

CRITICAL ANALYSIS OF INVESTMENT DECISION IN GOLD AND SILVER DURING THE DIWALI FESTIVAL FOR MULTI COMMODITY EXCHANGE INVESTORS

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ABSTRACT

An Empirical Analysis has been conducted to compare and contrast the returns of Gold Commodity with the silver commodity during the Diwali Festival. Gold Mini and Silver Mini have been considered as a base and data pertaining to 10 years from 2010 to 2019 have been extracted from Multi Commodity Exchange.

Statistical tools have been employed like Karl Pearson coefficient correlation, the test of significance of correlation, percentile, and trends have been utilized to evaluate the impact of the Diwali festival. The study concludes that Gold commodity and Silver commodity have a linear positive relationship corresponding with the Diwali festival. Considering returns the Gold commodity is a notch ahead and offers better returns than the silver commodities. Hence investors should capitalize on this opportunity present in Multi commodity exchange.

Keywords: Gold Commodity, Silver commodity, Multi commodity Exchange, Diwali Festival.

INTRODUCTION

India is a diversified country with many religions, like Hinduism, Islam, Christianity, and Jainism. These religions celebrate different festivals like Diwali, Eid-ul-Fitr, Christmas. In some religions like Hinduism and Jainism Gold and Silver is considered pure and it is purchased to welcome their goddess. Lakshmi is considered the goddess of wealth and she is worshipped during Diwali and Akshaya Tritiya.

These festivals have an impact on buying and selling of Gold and Silver as an investor we have to utilize these opportunities. The different avenues of investment for Investors are The Real estate, Fixed deposit, Mutual funds, Shares, Bonds, purchasing of Gold, and Silver.

Gold and silver can be purchased in different forms like Gold Jewellery, Silver Jewellery, Gold sovereign bond, Gold coins, Silver coins, Gold bars, Silver bars, Gold commodities contracts, and Silver commodities contracts.

Gold and Silver commodities can be purchased through the brokers on the Multi Commodity Exchange. The Multi Commodity Exchange is a commodity market established in the year 2003

this is regulated under the Securities Exchange Board of India.

Gold occupies the topmost traded commodity based on its turnover and silver occupies the third position in Multi Commodity Exchange. Gold Commodity is traded in different denominations like Gold Petal (1 gram), Gold guinea (8 grams), Gold mini (10 grams), Gold (1 Kilogram). Similarly, the silver commodity has been traded in different quantities like Silver Micro (1 Kilogram), Silver mini (5 Kilogram), Silver (30 kilograms).

Every broker provides leverage to the investors wherein they have to pay a marginal amount instead of the full amount to the exchange. By investing in Rs 13,000. An investor can buy either Gold mini or Silver mini as the marginal amount required to buy both are the same.

A study has been done to analyze the returns and trends of Gold and Silver commodities during the time of Diwali festival. Data pertaining to 10 years from 2010 to 2019 has been derived from Multi Commodity Exchange.

An Empirical Analysis is conducted to compare the returns of Gold Commodity and silver commodity during the Diwali Festival. Gold Mini and Silver Mini have been considered as a base and data pertaining to 10 years from 2010 to 2019 have been extracted from Multi Commodity Exchange.

Different statistical tools have been employed like Karl Pearson coefficient correlation, the test of significance of correlation, percentile, and trends to evaluate the impact of the Diwali festival. The study concludes that Gold commodity, Silver commodity have a positive relationship with the Diwali festival. Gold commodity gives better returns compared to

silver commodities. Hence investors should capitalize on this opportunity present in Multi commodity exchange.

REVIEW OF LITERATURE

1. Dr. B. A. Prajapati and Jalpaben Patel (2018) Author talks about the interdependence between Gold, Silver, Crude Oil, and Sensex. There is a positive correlation between these four factors. they also say that Gold, Silver and crude oil has an impact on Sensex. If a person wants to take the risk then a crude oil portfolio is the best and if the person wants to avoid risk than the Gold and silver portfolio is best for an investment purpose.
2. Jon Dallas, (2017) Author talks about the different ways through which new investors can invest in gold, the various channels of gold investments like Gold Exchange Traded Funds-ETFs, Physical Gold in the form of Jewellery, Bullion in the form of Bars and Gold Coins of different denominations, Gold mining stocks of companies which are involved in the mining of Gold metal, Gold Futures, and Gold Options are instruments which are traded on different commodity exchanges in the world.
3. Krishna Reddy (2009) Studied the movements in BSE Sensex in relation to FII investments and identified that FIIs are a significant factor determining the liquidity and volatility in the stock market.
4. Fazil (2012) in his study on recent volatility sessions in the Indian commodities market commented that it is the weak Indian currency which is the root cause of such volatility in the market since all commodities are US dollar-denominated. The ongoing strength in the dollar is reducing the appeal for commodities globally. The exchange rate of the currency is an

important element for commodity volatility. But Gold has outperformed in the countries where the domestic currency has remained weak as compared to the US dollar. Gold has retained its property of safe haven as in India, the Gold prices have remained stable even though the international prices have shown a steep fall.

5. Cochran, Mansur & Odusami, (2012) examined the return and volatilities of four metals namely gold, platinum, silver, and copper, During the crises of 2008. The study established a strong link between metal and equity markets. The performance and volatility in the equity market is an important determinant in the price, performance of the metals under study. Further, the impact of the crisis of September 2008 on the prices of the metals has been significant.

