485.4 lakhs was traded in Congress Government.

Table 4.10 Silver Value in Modi Government

Modi Government					
Silver Value (in lakhs)					
Month	Year	Value	Month	Year	Value
MAY	2014	5631999.92	OCT	2015	5553612.29
JUN	2014	5701614.43	NOV	2015	3980192.76
JUL	2014	5377238.12	DEC	2015	4333918.32
AUG	2014	4206010.50	JAN	2016	4541803.47
SEP	2014	5077664.85	FEB	2016	5109362.34
OCT	2014	5466074.85	MAR	2016	4753025.09
NOV	2014	6510720.65	APR	2016	6203325.47
DEC	2014	6016556.01	MAY	2016	5705728.69
JAN	2015	6151120.25	JUN	2016	6357908.79
FEB	2015	5873142.48	JUL	2016	8837607.29
MAR	2015	5179556.82	AUG	2016	7123357.93
APR	2015	5641868.82	SEP	2016	6328969.16
MAY	2015	5740698.72	OCT	2016	5335402.27
JUN	2015	5743309.38	NOV	2016	5221474.30
JUL	2015	5534712.07	DEC	2016	3656522.11
AUG	2015	6128370.92	JAN	2017	2800233.42
SEP	2015	5004953.76			

The above table shows the total value of Silver traded for the period of Modi Government from May 2014 to January 2017. The value of 181585955.8 lakhs was traded in Modi Government.

Chart 4.5 Silver - Value Traded



The above chart shows that the value of silver traded during the period of both Congress and Modi Government.

In the period of Modi Government, the value of 181585955.8 lakhs was traded. In Congress Government, the value of 657770485.4 lakhs was traded. From the given chart, it is clearly understood that the Congress Government has better performance than Modi Government in terms of value.

4.3.3 Performance of Silver Future Market – Contracts Traded

The performance of silver future market is measured in terms of number of contracts traded in the period of both Congress and Modi Government.

Table 4.11 Silver Contracts Traded in Congress Government

Congress Government					
Silver Contracts Traded					
Month	Year	Contracts Traded	Month	Year	Contracts Traded
AUG	2011	2464055	JAN	2013	1435301
SEP	2011	1963819	FEB	2013	1460168
OCT	2011	1572443	MAR	2013	1191143
NOV	2011	1684290	APR	2013	1780860
DEC	2011	1510998	MAY	2013	1402773
JAN	2012	1545518	JUN	2013	1280375
FEB	2012	1618305	JUL	2013	702433
MAR	2012	1504448	AUG	2013	705353
APR	2012	1265924	SEP	2013	462205
MAY	2012	1666938	OCT	2013	465738
JUN	2012	1603510	NOV	2013	377111
JUL	2012	1191565	DEC	2013	491362
AUG	2012	1366634	JAN	2014	558711
SEP	2012	1604854	FEB	2014	514432
OCT	2012	1178895	MAR	2014	508676
NOV	2012	1450981	APR	2014	435611
DEC	2012	1286957			

