

**A STUDY OF THE DYNAMIC RELATIONSHIP BETWEEN GOLD PRICES AND EXCHANGE RATES**

**AINSLEY  
GRANVILLE ANDRE  
JORGE BERNARD**  
Assistant Professor,  
Department of Commerce  
& Management  
V.V.M's Shree Damodar  
College of Commerce and  
Economics  
Margao - Goa, India  
ainsley.innovative@rediff  
mail.com

**DR. BRAHMA EDWIN  
BARRETO**  
Associate Professor,  
Department of Commerce  
& Management  
V.V.M's Shree Damodar  
College of Commerce and  
Economics  
Margao - Goa, India  
edwin.barreto@rediffmail  
.com

**DR. RODNEY  
D'SILVA**  
Associate Professor,  
Department of Commerce  
& Management  
V.V.M's Shree Damodar  
College of Commerce and  
Economics  
Margao - Goa, India  
dsilva.rodney@gmail.co  
m

**ABSTRACT**

*India since time immemorial has been considered as a haven of gold across the globe. People consider the yellow metal as an object of luxury and a symbol of wealth. Gold plays an important role in both the investment and consumer world. Even though gold is no longer considered as a primary form of currency in most countries, it has a significant influence on the value of most currencies across the globe. There exists a close relation between the value of gold and currencies which are trading in foreign exchanges. Even though the Gold market and Foreign Exchange market provide a safe haven for investors and consumers alike, the returns and the risks from these markets are unpredictable.*

*The current research is an attempt to evaluate the movements of exchange rates and gold prices as well as understand the relationship between the two variables. The study considers data for the period January 2013 to December 2017. Karl Pearson's Correlation Analysis is used to evaluate the relationship between exchange rates and gold prices. The findings of the study may be useful to investors as well as governments in drafting economic policies.*

**Keywords:** exchange rates, gold prices, currency

**I. INTRODUCTION**

Gold is an object of luxury believed to be worthy of only gods and rulers. Gold is a symbol of wealth, supremacy, beauty and holds immense religious magnitude in Indian culture. Indians are well known for their love for gold and the demand for gold in India is one of the largest across the globe. Such high consumption implies that the price of gold is an important issue concerning the Indian economy. The association between gold prices and exchange rates are one of the most discussed relationships in financial markets globally. Since gold is superior to all other metals, both the developing and developed nations are frequently watching its price movements and its relationship with other financial variables.

With constant modifications in the currency regimes across the globe, gold is no longer considered as a primary form of currency in most countries. Yet it has a significant influence on the value of most currencies worldwide. There exists a close relation between the value of gold and currencies which are trading in foreign exchanges. Even though the Gold market and Foreign Exchange market provide a safe haven for investors and consumers alike, the returns and the risks from these markets are unpredictable.

**II. REVIEW OF LITERATURE**

Amalendu Bhunia and Sanjib Pakira (2014) made an attempt to study the affiliation between the financial variables of Gold price, Exchange rates and Sensex for the period of 1991 to 2013. Unit root test, Johansen Cointegration and Granger Causality test have been used for the purpose of analyzing the data. The findings of the study depict that Sensex is influenced by Gold price and Exchange rates in the long run. The research also illustrates that there are bidirectional causal connection present between Gold price and Exchange rates during the study period.

Rohit Singh Tomar and Harendra Singh (2016) analysed the impact of fluctuations in crude oil prices, gold prices and exchange rates on the stock market indices in the context of BRICS nations using time series data for the period of January 2003 to December 2013. Unit root test, Johansen's co-integration test and Granger Causality test were used to examine the interrelationship between these variables and find out whether price of oil, price of gold, exchange rates and stock markets are interrelated among each other. The study concluded that stock markets, commodity markets and forex markets are interrelated among each other. Results of the research also illustrate that each of the BRICS countries has four co-integration vectors, which indicate that there exist long term stable equilibrium relationship among the national stock index, crude oil prices, gold prices and exchange rates.

Girish Karunakaran Nair, Nidhi Choudhary and Harsh Purohit (2015) tried to study the impact of recession of 2008 on relationship between exchange rate of US Dollar in INR and Gold prices in India. The study used Johansen Co-integration test to check the long term association between exchange rate of US Dollar in INR and gold prices in India and further Granger Causality test was used to check the lead lag relationship between the variables. The study concluded that the relationship between gold prices and USD exchange rate have been impacted by recession in India.