RESEARCH GAP

There has not been any study done to evaluate the returns and trends on Gold Commodities and Silver commodities in the context of the Diwali festival in the Multi Commodity Exchange.

RESEARCH OBJECTIVES

1. To study and Validate the influence of Diwali festival on buying Gold and silver commodities
2. To have an empirical study on trend analysis Of Gold and silver Commodities in Multi Commodity Exchange with reference to the Diwali festival.

HYPOTHESIS

H0: There is no significant relationship between Gold Prices, Silver Prices, and The Diwali festival.

H1: There is a significant relationship between Gold Prices, Silver Prices, and The Diwali festival.

SCOPE OF THE STUDY

The existence of the commodity market in India dates back to ancient times. These markets influence the dynamics of production and resource allocation in the primary sector, along with pricing system of this market. The turnover of the commodity market in our country has grown exponentially in a short span of time.

In the current market scenario of high volatile, rapidly changing market place, various avenues for investment in gold and silver are creating the bewilderment among Investors. There are various alternatives available for investment in gold and silver through options like jewellery, coins, bullions, Exchange Traded funds, mutual funds, E-gold, Gold commodities, Silver commodities, Gold Options etc. Gold and Silver are considered to be the best investment with the belief that it protects oneself during stock market declines and inflation. In fact, history is witness that the performance of gold and silver show an exponential growth in times of high inflation.

The current study titled “Critical Analysis of Investment Decision in Gold and Silver during the Diwali Festival for Multi Commodity Exchange Investors” aims at ascertaining investment decisions of MCX investors in Gold and Silver. The research focuses on analysing the price movements of Gold and Silver, investor’s perception of investments in gold and silver in current scenario, analysing the risk-return on investment in Gold and Silver particularly during Diwali festival. The scope of the study is limited to analysing data collected for the period of 2010-2019 to know the trends and to test the significance of the relationship between the investment decisions of MCX investors in Gold and Silver commodities during the Diwali festival.

RESEARCH METHODOLOGY

Data Collection

The Researcher extracted the information from Multi Commodity Exchange. This study purely focuses on the previous year's statistics of Gold commodity prices and silver commodity prices. This data is utilized to draw the relationship and trend pattern of gold commodity and silver commodity. The available data from MCX is considered for the study, so this study can be considered as exploratory research.

Sample Size

For the study pertaining to 10 years of data on Gold and Silver commodity- Mini has been considered from Multi Commodity Exchange. The data has been extracted from 2010 to 2019 during the time of Pre and post Diwali Festival.

Tools For Analysis:

The basic descriptive statistics are used in this study. The author has used the change of percentage measure, to identify the trend pattern of Gold and silver commodities. The Correlation coefficient method has been employed to check the relationship between Gold commodity prices, silver commodity prices and Diwali festival. Pre and post 30 days' time period is considered.

ANALYSIS AND INTERPRETATION

Hypothesis Testing

H0: There is no significant relationship between Gold Prices, Silver Prices, and The Diwali festival.

H1: There is a significant relationship between Gold Prices, Silver Prices, and The Diwali festival.

GOLD COMMODITY SCENARIO: - 1 BEFORE 30 DAYS OF DIWALI FESTIVAL

Table 1: Shows the returns and trends before 30 days of the Diwali Festival

| Sl.no | Year | Value Of Gold 30 Days Before | Value On Diwali | Returns | Trend Of Gold 30 Days Before Diwali | Trend Of Gold On The Day Of Diwali |
|---|------|------------------------------|-----------------|-------------|-------------------------------------|------------------------------------|
| 1 | 2019 | 37824 | 38450 | 626 | 194 | 193 |
| 2 | 2018 | 31451 | 31660 | 209 | 161 | 159 |
| 3 | 2017 | 29521 | 29600 | 79 | 151 | 149 |
| 4 | 2016 | 30814 | 30,120 | -694 | 158 | 151 |
| 5 | 2015 | 26687 | 25540 | -1147 | 137 | 128 |
| 6 | 2014 | 26700 | 27262 | 562 | 137 | 137 |
| 7 | 2013 | 30260 | 31501 | 1241 | 155 | 158 |
| 8 | 2012 | 31292 | 31826 | 534 | 161 | 160 |
| 9 | 2011 | 26620 | 27210 | 590 | 137 | 137 |
| 10 | 2010 | 19496 | 19900 | 404 | 100 | 100 |
| Source: MCX Statistics Authors Compilation | | | Total | 1778 | | |

