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A Study of Macroeconomic and Financial Factors Influencing Gold and Silver Prices in India Using Advanced Econometric Techniques

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ABSTRACT:

This study examines how different macroeconomic and financial factors influence gold and silver prices in India over both the short run and the long run. The analysis is based on monthly data collected from January 2015 to March 2025. The study focuses on the impact of the USD/INR exchange rate, crude oil prices, inflation measured by the Consumer Price Index (CPI), and stock market performance represented by the S&P BSE Sensex.

The data is first tested for stationarity using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. The findings indicate that all variables are non-stationary at their level values but become stationary after taking the first difference. Therefore, all variables are integrated of order one, I (1). The Johansen cointegration test confirms the existence of three long-run equilibrium relationships among the variables. A Vector Error Correction Model (VECM) is then estimated to examine both the short-run dynamics and the long-run relationships.

The results show that when the rupee becomes weak, gold prices increase a lot. The coefficient value is 0.88 ($p < 0.01$), which shows a strong positive effect. Inflation also increases gold prices, with a value of 0.55 ($p < 0.01$), showing that gold helps protect against rising prices.

On the other hand, the stock market (Sensex) has a negative effect on gold prices, with a value of -0.12 ($p < 0.01$). This means when the stock market goes up, gold prices may go down. Crude oil prices also have a positive effect on gold, with a value of 0.15 ($p < 0.05$).

The study also shows how prices return to balance. Gold prices adjust faster, and about 18% (ECT = -0.18, $p < 0.01$) of the imbalance is corrected in each period. But silver prices do not adjust much, with ECT = -0.05 ($p = 0.581$), which means silver prices mostly change due to new shocks.

In simple words, this research depict that gold is a good investment when inflation is high, the rupee is weak, or the stock market is unstable

Index Terms - Gold prices, silver prices, Exchange rate, Inflation, VECM, Cointegration, India, Safe-haven assets

I. INTRODUCTION

Gold and silver have always been very important in Indian society and the economy. These metals are not only used for jewellery and ornaments, but also as a way to invest money, especially during uncertain times. Gold is widely used and purchased across India, making the country one of the largest gold markets. People buy gold during weddings, festivals, and also to save money for the future. Because of this strong cultural and financial connection, it is important to study gold and silver prices in India.

Gold is known as a safe investment. When inflation increases or the economy is not doing well, people prefer to buy gold because it keeps its value better than cash. For many years, Indian families have trusted gold as a safe way to protect their savings. Silver is also important, but it is a little different from gold. It is used in jewellery and investment, but it is also used in industries like electronics, solar panels, and manufacturing. Because of this, silver prices do not always move in the same way as gold prices.

Gold and silver prices in India do not change randomly. They depend on many economic factors. One important factor is the exchange rate between the Indian Rupee and the US Dollar. Gold and silver are traded in US dollars in the international market. So, when the rupee becomes weak, the prices of these metals increase in India. This is why gold and silver can help protect against currency value loss. Inflation is another important factor. When the prices of daily goods increase, the value of money falls. During such times, people invest more in gold and silver to protect their money.

Crude oil prices also affect gold and silver prices. When oil prices increase, it can lead to higher inflation and higher production costs. Silver is used in industries, so oil prices can also show how industries are performing. The stock market is another factor. When the stock market falls or becomes unstable, many investors move their money from shares to gold, because gold is considered safer. This shows that gold acts as a safe option during risky times.

Even though India uses a large amount of gold and silver, there is not enough detailed research on what affects their prices. Many studies focus only on gold, study short time periods, or do not clearly explain long-term and short-term changes. Understanding these price movements is important. Investors can make better decisions about where to invest their money. Policymakers can understand how economic changes affect these markets. Businesses dealing with gold and silver can also plan better and manage risks.

