

## The Relationship between Gold & Silver Spot Market Prices in Indian Context

Dr. P Vijayaraghavan<sup>1</sup>, Mr. Muhammed Unais<sup>2</sup>

<sup>1</sup>M.Com, LLB, Phd Associate Professor M.A.M.O College, Manassery Kozhikode - 673602

<sup>2</sup>M.Com Assistant Professor Oriental School of Hotel Management Lakkidi, Wayanad Kerala - 673576

Corresponding Author: Dr. P Vijayaraghavan

---

**Abstract:** India posses the first place in consuming gold in worldwide and in case of silver consumption also the country posses a remarkable position. The demand of these two extremely valued products emphasis of the economical contribution of India towards the worldwide market. A study shows the relationship between gold and silver spot market prices in the commodity market over the last decade in India with the daily prices is having a high value in these days. The highly volatile price mechanism of both these commodities is really contributes much towards the markets in India. Usually one would not see a stable relationship between gold and silver spot prices in Indian markets, however both of the commodities have the nature of close substitutes for one another. Both being precious metals that can be used to back up the currency and both have been used as currency. There are substantial evidences that these metals can play a vital role in diversifying risk for the investors. This point out the significance for the study.

**Key words:** Gold and Silver prices, Spot market prices in India Commodity Markets, Integration test, Descriptive statistics.

---

Date of Submission: 19-12-2017

Date of acceptance: 06-01-2018

---

### I. INTRODUCTION

The commodity markets in India plays a vital role towards the economic system of India. These markets are significant just like capital markets in the country. Commodity markets are those markets for trading commodities. The position of commodity markets in worldwide itself is also renowned one with around fifty major commodity markets which facilitate investment trade around hundreds of commodities.

A commodity may be defined as an article, a product or material that has an economical value. It can be classified as every kind of movable property, except actionable claims. Money & securities. The commodities trading through the commodity exchanges are primarily classified into two types: hard commodities and soft commodities. Hard commodities are typically natural resources that must be mined or extracted such as petroleum products, Gold, Silver etc... where as soft commodities are agricultural products or livestock such as pepper, ginger, paddy etc...

The term spot market can be explained as a public financial market in which financial instruments or commodities are traded for immediate delivery. Usually Indian commodity markets are connected with futures market rather than spot market. The futures market is just opposite to the spot market. Here the delivery of commodities is done at a due date. A commodity traded on the spot market is with the expectation of actual delivery, as opposed to a commodity future that is usually not delivered. Spot market can operate wherever the infrastructure exists to conduct the transaction.

This research intends to examine the relationship between the gold and silver spot market prices in the commodity market in India. The spot market prices of gold and silver were collected from the MCX commodity exchange portal on daily basis. MCX is currently largest commodity exchange in the country in terms of trade volumes, further it has even become the third largest in bullion and second largest in silver future trading in the world. Incidentally the futures trends of these commodities are mainly driven by international futures prices rather than the changes in domestic demand – supply and hence, the price in international scenario.

These two commodities were selected for the study due to high volatility in prices of these commodities. The second reason for the study is the nature of these two products. The substitution characteristics of gold and silver are the crux of the study. The Gold and silver have been actively traded and remain important for hundreds of years in the economic history of India. Not only it is having a historical value, but also gold they are valuable commodities in view as an actual currency of the nation. Moreover gold and silver are used by the country as Federal Reserve's of the nation.

India possesses a place in between one to five for the production of most of the commodities traded through commodity markets. The consumption rate of such commodities by India is also notable one. The consumption of bullion commodities such as Gold and Silver and even energy products are extremely increasing year by year.

### **Gold & Silver Price Relationship in Indian Spot Market**

Gold is a bright, slightly reddish yellow, dense, soft, malleable, and ductile metal. Chemically, gold is a transition metal. It is one of the least reactive chemical elements and is solid under standard conditions. Gold often occurs in free elemental form, as nuggets or grains, in rocks, in veins, and in alluvial deposits. It occurs in a solid solution series with the native element silver and also naturally alloyed with copper and palladium. Gold is thought to have been produced in supernova nucleosynthesis, from the collision of neutron stars and to have been present in the dust from which the Solar System formed. Because the Earth was molten when it was formed, almost all of the gold present in the early Earth probably sank into the planetary core. Therefore, most of the gold that is in the Earth's crust and mantle is thought to have been delivered to Earth later, by asteroid impacts during the Late Heavy Bombardment, about 4 billion years ago.

Historically, the value of gold was rooted in its relative rarity, easy handling and minting, easy smelting and fabrication, resistance to corrosion and other chemical reactions and its distinctive color. As a precious metal, gold has been used for coinage, jewelry, and other arts throughout recorded history. In the past, a gold standard was often implemented as a monetary policy, but gold coins ceased to be minted as a circulating currency in the 1930s, and the world gold standard was abandoned for a fiat currency system after 1976.

A total of 186,700 tonnes of gold exists above ground, as of 2015. The world consumption of new gold produced is about 50% in jewellery, 40% in investments, and 10% in industry. Gold is basically used as a mode of investment, asset diversifier, insurance, money etc... As far as the global scenario of gold is concerned, London is the biggest clearing house and New York is the home of gold future trading. India is the world's largest market for gold jewellery and a key driver of the global gold demand. Two thirds of the Indian demand for gold comes from the rural parts of the country.

Silver is a soft, white, lustrous transition metal, it exhibits the highest electrical conductivity, thermal conductivity, and reflectivity of any metal. The metal is found in the Earth's crust in the pure, free elemental form, as an alloy with gold and other metals, and in minerals such as argentite and chlorargyrite. Most silver is produced as a by-product of copper, gold, lead, and zinc refining.