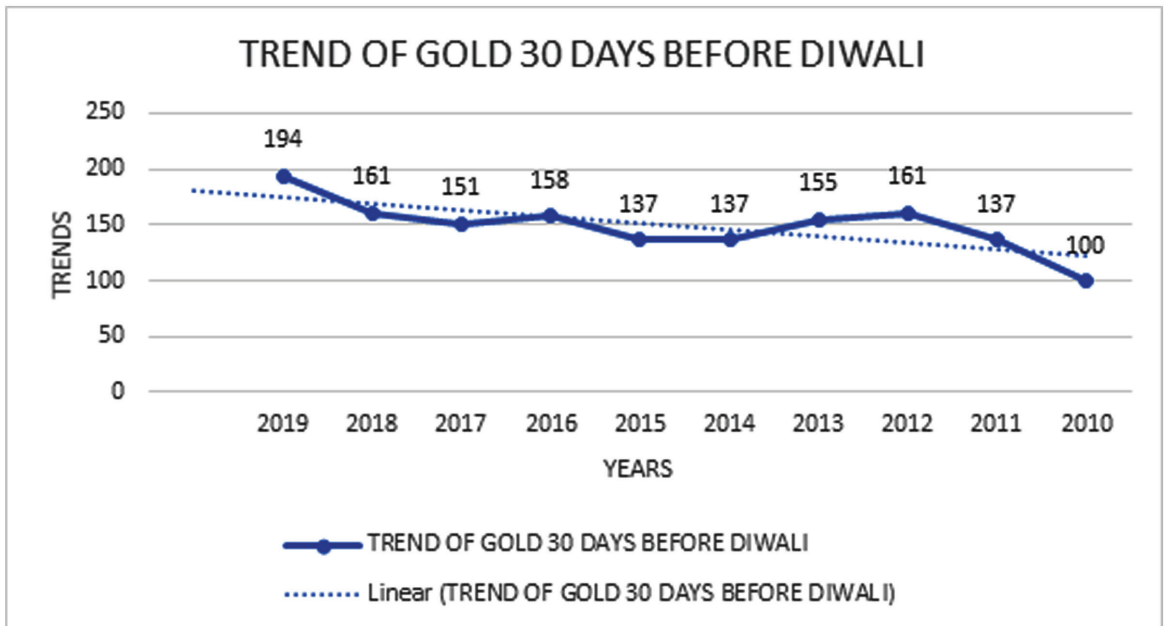


Fig 1. The below graph shows a gold trend for 10 years before 30 days of Diwali.

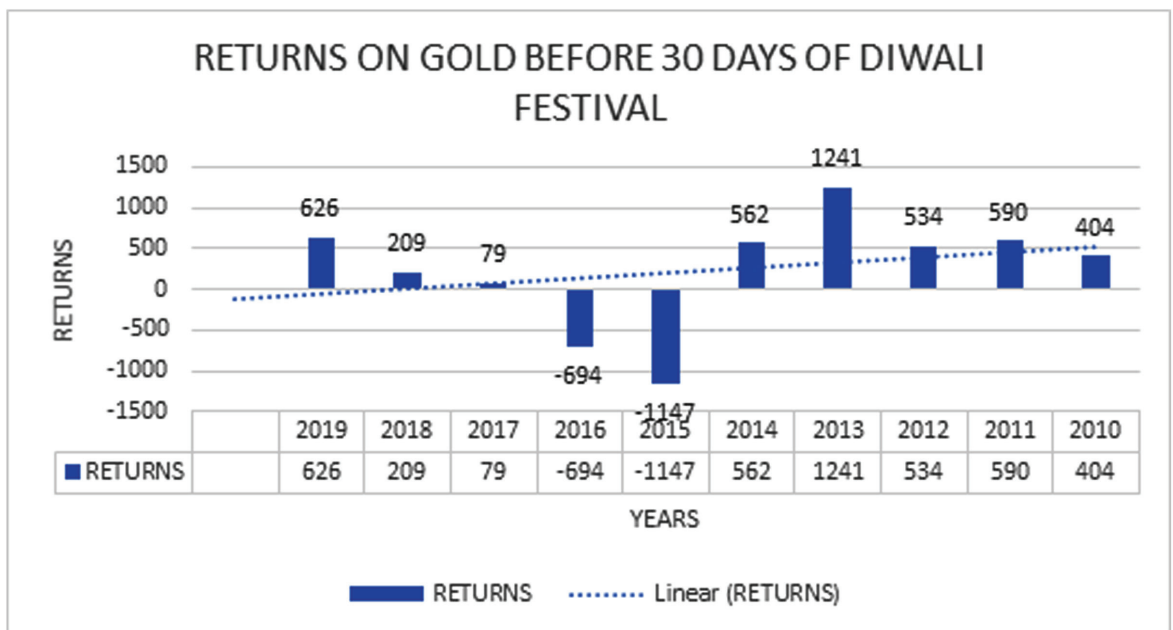


Fig 2. The below graph shows the return on a gold commodity for 10 years before 30 days of the Diwali festival.

Calculating the Correlation Coefficient using Karl Pearson Coefficient correlation

Table 2. Shows value of r and significance of r

| Years | GOLD PRICES 30 DAYS BEFORE (X) | GOLD PRICES ON DIWALI (Y) | VALUE OF ' r ' | TEST OF SIGNIFICANCE OF CORRELATION |
|--------------|--------------------------------|---------------------------|----------------|-------------------------------------|
| 2019 | 37824 | 38450 | 0.99 | 0.025 |
| 2018 | 31451 | 31660 | | |
| 2017 | 29521 | 29600 | | |
| 2016 | 30814 | 30,120 | | |
| 2015 | 26687 | 25540 | | |
| 2014 | 26700 | 27262 | | |
| 2013 | 30260 | 31501 | | |
| 2012 | 31292 | 31826 | | |
| 2011 | 26620 | 27210 | | |
| 2010 | 19496 | 19900 | | |
| Total | 290665 | 293069 | | |

Source: MCX statistics Author's Compilation

GOLD COMMODITY SCENARIO: - 2 AFTER 30 DAYS OF DIWALI FESTIVAL

Table 3: Shows the returns and trends after 30 days of the Diwali Festival.