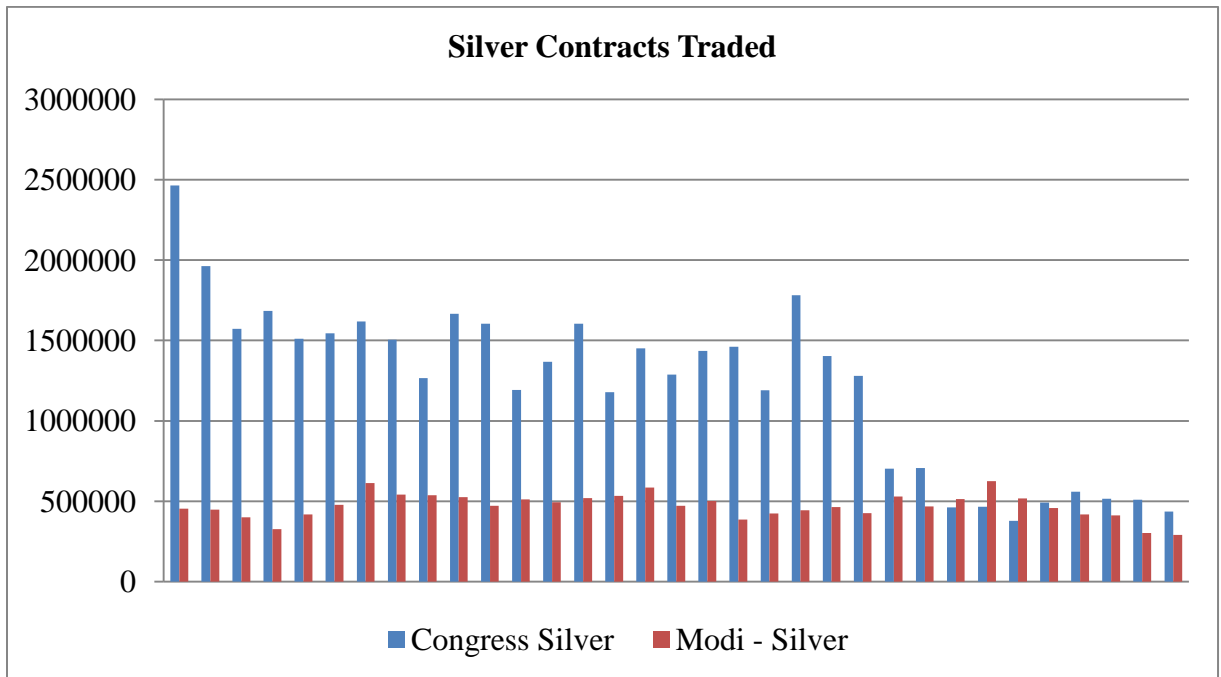
The above table shows the number of silver future contracts traded for the period of Congress Government from August 2011 to April 2014. The number of contracts traded in Congress Government was 40252386.

Table 4.12 Silver Contracts Traded in Modi Government

Modi Government					
Silver Contracts Traded					
Month	Year	Contracts Traded	Month	Year	Contracts Traded
MAY	2014	454121	OCT	2015	501810
JUN	2014	447887	NOV	2015	385604
JUL	2014	398779	DEC	2015	424452
AUG	2014	325131	JAN	2016	443282
SEP	2014	417220	FEB	2016	463284
OCT	2014	477962	MAR	2016	425167
NOV	2014	613174	APR	2016	529303
DEC	2014	540777	MAY	2016	467822
JAN	2015	536368	JUN	2016	512234
FEB	2015	525979	JUL	2016	624339
MAR	2015	471432	AUG	2016	516593
APR	2015	510342	SEP	2016	456821
MAY	2015	494132	OCT	2016	418161
JUN	2015	518843	NOV	2016	412276
JUL	2015	532394	DEC	2016	302972
AUG	2015	584781	JAN	2017	228399
SEP	2015	471245			

The above table shows Silver contracts traded for the period of Modi Government from May 2014 to January 2017. The number of contracts traded in Modi Government was 15494210.

Chart 4.6 Silver Contracts Traded



The above chart shows that the number of contracts traded for silver in the period of both Congress and Modi Government.

In the period of Modi Government, the number of contracts traded was 15494210. In Congress Government, the number of contracts traded was 40252386. From the given chart, it is clearly understood that the Congress Government has better performance than Modi Government in terms of value.

4.4 CAUSE AND EFFECT RELATIONSHIP BETWEEN SPOT & FUTURE PRICES OF GOLD AND SILVER

4.4.1 Gold – Before Modi Government

Granger Causality Test is conducted to find out the cause and effect relationship between spot and future prices of gold before Modi Government.