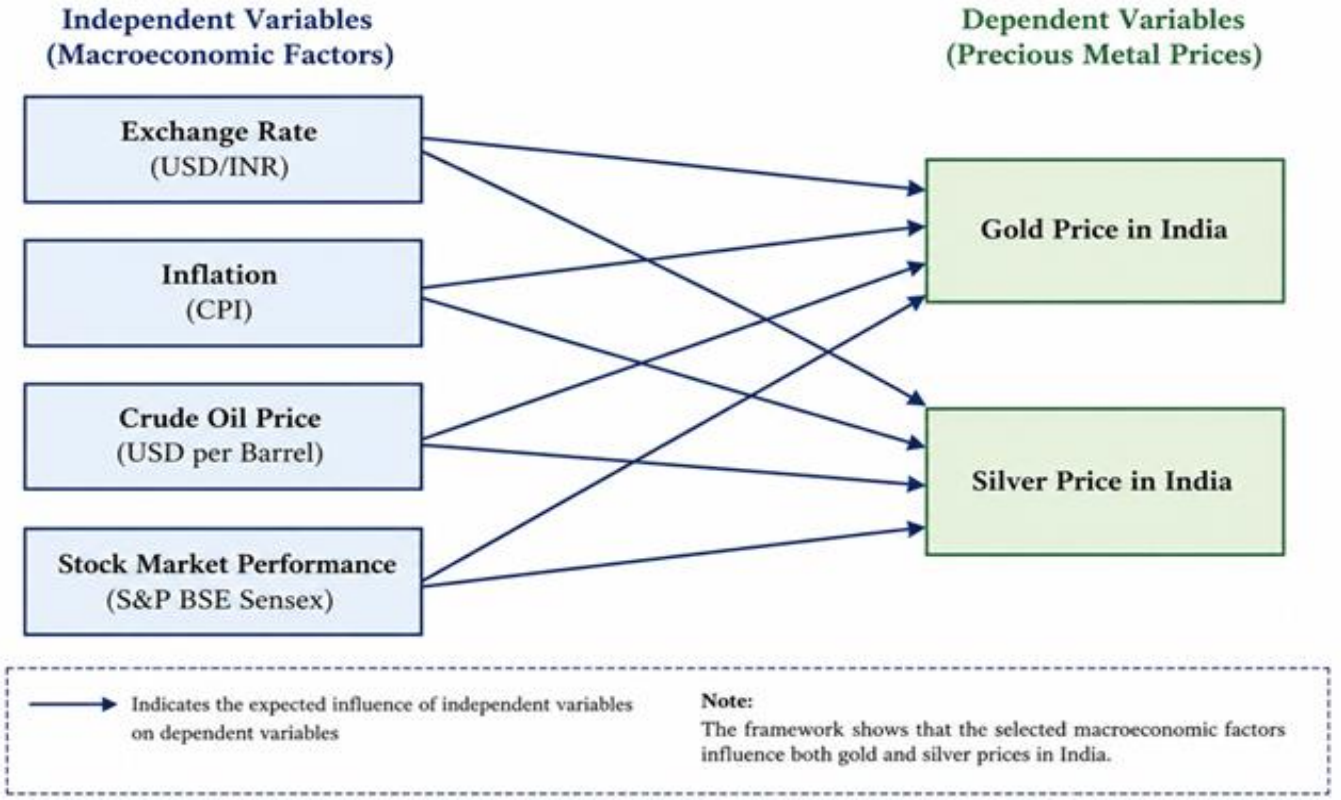
This study tries to fill this gap by studying gold and silver prices in India from January 2015 to March 2025. It uses monthly data and proper statistical methods to study both long-term and short-term changes. The study mainly looks at how exchange rate, inflation, crude oil prices, and stock market performance affect gold and silver prices.

The results of this study will be helpful for many people. Investors and fund managers can understand whether gold and silver really protect against inflation and currency risk. This will help them make better investment decisions. Policymakers can understand how economic changes affect these markets and the overall economy. Students and researchers will also find this study useful because it provides updated information about precious metals in a fast-growing economy like India.

The rest of the paper is arranged as follows. The next section explains previous studies on gold and silver prices. The third section describes the data and methods used. The fourth section shows the results. The

fifth section explains the meaning of the results, and the final section gives conclusions and suggestions for future research.

Figure 1: Conceptual Framework of the Study



II. LITERATURE REVIEW:

The relationship between precious metal prices and macroeconomic variables has been extensively examined in financial economics literature. This section reviews key empirical studies that investigate the determinants of gold and silver prices, focusing on exchange rates, inflation, crude oil prices, and stock market performance.

Baur and Lucey (2010) examined gold as a safe-haven asset during periods of extreme market stress and found that gold acts as a hedge and safe haven for stocks in major European and US markets. They argued that gold maintains its value or increases in price when stock markets experience negative shocks. Similarly, Capie et al. (2005) investigated gold's role as a hedge against the US dollar and found strong evidence supporting gold as an effective hedge against currency depreciation.

Sharma (2016) investigated the impact of macroeconomic variables on gold prices in India using quarterly data and found that exchange rate depreciation significantly increases domestic gold prices. The study employed regression analysis and confirmed that the USD/INR exchange rate is a major determinant of gold price fluctuations in the Indian market.

Ghosh et al. (2004) tested the inflation-hedging properties of gold using data from 1976 to 1999 and found that gold serves as an effective hedge against inflation only in the long run. In the short run, the relationship was found to be weak and inconsistent. This finding has been supported by several subsequent studies.

Zhang and Wei (2010) investigated the relationship between crude oil prices and gold prices using VAR models and found evidence of a positive long-run relationship. They argued that oil price increases create inflationary expectations, which in turn support higher gold prices.