| Sl.no | Year | Value Of Gold 30 Days After | Value On Diwali | Returns | Trend Of Gold 30 Days After Diwali | Trend Of Gold On The Day Of Diwali |
|-------|------|-----------------------------|-----------------|--------------|------------------------------------|------------------------------------|
| 1 | 2019 | 37753 | 38450 | -697 | 182 | 193 |
| 2 | 2018 | 31011 | 31660 | -649 | 150 | 159 |
| 3 | 2017 | 29462 | 29600 | -138 | 142 | 149 |
| 4 | 2016 | 28800 | 30,120 | -1320 | 139 | 151 |
| 5 | 2015 | 25300 | 25540 | -240 | 122 | 128 |
| 6 | 2014 | 26509 | 27262 | -753 | 128 | 137 |
| 7 | 2013 | 29701 | 31501 | -1800 | 143 | 158 |
| 8 | 2012 | 31125 | 31826 | -701 | 150 | 160 |
| 9 | 2011 | 28580 | 27210 | 1370 | 138 | 137 |
| 10 | 2010 | 20715 | 19900 | 815 | 100 | 100 |
| | | | Total | -3416 | | |

Source: MCX Statistics Authors Compilation

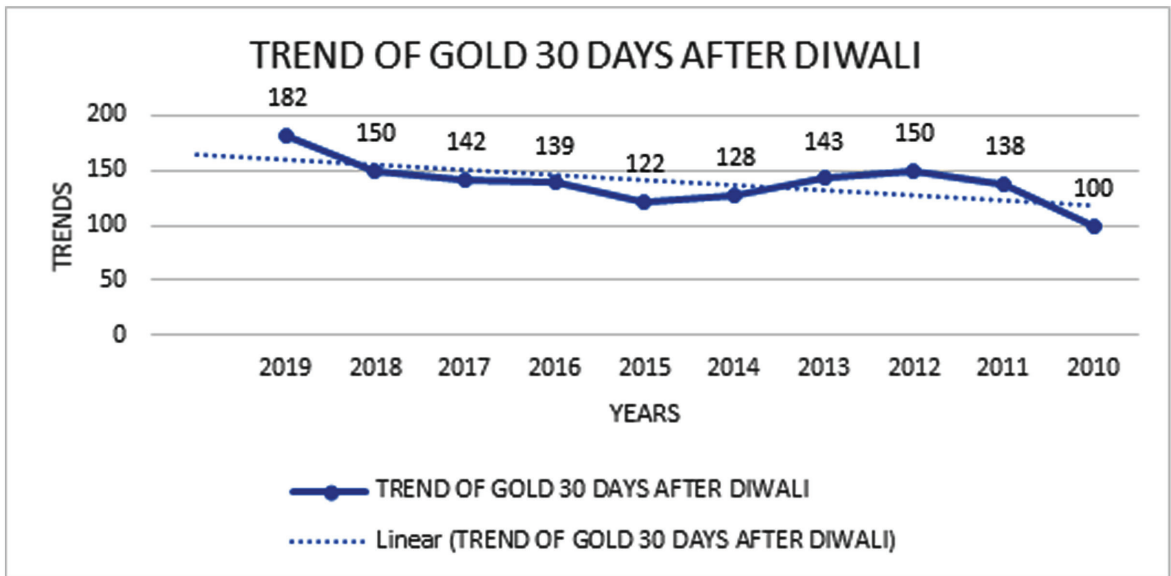


Fig 3. The below graph shows a gold trend for 10 years after 30 days of the Diwali Festival.

