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IMPACT OF DIWALI FESTIVAL ON GOLD PRICES

[1]Mr. N. N. Varade and [2]Mr. R. B. Lule

[1]Assistant Professor
[2]Librarian

Abstract : A variety of factors influence the gold prices in the global economy. Gold has a popular investment option that has traditionally yielded good returns. However, gold prices have a tendency to fluctuate. As a result, investors in gold have to keep a close watch on the prices. When the economic situation is weak with most investments providing low returns, investors are likely to put their money in gold.

Keywords: Dollar strength, Diwali festival, jewelry shop

INTRODUCTION

FACTORS INFLUENCING THE GOLD PRICES:

1) Demand and supply: Gold prices are essentially determined by the demand and supply of this precious metal. The price of gold is on the rise continually due to its high demand and finite supply. Apart from an investment instrument, it is also used widely for industrial purposes due to its high resistance to corrosion and thermal conductivity. In light of the supply, persistent increase in demand causes the price to go up and vice versa.

2) Dollar strength: Another factor that influences the gold prices the world over is the strength of the US dollar. If the dollar weakens, investors around the world begin to sell the currency and buy gold for security. This causes a jump in demand and consequently, a rise in gold prices. On the other hand, when the US dollar strengthens, it causes a fall in demand for gold.

3) Central banks and mining companies: Central banks and mining companies usually hold large reserves of gold. They buy and sell this precious metal according to the movements of their currency and the overall economic scenario. Drastic changes in the price of gold are mainly due to frequent transactions by these bodies.

4) Economy: One of the most crucial factors influencing the gold prices is the state of the global economy. When the economic situation is weak with most investments providing low returns, investors are likely to put their money in gold, as it is known to perform well during crisis situations.
While these are some of the major factors that affect the price of gold, there are several others like trading and speculation, national emergency situations, increase in per capita income, government policies, etc. that play an important role in the process.

5) Diwali festival: In India has soared as people around the country prepare to celebrate the Diwali festival, which celebrated in the month of October or November. During the five-day festival, which started with Dhanteras, people purchase gold to greet Lakshmi, the goddess of wealth. They believe she will bring blessings and fortune to the entire family. According to one jewelry shop owner in Mumbai, the gold prices, this year is about 32,000 Indian rupees per 10 grams, a 15 percent increase from 27,000 Indian rupees per 10 grams a year ago. "Last year the price was less. This year it has gone much higher. It is now 32,000 (Indian rupees @10g) probably, approximately, “said a gold purchaser. “So naturally last year what we purchased, this year we cannot afford. So we have purchased something which is lighter."

According to Prithviraj Kothari, former president of the Bombay Bullion Association Ltd (BBA), festivals and weddings stimulate the demand for gold.

As per his expert opinion, following are the few reasons for the soaring price of gold:

- The depreciation of the rupee compared to last year and the duty hike in January and March
- The Indian government increased the import tariff of gold to four percent on Mar.2015 this year to cut the financial deficit. The expenditure is predicted to drop from 58 to 38 billion U.S. dollars.
- U.S. President Barrack Obama would probably continue quantitative easing, which means gold will cost more for investors holding other currencies.
- As the price of gold is rising, diamond prices are dropping and many wealthy Indian families have started to favor the precious gem.

6) Business-Man Opinion: According to one of the manager of a jewelry shop in Mumbai:-On this day of Dhanteras, people used to buy gold and silver jewelries. But this year, compared to last year, people are coming to us to buy diamond jewelry, and now there is new trend for the teenagers, they love to wear diamond jewelry which has been crafted with small delicate designs and everything,"
According to BBA President Mohit Kamboj:- The import volume of gold dropped from 967 tons last year to 550 tons this year due to inflation and high gold prices which affected customers' disposable incomes. The demand from farmers and workers in rural areas accounts for 70 percent of the entire Indian gold market. "In rural parts, there's a thing that gold is the best investment, because they don't believe in commodities, stocks and properties. They believe all in gold, which you can get cashed anytime in 24 hours, seven days a week," said BBA president Mohit Kamboj. However, crop failures this year caused by the drought during the country's rainy season has affected many farmers to buy gold. It is assumed that Diwali Festival celebrated in the month of October.