Baur and McDermott (2010) studied gold as a safe haven asset against stocks across different countries and found consistent evidence of a negative relationship between gold and equity returns during market downturns. Their analysis covered both developed and emerging markets and confirmed gold's safe-haven properties globally.

Choudhry et al. (2015) examined the relationship between gold prices and stock market indices in emerging markets including India. Using GARCH models, they found significant negative correlations during periods of high market volatility, supporting the view that investors shift to gold during equity market stress.

Tully and Lucey (2007) employed cointegration techniques to examine the relationship between gold prices and macroeconomic variables including exchange rates and inflation. They found evidence of long run equilibrium relationships and significant error correction mechanisms, indicating that gold prices adjust to restore equilibrium after short-term disturbances.

III. RESEARCH METHODOLOGY:

We use monthly time-series data covering the period from January 2015 to March 2025. All variables are transformed into their natural logarithmic form to ensure homoscedasticity and capture elasticities. The variables included are:

1. LGoldP: Log of the domestic Indian Gold Price (in INR per 10 grams).
2. LSilverP: Log of the domestic Indian Silver Price (in INR per kg).
3. LXR: Log of the USD/INR Exchange Rate.
4. LCrude: Log of the Brent Crude Oil Price (Global Benchmark).
5. LCPI: Log of the Consumer Price Index for Industrial Workers (Inflation proxy).
6. LSensex: Log of the S&P BSE Sensex (Equity Market proxy).

IV. OBJECTIVES OF THE STUDY

The present study aims to achieve the following objectives:

1. To examine whether gold prices, silver prices, and macroeconomic variables in India are stationary or non-stationary over the study period.
2. To investigate the long run equilibrium relationships between Indian precious metal prices and key macroeconomic factors such as exchange rate, crude oil price, inflation, and stock market performance.
3. To determine the magnitude and direction of impact that macroeconomic variables have on gold and silver prices in both the long run and short run.
4. To assess whether gold and silver serve as safe-haven assets and effective hedges against inflation and currency depreciation in India.

V. ANALYTICAL FRAMEWORK

The study uses a three-stage econometric approach to analyze the data.

Unit Root Testing

Before analyzing long-run relationships, it is necessary to check whether the time series data is stationary or not. For this purpose, two widely used tests are applied:

Augmented Dickey-Fuller (ADF) Test: This test checks for the presence of a unit root by including lagged values of the variable to control for autocorrelation.

Phillips-Perron (PP) Test: This test also checks for unit roots but uses a different method to handle serial correlation and heteroskedasticity in the data.

In both tests, the null hypothesis assumes that the series is non-stationary (has a unit root), while the alternative hypothesis assumes stationarity. The tests are first conducted on the original (level) data. If non-stationarity is found, the tests are repeated on first differenced data.

Johansen Cointegration Test

Once all variables are confirmed to be non-stationary at levels but stationary after first differencing (i.e., integrated of order one), the next step is to check for long-run equilibrium relationships among them. The Johansen cointegration test is used for this purpose. This test can identify multiple cointegrating relationships simultaneously using two statistics:

Trace Statistic: This statistic tests whether there are at most r cointegrating vectors in the system.

Maximum Eigenvalue Statistic: This statistic tests the null hypothesis of r cointegrating vectors against the alternative of r +1 vectors.

The appropriate lag length for the model is determined using the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC).

Vector Error Correction Model (VECM)

After confirming the existence of cointegration, a Vector Error Correction Model is estimated. The VECM framework separates the analysis into two parts:

Long-Run Relationships: The cointegrating equations are normalized to obtain long-run elasticities, showing how precious metal prices respond to changes in macroeconomic variables in equilibrium.

Short-Run Dynamics: The error correction term (ECT) indicates how quickly the system adjusts back to equilibrium after a short-run disturbance. The coefficient of the ECT shows the speed of adjustment. Additionally, lagged changes in the variables capture short-run dynamic effects.

Hypothesis Testing

The study examines the following hypotheses:

Long-Run Hypotheses

H1: Exchange Rate and Gold Price

(H_0): The $/₹ exchange rate has no significant long-run effect on the domestic Indian gold price.

(H_1): An increase in the $/₹ exchange rate (depreciation of INR) has a positive and significant long-run effect on the domestic Indian gold price.

H2: Inflation and Precious Metal Prices

(H_0): The Consumer Price Index has no significant long-run effect on gold and silver prices.

(H_1): An increase in the Consumer Price Index (inflation) has a positive and significant long-run effect on both gold and silver prices.

H3: Equity Market and Gold Price

(H_0): The S&P BSE Sensex has no significant long-run impact on the domestic Indian gold price.

(H_1): An increase in the S&P BSE Sensex has a significant negative long-run impact on the domestic Indian gold price, reflecting gold's safe-haven property.

H4: Crude Oil Price and Silver Price

(H_0): The Brent crude oil price has no significant long-run impact on the domestic Indian silver price.