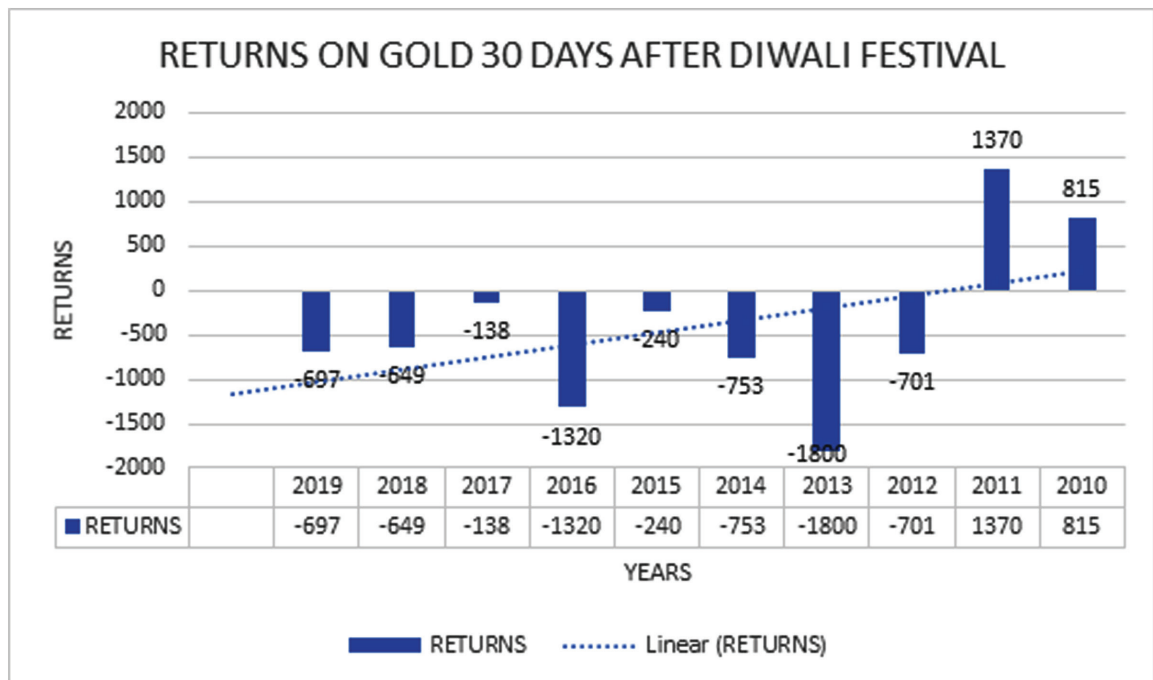


Fig 4. The below graph shows the return on a gold commodity for 10 years after 30 days of the Diwali Festival.

Calculating the Correlation Coefficient using Karl Pearson Coefficient correlation

Table 4. Shows the value of r and significance of r.

| Years | Gold Prices 30 Days After (X) | Gold Prices On Diwali (Y) | Value Of ' R ' | Test Of Significance Of Correlation |
|--------------|-------------------------------|---------------------------|----------------|-------------------------------------|
| 2019 | 37753 | 38450 | 0.98 | 0.05 |
| 2018 | 31011 | 31660 | | |
| 2017 | 29462 | 29600 | | |
| 2016 | 28800 | 30,120 | | |
| 2015 | 25300 | 25540 | | |
| 2014 | 26509 | 27262 | | |
| 2013 | 29701 | 31501 | | |
| 2012 | 31125 | 31826 | | |
| 2011 | 28580 | 27210 | | |
| 2010 | 20715 | 19900 | | |
| Total | 288956 | 293069 | | |

Source: MCX statistics Author's Compilation

From the above calculations i.e., before 30 days and after 30 days of Diwali festival it is clear that the value of r is 0.99 and 0.98 is strongly associated with the range of correlation and it is positive in nature. And the value of r is significant, that is there exists a relationship between Gold commodity and the Diwali festival. Hence, we reject the null hypothesis and accept the alternative hypothesis in this study in the case of a Gold commodity.

SILVER COMMODITY SCENARIO: - 1 BEFORE 30 DAYS OF DIWALI FESTIVAL

Table 5. Shows the returns and trends before 30 days of the Diwali Festival.

| Sl.no | Year | Value Of Silver 30 Days Before | Value on Diwali | Returns | Trend Of Silver 30 Days Before Diwali | Trend Of Silver On The Day Of Diwali |
|--|------|--------------------------------|-----------------|-------------|---------------------------------------|--------------------------------------|
| 1 | 2019 | 46322 | 46050 | -272 | 135 | 120 |
| 2 | 2018 | 39850 | 39100 | -750 | 116 | 102 |
| 3 | 2017 | 39850 | 39736 | -114 | 116 | 103 |
| 4 | 2016 | 45830 | 42445 | -3385 | 134 | 110 |
| 5 | 2015 | 37650 | 34982 | -2668 | 110 | 91 |
| 6 | 2014 | 39460 | 38144 | -1316 | 115 | 99 |
| 7 | 2013 | 49500 | 50345 | 845 | 145 | 131 |
| 8 | 2012 | 63001 | 63000 | -1 | 184 | 164 |
| 9 | 2011 | 52765 | 55150 | 2385 | 154 | 143 |
| 10 | 2010 | 34249 | 38489 | 4240 | 100 | 100 |
| Source: MCX Statistics Authors Compilation | | | Total | -764 | | |