Silver has long been valued as a precious metal. Silver metal is used in many bullion coins, sometimes alongside gold: while it is more abundant than gold, it is much less abundant as a native metal. Its purity is typically measured on a per-mille basis; a 94%-pure alloy is described as "0.940 fine". As one of the seven metals of antiquity, silver has had an enduring role in most human cultures.

Silver is used in numerous applications other than as currency, such as solar panels, water filtration, jewellery, ornaments, high-value tableware and utensils (hence the term silverware), and as an investment medium. Silver is used industrially in electrical contacts and conductors, in specialized mirrors, window coatings, and in catalysis of chemical reactions. Silver compounds are used in photographic film and X-rays. Dilute silver nitrate solutions and other silver compounds are used as disinfectants and micro biocides, added to bandages and wound-dressings, catheters, and other medical instruments. Silver is predominantly traded on the London Bullion Market Association and COMEX in New York. In India average annual demand for silver is about 2500 Metric tonnes per year. Nearly 60% of Indian's silver demand comes from farmers and rural India, who stores their savings in the form of silver bangles and coins.

The figure given below shows the daily price movement of the gold price and silver price in the spot market for the last decade from the MCX spot market. The gold price is only for 10 grams and the silver price is for 1 kilogram. So there is a difference between the prices of the gold and silver. Ten years before, the prices of both commodities were less and the investment habits of the peoples were also lesser compared to the subsequent years the prices were increasing slowly and there were no sudden drops in prices to the consecutive years. It shows the investment habits of the people as it is based on the simple economic theory of demand and supply.

The silver prices for the year 2006-2010, the prices were in between ten thousand to twenty five thousand but at the end of the year 2009 there was a steep increase in the prices of silver and the highest price of silver was around seventy five thousand in the beginning of 2010. And then the prices were fluctuating till the first of 2013 on an average and thereafter the price were tumbled in the last of 2013. The silver prices for the year 2013 the prices were increasing to 1700 for ounce and there was consistency on increase in the price. In the year 2015 there was a sudden decrease in the price of silver with slight fluctuations. Whenever the prices of silver started falling during 2015, the price of gold also got reduced and reaches at the lowest point. The common substitution nature is the basic reason for such positive relationship.



**Figure 1:** Price Movement of Silver & Gold for last 5 years

The Descriptive Statistics summarize the sample as follows:-

Measures	Gold Price	Silver Price
Mean	19797	32248
Median	18837	27502
Standard Deviation	7804	13950
Skewness	0.075	0.369
Kurtosis	1.526	1.671
Observations (Approx.)	3000	3000

**Table 1:** Result of Descriptive Statistics (All figures were rounded off to next digit)

The above table shows the descriptive analysis of two commodities gold and silver traded in spot market of MCX in India. The table says that the mean and median of silver price is almost half of the silver price than gold prices which means that the central tendencies are higher in case of silver prices. The measures of variation measures the kurtosis of both the prices are around 1.5-1.75 which suggest that the distribution of the value of gold price and silver price is flat relative to the normal as the normal range of kurtosis is 2. The skewness of the data is positive during the period of study for both the gold price and silver price.

### Co- Integration Test of Johansen

Co- integration is a statistical property of time series variables. Time series often have trend either deterministic or stochastic. If two or more series are individually integrated but some linear combinations of them have a

lower order of integration, then the series are said to be co-integrated. The test can be expressed mathematically as:-

$$Y_t = \beta_0 + \beta_1 X_{1,t} + \beta_2 X_{2,t} + \dots + \beta_k X_{k,t} + \epsilon_t$$

The test result of the precondition non-stationary time series Johansen co-integration test has been carried out to determine the existence of a long run relationship between the prices gold and silver commodity traded in MCX spot market in India.

Hypothesized	Trace Statistics		Max-Eigen Statistics	
	Trace Stat.	p-value	Max Stat	p-value
None	987.7558	0.0001	517.2606	0.0001
At most 1	471.0278	0.0000	471.0278	0.0000

**Table 2:** Co- Integration Test

The result shows that gold and silver prices are evidenced of co-integrating vector's according to the trace statistics. This means that there is a positive relationship between spot market price silver towards spot market price of gold. The probability is also significant at the 1% level for both the trace test and max- Eigen test. This implies that the gold and silver spot market prices are co-integrated. Gold and Silver are important avenues of investment and very often used as a hedge against inflation in India. This study concludes that there is uni-directional relationship between the gold and silver prices. The change in the silver price affects the gold price in turn gold price changes does not affect the silver price in the long run.

### REFERENCES

- [1]. Division of Economics; "Correlation or causation investigated the relationship between the prices of two strategic commodities wiz gold and oil in USA", Le & Chang, 2011.
- [2]. Emerging Market Trends; "Investigation of the interactions between gold and silver future prices", Ciner, 2001.
- [3]. International Business Research; "Persistence or otherwise often commodity prices", Narayanan & Liu, 2011.
- [4]. Journal of Future Markets; "A short term parity between gold and silver cash prices based on rational expectation framework", Ma, 1985.
- [5]. Journal of Banking and Finance; "Analysis of relationship between oil and gold prices", Jana Simakova, 2010.
- [6]. <https://www.gold.org/data>
- [7]. <https://en.wikipedia.org/wiki/Silver>
- [8]. <https://en.wikipedia.org/wiki/Gold>
- [9]. <https://www.mcxindia.com/>

International Journal of Business and Management Invention (IJBMI) is UGC approved Journal with Sl. No. 4485, Journal no. 46889.

Dr. P Vijayaraghavan "The Relationship between Gold & Silver Spot Market Prices in Indian Context." International Journal of Business and Management Invention (IJBMI), vol. 7, no. 1, 2018, pp. 01-04.