### III. OBJECTIVES OF THE STUDY:

1. To study the movements in Exchange rates and Gold prices.
2. To understand the relationship between Exchange rates and Gold prices

### IV. RESEARCH METHODOLOGY

The present study makes an attempt to evaluate the movements of exchange rates and gold prices as well as understand the relationship between the two variables. The study is based entirely on secondary data for the period 1<sup>st</sup> January 2013 to 31<sup>st</sup> December 2017. Karl Pearson's Correlation Analysis is used to evaluate the relationship between exchange rates and gold prices.

### V. HYPOTHESIS

1.  $H_0$ : There exists no significant relationship between Gold prices and Exchange rates.  
 $H_1$ : There exists significant relationship between Gold prices and Exchange rates.

### VI. DATA ANALYSIS

#### DESCRIPTIVE STATISTICS

**Table 1: Descriptive Statistics**

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Exchange Rates				

<b>GBP/ USD</b>	1.48	0.14	-0.32	1.84
<b>EURO/ USD</b>	1.20	0.11	0.36	1.53
<b>JPY/USD</b>	109.07	8.77	-0.07	2.08
<b>INR/ USD</b>	63.19	3.68	-0.91	3.43
<b>Gold Prices</b>				
<b>USD</b>	1268.126	115.91	1.41	6.16
<b>GBP</b>	866.15	108.63	0.26	1.62
<b>EURO</b>	1060.4	90.28	0.15	2.18
<b>JPY</b>	137494.8	6486.09	0.28	2.76
<b>INR</b>	79879.06	5109.15	0.32	2.59

Source: Computed Values

The selected Exchange rates and Gold prices have shown positive means over the period of study. Amongst the Exchange rates, EURO/ USD has shown the minimum mean of 1.20 and JPY/ USD has shown the maximum mean of 109.07. Amongst the Gold prices, GBP showed the minimum mean of 866.15 and maximum mean of 137494.8 was displayed by JPY. The results of Standard Deviation indicate that Exchange rate volatility ranges from 0.11 to 8.77; JPY/ USD has the highest volatility of 8.77 followed by INR/ USD with 3.68. With regards to Gold prices, EURO is the least volatile (90.28) and JPY is the most volatile (6486.09) over the study period.

**KARL PEARSONS CORRELATION ANALYSIS**

**Table No 2: Correlation Analysis**

PARTICULARS		Exchange Rates			
		GBP/USD	EURO/USD	JPY/USD	INR/USD
<b>Gold prices</b>	<b>USD</b>	0.12	0.53	-0.82	-0.68
	<b>GBP</b>	-0.71	-0.21	-0.40	0.00
	<b>EURO</b>	-0.67	-0.50	-0.11	0.09
	<b>JPY</b>	-0.22	-0.23	0.16	-0.24
	<b>INR</b>	-0.38	0.06	-0.60	0.03

Source: Computed Values

Table 2 makes an attempt to understand the dynamic relationship between Gold prices and Exchange rates. There exists a negative correlation between GBP/USD and Gold prices in each currency except USD which is having a positive correlation. EURO/USD shares a positive relationship with the Gold prices in USD (0.53) and INR (0.06). There exists negative correlation between JPY/USD and Gold prices in USD (-0.82), GBP (-0.40), EURO (-0.11) and INR (-0.60). It can also be inferred that INR/USD has a positive relation with Gold prices in most of the selected currencies except USD (-0.68) and JPY (-0.24).

**VII. CONCLUSION**

India since time immemorial has been considered as a haven of gold across the globe. People consider the yellow metal as an object of luxury and a symbol of wealth. Gold plays an important role in both the investment and consumer world. There exists a close relation between the value of gold and currencies which are trading in foreign exchanges. The current

research made an attempt to analyse the dynamic relationship between gold prices and exchange rates.

The following conclusions can be drawn from the study:

- There exists a negative correlation between GBP/USD and Gold prices in each currency except USD which is having a positive correlation.
- EURO/USD shares a positive relationship with the Gold prices in USD and INR.
- There exists negative correlation between JPY/USD and Gold prices in USD, GBP, EURO and INR.
- INR/USD has a positive relation with Gold prices in most of the selected currencies except USD and JPY.

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