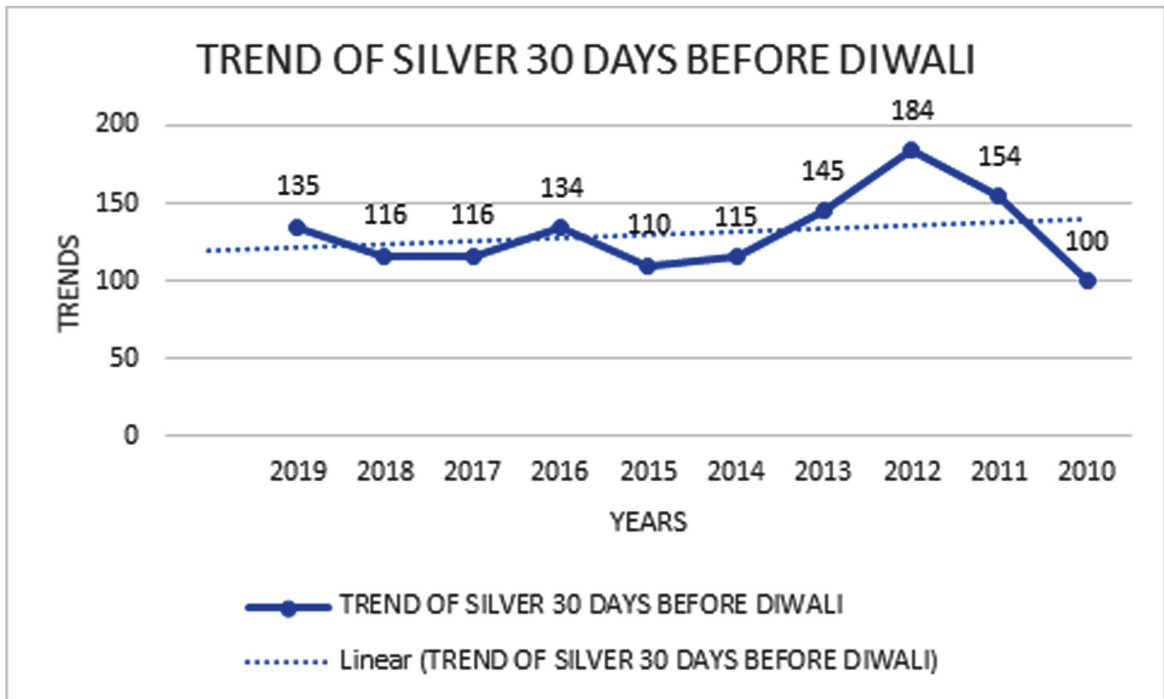


Fig 5. The below graph shows a silver trend for 10 years before 30 days of the Diwali Festival.

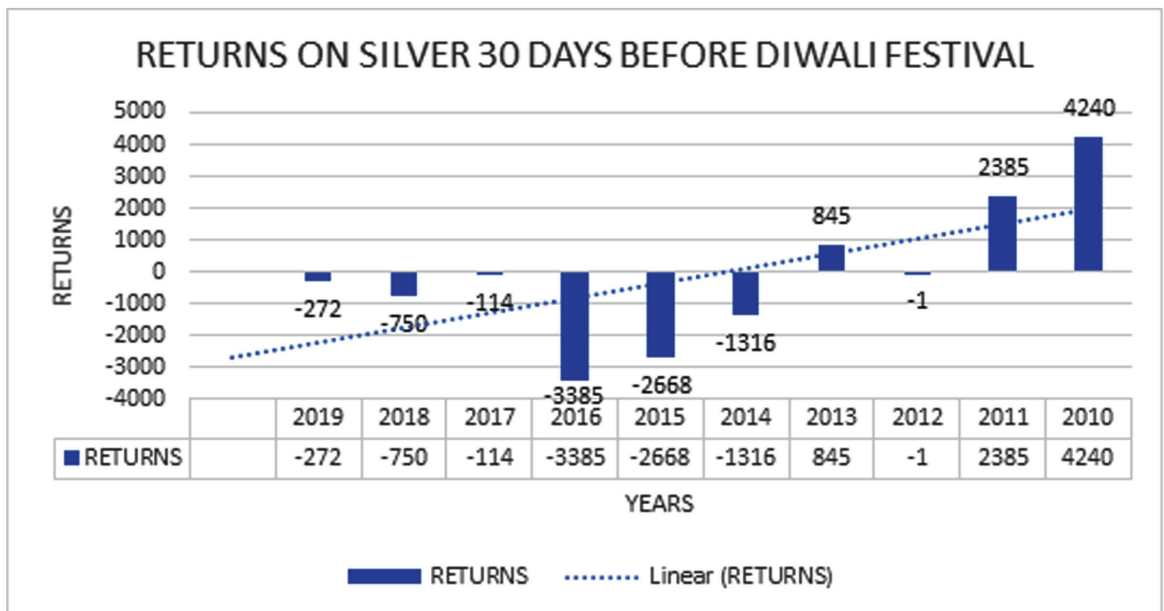


Fig 6. The below graph shows the return on a silver commodity for 10 years before 30 days of the Diwali Festival.

Calculating the Correlation Coefficient using Karl Pearson Coefficient correlation: -**Table 6. Shows the value of r and significance of r.**

| Years | Silver Prices 30 Days Before (X) | Silver Prices On Diwali (Y) | Value Of ' R ' | Test Of Significance Of Correlation |
|--------------|----------------------------------|-----------------------------|----------------|-------------------------------------|
| 2019 | 46322 | 46050 | 0.97 | 0.07 |
| 2018 | 39850 | 39100 | | |
| 2017 | 39850 | 39736 | | |
| 2016 | 45830 | 42445 | | |
| 2015 | 37650 | 34982 | | |
| 2014 | 39460 | 38144 | | |
| 2013 | 49500 | 50345 | | |
| 2012 | 63001 | 63000 | | |
| 2011 | 52765 | 55150 | | |
| 2010 | 34249 | 38489 | | |
| Total | 448477 | 447441 | | |

Source: MCX statistics Author's Compilation

SILVER COMMODITY SCENARIO: - 2
AFTER 30 DAYS OF DIWALI FESTIVAL

Table 7. Shows the returns and trends After 30 days of the Diwali Festival.

| Sl.no | Year | Value On Diwali | Value Of Silver After 30 Days | Returns | Trend Of Silver 30 Days After Diwali | Trend Of Silver On The Day Of Diwali |
|-----------|------|-----------------|-------------------------------|--------------|--------------------------------------|--------------------------------------|
| 1 | 2019 | 46050 | 44375 | -1675 | 100 | 120 |
| 2 | 2018 | 39100 | 37299 | -1801 | 84 | 102 |
| 3 | 2017 | 39736 | 39715 | -21 | 90 | 103 |
| 4 | 2016 | 42445 | 40545 | -1900 | 92 | 110 |
| 5 | 2015 | 34982 | 34250 | -732 | 77 | 91 |
| 6 | 2014 | 38144 | 35942 | -2202 | 81 | 99 |
| 7 | 2013 | 50345 | 45720 | -4625 | 103 | 131 |
| 8 | 2012 | 63000 | 63150 | 150 | 143 | 164 |
| 9 | 2011 | 55150 | 55200 | 50 | 125 | 143 |
| 10 | 2010 | 38489 | 44283 | 5794 | 100 | 100 |
| | | | Total | -5287 | | |