IMPORTANCE OF THE STUDY:

- To understand the risk and return characteristics in the Diwali festival.
- To identify the reasons due to which Gold prices tends to be incline/decline in the Diwali festival.

OBJECTIVE OF THE STUDY:

- To find out the Diwali festival effect on the prices of gold.
- To observe the market behavior patter during the Diwali festival.

SCOPE OF THE STUDY:

- The study is relating to the prices of gold, taking into consideration the Opening price of gold every month.
- The present study is restricted for the period of five (05) years i. e. 2010-2014.
- The study does not cover the prior or after period mentioned and also the other aspects although related.

RESEARCH METHODOLOGY:

- The gold prices at the beginning of the month was of the month was arranged from January to December.
- The process was repeated for five years and the data divided into four quarters:
  Quarter 1(Qr1):-January to March. Quarter 2(Qr2):-April to June.
  Quarter 3(Qr3):-July to September. Quarter 4(Qr4):-October to December.
- The Prices was arranged in ascending order for each quarter.
- Quartile Deviation was calculated using the following formula:
  (Q3-Q1)/2, Where, Q1=(N+1)/4th Item and Q3=3(N+1)/4th Item.
- Index is divided into two equal parts, i.e. from January to June and July to December.
- Mean Deviation for each period is calculated using the formula:
  Mean Deviation = $\Sigma|(x\text{-mean})|/n$

t-distribution for each year is calculated by the formula;

(Total Mean – Quartile Mean)/Standard Deviation

Run test is applied by using the following formula:

$\mu r = (2n1n2/(n1+n2))+1$ and

$s\,r$ = square root of{ ((2n1n2(2n1n2-n1-n2)) / ((n1+n2)2(n1+n2-1))}

n = total number of runs, r = number of runs, n1 = number of +ve price changes, n2= number of −ve price changes.

HYPOTHESES

- ❖ Null Hypothesis: H0 = there is no Diwali Festival Effect on prices of gold.
- ❖ Alternative Hypothesis H1 = there is Diwali Festival Effect on gold prices.

SOURCES OF DATA

- ❖ The research is based on secondary sources of data, which is collected from BSE (Bombay Stock Exchange).
- ❖ The necessary data has been comprised, computed for completing the study work by observing research norms with the help of information made available through web.

SAMPLE DESIGN

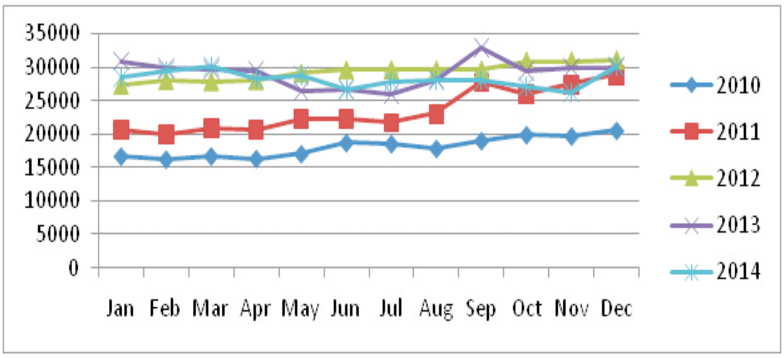
The standard gold prices from BSE have been used for calculation purpose for the study period.

Application of Research Methodology:

Table 1:Opening Index of gold price of each Month

	2010	2011	2012	2013	2014
January	16665	20688	27322	30975	28436
February	16185	19921	28068	29938	29499
March	16683	20892	27882	29723	30078
April	16280	20700	28010	29469	28190
May	16997	22244	29141	26448	28603
June	18700	22278	29615	26795	26681
July	18540	21751	29668	25995	27841
August	17821	23050	29625	28200	28063
September	18999	27815	29625	33018	27930
October	19906	25995	30975	29521	27050
November	19713	27455	30975	29899	26143
December	20553	28886	31109	30030	30030