Table 4.13 Granger Causality Test for Gold Spot and Future Prices

Before Modi Government

Sample: 4/01/2013 4/30/2014		
Lags: 2		
Null Hypothesis:	F-Statistic	Prob.
SPOT_PRICE does not Granger Cause FUTURE_PRICE	53.3018	4.E-21
FUTURE_PRICE does not Granger Cause SPOT_PRICE	6.85996	0.0012

Since Probabilistic value is less than significance level of 5 %, both the null hypothesis is rejected. Hence, Spot price causes the future price and Future price causes the spot price of gold before Modi Government.

There is Bi-directional causality between gold spot and future price before Modi Government.

4.4.2 Gold – After Modi Government

Granger Causality Test is conducted to find out the cause and effect relationship between spot and future prices of gold after Modi Government.

**Table 4.14 Granger Causality Test for Gold Spot and Future Prices
After Modi Government**

Sample: 5/01/2014 5/31/2015		
Lags: 2		
Null Hypothesis:	F-Statistic	Prob.
SPOT_PRICE does not Granger Cause FUTURE_PRICE	10.8892	3.E-05
FUTURE_PRICE does not Granger Cause SPOT_PRICE	0.92684	0.3967

Since the significant level for the null hypothesis of spot price does not granger cause future price is less than 5%, the null hypothesis is rejected. Hence, Spot price causes the future price of gold during the period of Modi Government.

The null hypothesis of Future price does not cause spot price is not rejected since the p-value is more than the significant level of 5%. Hence, Future price does not cause Spot price during the period of Modi Government.

There is Uni-directional causality between gold spot and future price during Modi Government.

4.4.3 Silver – Before Modi Government

Granger Causality Test is conducted to find out the cause and effect relationship between spot and future prices of silver after Modi Government.

Table 4.15 Granger Causality Test for Silver Spot and Future Prices

Before Modi Government

Sample: 4/01/2013 4/30/2014		
Lags: 2		
Null Hypothesis:	F-Statistic	Prob.
FUTURE_PRICE does not Granger Cause SPOT_PRICE	1.27838	0.2810
SPOT_PRICE does not Granger Cause FUTURE_PRICE	0.77312	0.4631

Since both the null hypotheses have p-value more than the significant level of 5%, they are not rejected. Hence, Spot price does not cause future price and future price does not cause spot price.

There is No-causality between spot and future prices of silver before Modi Government.

4.4.4 Silver – After Modi Government

Granger Causality Test is conducted to find out the cause and effect relationship between spot and future prices of Silver after Modi Government.

Table 4.16 Granger Causality Test for Silver Spot and Future Prices

After Modi Government

Sample: 5/01/2014 5/31/2015		
Lags: 2		
Null Hypothesis:	F-Statistic	Prob.
SPOT_PRICE does not Granger Cause FUTURE_PRICE	1.27761	0.2816
FUTURE_PRICE does not Granger Cause SPOT_PRICE	46.7699	1.E-16

The null hypothesis of spot price does not granger cause future price is not rejected since the p-value for the hypothesis is more than the significant value of 5%. Hence, Spot price does not cause the future price.

The null hypothesis of future price does not granger cause spot price is rejected since the p-value for the hypothesis is less than the significant value of 5%. Hence, Future price causes the spot price.

There is Uni-directional causality between spot price and future prices of silver during the period of Modi Government.

SUMMARY

CHAPTER V

SUMMARY

5.1 FINDINGS

- The factors such as Global crisis, Inflation, Interest Rate, U.S.Dollar Value, Central bank instability, and Government Reserves are affecting the spot and future prices of gold.
- The factors such as Gold Prices, Inflation, Demand, Supply, US Dollar, Interest Rates, and Global Crisis are affecting the spot and future prices of silver.
- Congress Government has better performance in terms of volume traded, value traded and number of contracts traded in Gold future market than in Modi Government.
- Congress Government has better performance in terms of volume traded, value traded and number of contracts traded in Silver future market than in Modi Government.
- There is Bi-directional causality between gold spot and future prices before Modi Government.
- There is Uni-directional causality between gold spot and future prices in Modi Government. Spot prices cause the future prices whereas future prices don't.
- There is No-Causality between spot and future prices of silver before Modi Government.
- There is Uni-directional causality between spot and future prices of silver in Modi Government. Future prices cause the spot prices whereas spot prices don't.