Source: MCX Statistics Authors Compilation

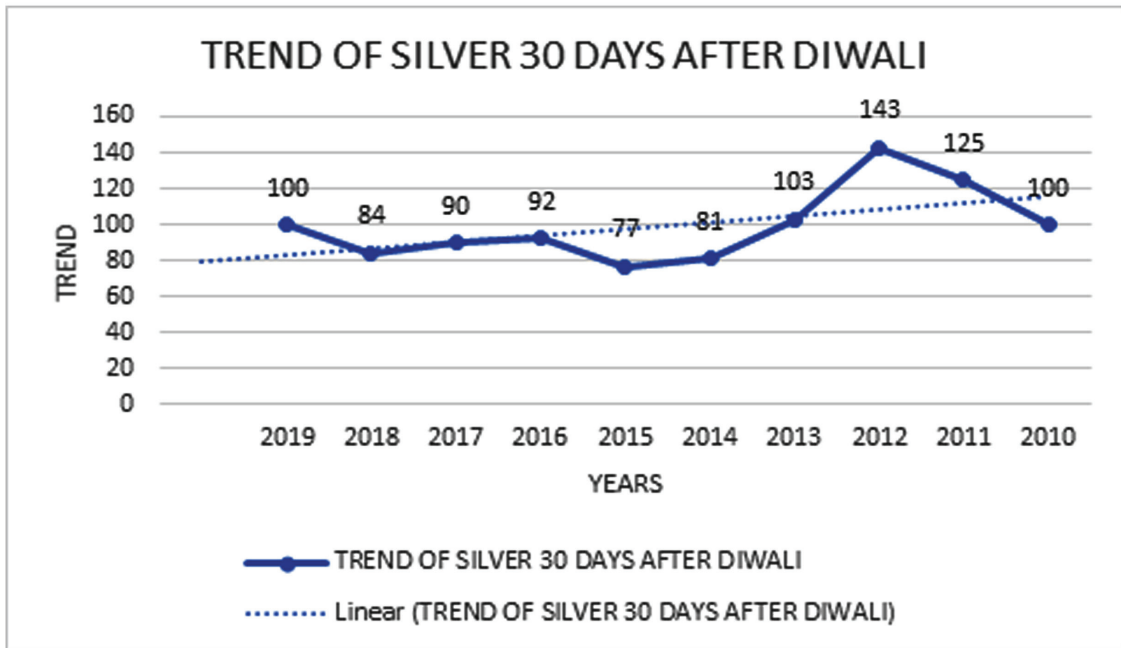


Fig 7. The below graph shows a silver trend for 10 years after 30 days of the Diwali Festival.

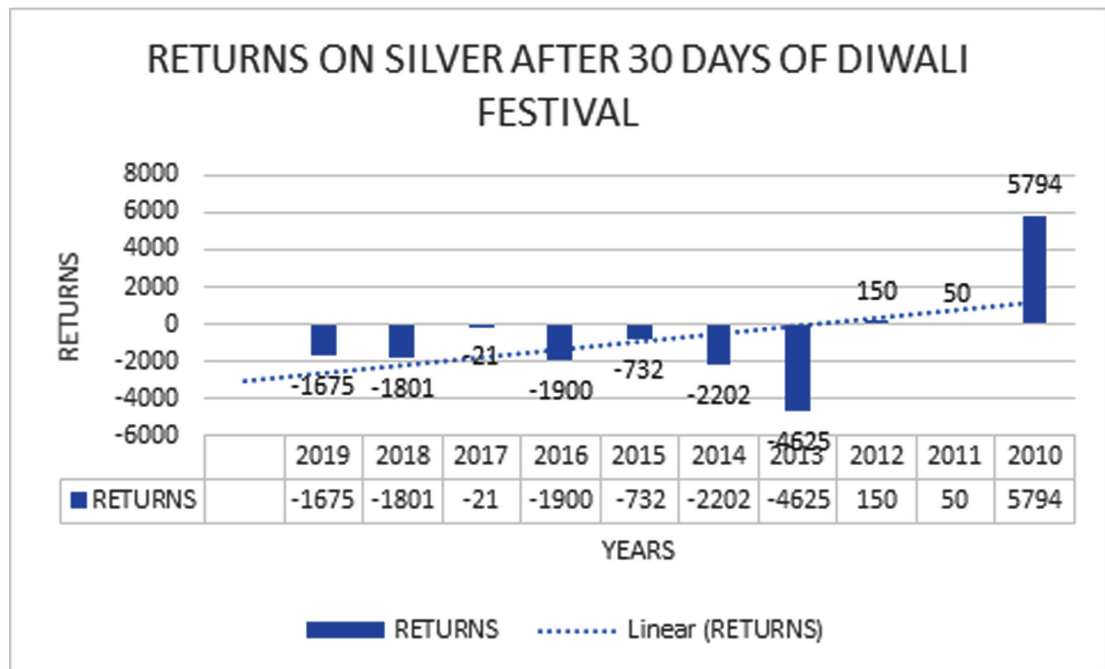


Fig 8. The below graph shows the return on a silver commodity for 10 years after 30 days of the Diwali Festival.