Graph 1: Gold prices graph for the study period



DATAANALYSIS

Table 2:Dispersion Statistics for the Study Period

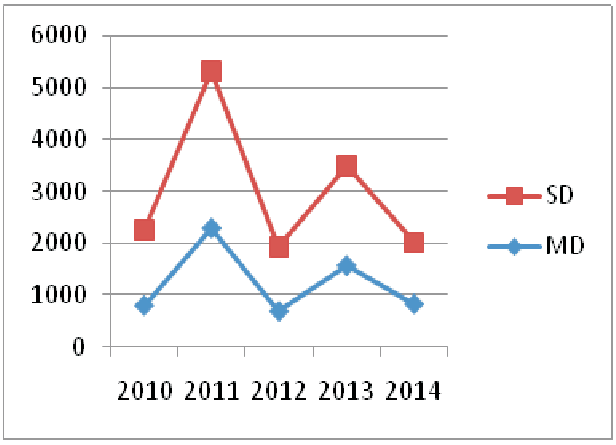
Year	Period	QD	MD	SD
2010	Qr1	249	620.11	1460.07
	Qr2	1210		
	Qr3	589	802	
	Qr4	420		
2011	Qr1	485.5	760.33	3043.8
	Qr2	789		
	Qr3	3032	2283.22	
	Qr4	1445.5		
2012	Qr1	373	692.22	1239.82
	Qr2	802.5		
	Qr3	21.5	690.17	
	Qr4	67		
2013	Qr1	626	1401.39	1926.04
	Qr2	1510.5		
	Qr3	3511.5	1564.22	
	Qr4	254.5		
2014	Qr1	821	812.17	1185.37
	Qr2	961		
	Qr3	111	831.5	
	Qr4	1943.5		

By applying the techniques of measures of dispersion the figures in the table 2 are calculated. Graph 2 indicates the graphical representation of dispersion statistics.
Quartile Deviation is calculated to know the average amount by which the quartiles will differ from the median.

Mean Deviation for the second half of each year is greater than that of the first half which indicates that the average difference between the prices and the median or mean increases. Standard Deviation is absolute measures of dispersion.

Standard Deviation indicates that there is greater amount of dispersion during this quarter. It is to be noted that the fourth quarter contains the month October. Hence to the naked eyes it looks there is significant effect of October (Diwali Festival) on the prices of gold.

Graph 2: Dispersion Graph for the study period



To ensure statistical relevance on eye verification, a Run Test was applied in order to know whether the quartile deviations as calculated were significant so that the effect of Diwali Festival (October) can be felt on the prices of gold.

Table 3 : Year wise t-significant test for mean of all quartiles

	2010	2011	2012	2013	2014
Qr1	1.0799	0.9766	1.2722	-0.5423	-0.9496
Qr2	0.5213	2.8360	0.3328	0.8291	0.3267
Qr3	-0.2510	-0.2406	-0.2458	0.0501	0.2255
Qr4	-1.3496	-1.3051	-1.3591	-0.3370	0.3973

To check the hypothesis of steady state, signals Run Test is applied, the values of the tests are given in Table 4.

Table 4: Run Test Values

n.	20
r.	10
n_1	7
n_2	12
μ_r	9.842105
σ_r	1.962718

The various values of significance of the tests are given below:

Confidence Intervals

Test at 5% level of significance (α=0.05 & Z=1.96)

Upper Limit = 13.68903, Lower Limit = 5.995178

Since, Lower Limit < r <Upper Limit, the Null Hypothesis is

Test at 10% level of significance (α=0.05 & Z=1.96)

Upper Limit = 13.08059, Lower Limit = 6.06362

Since, Lower Limit < r <Upper Limit, the Null Hypothesis is accepted

CONCLUSION

- The various deviations calculated in relation to October seem to be having a major influence on the Gold price due to its festive nature. Hence, the first hypothesis as considered has been statistically proved. (i. e. "There is no Diwali Festival Effect on Gold prices")
- The Indians utilizes their savings for festival and religious purposes rather than investing in gold.
- The "October" happens to be not the end of any Quarter which emphasizes on 'Performance' and not on the gold price market.

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