5.2 SUGGESTIONS

- The investors should analyze the factors such as inflation, interest rate, global crisis, demand and supply when they seek to invest in gold and silver future market.
- The Modi Government should take initiatives and efforts in order to improve the performance of gold and silver future market as they have low performance compared to Congress Government.
- They should also educate the investors about the commodity future market since many of the investors lack in the knowledge of future market.
- Modi government should review CTT (0.01%) which was amended on 2013 and remove or relax the taxing burden on the market participants.
- The Modi government should clear the NSEL mess as it is essential for the investing community to get back to trading in commodity futures.
- The debate of Amendments to the FCRA has not yet translated into action, with the results that commodity trading is still a restricted sector with banks, mutual funds and foreign institutional investors out of its ambit. Hence, the Modi Government should change the debate of FCRA, under which FMC is overseeing futures trading; into action.
- The Rs 5,600 crore NSEL payments crisis eroded the trust of the investor community due to insufficient regulatory oversight. There is a pressing need for Modi Government to rebuild confidence of investors in commodities and to boost trading volumes.

5.3 CONCLUSION

Commodity derivative markets in India are emerging as a global hub. Even though Buying and selling in the futures market can seem risky and complicated, the investors who have tricky knowledge about the market will gain more returns than what they get in spot market. The investors can also look into the factors affecting the spot and future prices of gold and silver before making the investment. As a citizen of India, the individuals should invest their savings in commodity future market for economic growth.

BIBLIOGRAPHY

BIBLIOGRAPHY

BOOKS

1. Dhanesh Kumar Khatri, (2016). *Derivatives and Risk Management* – Second Edition, Prentice Hall of India, New Delhi, pp.201-221.
2. Kevin.S, (2014). *Commodity and Financial Derivatives* – Second Edition, Prentice Hall of India, New Delhi, pp.88-108.
3. Prabina Rajib, (2014). *Commodity Derivatives and Risk Management* –First Edition, Prentice Hall of India, New Delhi, pp.3-35.

JOURNALS

1. Priya Tiwari, Pooja Mundada and Sandeep Sarkale, (2015). A Study on Silver Commodity Trading Worldwide. *ASM's International E-Journal on Ongoing Research in Management and IT*, 2(4), pp. 102-111.
2. Rohit Bansal, Varsha Dadhich and Naveed Ahmad, (2014). Indian Commodity Market-A Performance Review. *International Research Journal of Marketing and Economics*, 1(5), pp. 19-34.

ARTICLES

1. Chuck Kowalski, (2016, June 25). *The importance of the commodities market*. Retrieved from <https://www.thebalance.com/commodity-exchanges-are-still-a-necessity-to-the-economy-809378>
2. Dilip Kumar Jha, (2015, December 24). *2016 to be a year of turnaround for commodity future market*. Retrieved from http://www.business-standard.com/article/markets/2016-to-be-a-year-of-turnaround-for-commodity-futures - market-115122400389_1.html
3. Keith Weiner, (2017, February 16). *Silver Futures Market Assistance – Precious Metals Supply and Demand*. Retrieved from <https://seekingalpha.com/article/4046575-silver-futures-market-assistance-precious-metals - supply-demand>
4. Ranjan Jha, (2007, August 07). *What are commodity futures markets?*. Retrieved from <http://www.rediff.com/money/2007/aug/07comm.htm>

5. Sonia Singh, (2007, July 21). *Gold Futures and Options*. Retrieved from https://www.bullionvault.com/gold-news/gold_futures_options_derivatives_market
6. *Silver Futures Trading*. (2016, June 4). Retrieved from <http://forex.info/silver-futures-trading/>