**Calculating the Correlation Coefficient using Karl Pearson Coefficient correlation: -
Table 8. Shows the value of r and significance of r.**

| Years | Silver Prices 30 Days After (X) | Silver Prices On Diwali (Y) | Value Of ' R ' | Test Of Significance Of Correlation |
|--------------|---------------------------------|-----------------------------|----------------|-------------------------------------|
| 2019 | 44375 | 46050 | 0.95 | 0.12 |
| 2018 | 37299 | 39100 | | |
| 2017 | 39715 | 39736 | | |
| 2016 | 40545 | 42445 | | |
| 2015 | 34250 | 34982 | | |
| 2014 | 35942 | 38144 | | |
| 2013 | 45720 | 50345 | | |
| 2012 | 63150 | 63000 | | |
| 2011 | 55200 | 55150 | | |
| 2010 | 44283 | 38489 | | |
| Total | 440479 | 447441 | | |

Source: MCX statistics Author's Compilation

From the above calculations i.e., before 30 days and after 30 days of Diwali festival it is clear that the value of r is 0.97 and 0.95 is strongly associated with the range of correlation, it is positive in nature and the value of r is significant, that is there exists a relationship between Silver Commodity and the Diwali festival. Hence, we reject the null hypothesis and accept the alternative hypothesis in this study in the case of a silver commodity.

FINDINGS

Findings for Gold Commodity

- We can observe that the Gold price trend has been in upward movements year after year.
- We also observe that Gold commodity prices have been almost doubled in a span of a decade Rs 19,496 in 2010 to Rs 37,824 in 2019. Which is a 94% increase in prices.

1.In Gold Scenario

- Investing 30 days before Diwali festival and Exit on Diwali festival day:

It is noticed that out of 10 years we see positive returns in 8 years where as negative returns in only 2 years. That implies an 80% probability that the investment will be profitable and 20% chances of loss.

- The cumulative returns for 8 years are Rs. 4,245 and negative returns of 2 years are Rs. -1841 the difference being Rs 1,778. Hence it is overall a positive return for the investors.

2. In Gold Scenario 2

- Investing on Diwali festival day and Exit after 30 days of Diwali festival:

It is perceived that in a span of 10 years we have negative returns in 8 years and positive returns in only 2 years. This indicates that there is an 80% probability that the investment will be loss and 20% chances of profit.

- The cumulative returns for 8 years stand, Rs. -6,298 and positive returns stand Rs. 2,185. However, Rs. -3,416 is overall a negative return for the investors.

Findings for the silver commodity

- The silver price trend is almost flat with a 35-degree upward movement.
- Silver commodity prices were flat with a slight rise of 35 % in a time span of a 10 years from Rs 34,249 in 2010 to Rs 46,322 in the year 2019.

1. In Silver scenario

- Investing 30 days before Diwali festival and Exit on Diwali festival day:

It is seen that in a span of 10 years we have negative returns in 7 years whereas positive returns in 3 years. This indicates a 70% probability that the investment will be loss and 30% chances of profitability.

- The cumulative return for 7 years is Rs -8,506 and 3 years are Rs 7,470. therefore, Rs. -764 overall a negative return for the investors.

2. In Silver scenario 2

- Investing on Diwali festival day and Exit after 30 days of Diwali festival:

It is observed that out of 10 years we have negative returns in 7 years and positive returns in 3 years. This implies a 70% probability that the investment will be loss and 30% chances of profit.

- The cumulative returns for 7 years are Rs. -12,956 and positive returns are Rs. 5,994. Thus, Rs. 5,287 being an overall negative return for the investors.

COMPARISION OF GOLD COMMODITY VERSES SILVER COMMODITY

| Topic | Gold commodity | Silver Commodity |
|-------------------------------|----------------|------------------|
| Prices in 2010 | 19,496 | 34,249 |
| Prices in 2019 | 37,824 | 46,322 |
| Percentage increase in prices | 94% | 35% |
| Positive results | 8 years | 3 years |
| Negative results | 2 years | 7 years |

CONCLUSION

We can conclude that Gold commodity is a better investment compared to silver commodity. Since with the same investment amount Gold commodity gives higher returns and it has doubled in the span of 10 years whereas the silver commodity has given less return of 35 % Compared to the Gold commodity which is 94%, therefore for an investor it is advisable to invest in the Gold Commodity. We also perceive that the Diwali festival has a positive relationship and impact on the prices of the Gold commodities. therefore, it is advisable for investors to purchase Gold commodities 30 days prior the Diwali festival and exit the market on the day of the Diwali festival. Hence with this, the investors can reap the benefit of the opportunity the Diwali festival offers for the Indian commodity.

LIMITATIONS OF THE STUDY

1. The Gold commodity and The Silver commodity are the two commodities considered for this study.
2. The study is limited to the Multi Commodity Exchange.
3. This study is focused on the Gold mini (i.e., 10 grams) and the silver mini (5 kgs) and no other gold and silver variant are considered.
4. The influence of external factors other than Indian festivals is assumed to be Nil on gold and silver commodity trading.
5. The various sources utilized for study, including information from commodity trackers, market watchers and economists are subject to personal bias.

SCOPE FOR FURTHER RESEARCH

Research on the Compounding and doubling effect of Gold Commodity and Silver Commodity during other festivals can be studied. by considering the various variants of Gold and Silver Commodities.

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