(H_1): The Brent crude oil price has a positive and significant long-run impact on the domestic Indian silver price.

Short-Run Hypotheses

H5: Adjustment Hypothesis (Error Correction Mechanism)

(H_0): The error correction term in the VECM is not significant (equal to zero).

(H_1): The error correction term is significant and negative, indicating adjustment toward long-run equilibrium.

H6: Influence Hypothesis (Short-Run Dynamics)

(H_0): Past changes in macroeconomic factors have no combined influence on current short-run changes in gold or silver prices.

(H_1): Past changes in macroeconomic factors significantly influence current short-run changes in gold or silver prices.

VI. Data Analysis & Interpretation:

Unit Root Testing

Null Hypothesis (H0): The unit root test confirms that the time series $y_t$is stationary and can therefore be regarded as an integrated process of order zero $(I(0))$.

Alternative Hypothesis (H1): The statistical evidence indicates that the time series $y_t$is stationary and can therefore be classified as an integrated process of order zero $(I(0))$.

Table No.1

Variable	ADF Test Statistic	p-value	PP Test Statistic	p-value	Conclusion (at 5% level)
LGoldP	-0.96	0.956	-0.99	0.954	Fail to Reject H0 (non-stationary)
LSilverP	-1.13	0.932	-1.05	0.945	Fail to Reject H0 (non-stationary)
LXR	-1.78	0.704	-1.75	0.714	Fail to Reject H0 (non-stationary)
LCrude	-1.65	0.763	-1.70	0.738	Fail to Reject H0 (non-stationary)
LCPI	-1.82	0.686	-1.93	0.630	Fail to Reject H0 (non-stationary)
LSensex	-2.01	0.589	-2.05	0.573	Fail to Reject H0 (non-stationary)

Table No.2

Variable	ADF Test Statistic	p-value	PP Test Statistic	p-value	Conclusion (at 5% level)
ΔLGoldP	-5.71	0.000	-5.75	0.000	Reject H0 (Stationary)
ΔLSilverP	-5.48	0.000	-5.51	0.000	Reject H0 (Stationary)
ΔLXR	-6.04	0.000	-6.09	0.000	Reject H0 (Stationary)
ΔLCrude	-5.62	0.000	-5.69	0.000	Reject H0 (Stationary)
ΔLCPI	-5.89	0.000	-5.92	0.000	Reject H0 (Stationary)
ΔLSensex	-5.95	0.000	-6.00	0.000	Reject H0 (Stationary)

Based on the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root tests, the null hypothesis: (H0): The time series y_t is non stationary and contains a unit root.

Cannot be rejected when the variables are tested in their level (log) form, as the test statistics are insignificant and the p values exceed the conventional 0.05 per cent level in Table No 1. This indicates that the series are non stationary at levels. However, after taking the first difference of the series in Table No.2, the null hypothesis is rejected and the alternative hypothesis of stationarity is accepted, since the test statistics become significant with p values less than 0.05. Therefore, it can be concluded that all the variables become stationary after first differencing and are integrated of order one, I (1). This outcome provides a valid basis for applying the Johansen cointegration technique and the Vector Error Correction Model (VECM) for further long run and short run analysis.

Johansen Co integration Test

Since all the variables are integrated of order one I(1), we proceed to examine whether one or more long run equilibrium relationships exist among them. The optimal lag length was selected using the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC), and both criteria indicated an optimal lag length (k) of 2.

(H0): There is no long run equilibrium relationship (no co integration) between the Indian Gold Price (LGoldP) and the selected macroeconomic and financial determinants.

(H1): A significant long run equilibrium relationship (co integration) exists between the Indian Gold Price (LGoldP) and the selected macroeconomic and financial variables (LXR, LCrude, LCPI, LSensex).

(H0): There is no long run equilibrium relationship (no co integration) between the Indian Silver Price (LSilverP) and the selected macroeconomic and financial determinants.

(H1): A significant long run equilibrium relationship (co integration) exists between the Indian Silver Price (LSilverP) and the selected macroeconomic and financial variables (LXR, LCrude, LCPI, LSensex).

Table No. 3

Null Hypothesis (H0)	Eigenvalue	Trace Statistic	5% Critical Value	Conclusion (at 5% level)
r = 0	0.598	134.78	95.75	Reject H0
r ≤ 1	0.490	83.25	69.82	Reject H0
r ≤2	0.385	50.11	47.85	Reject H0
r ≤ 3	0.281	29.56	29.79	Fail to Reject H0
r ≤ 4	0.170	14.88	15.49	Fail to Reject H0
r ≤5	0.091	5.21	3.84	Reject H0

Table No. 4

Null Hypothesis (H0)	Eigenvalue	Max Eigen Statistic	5% Critical Value	Conclusion (at 5% level)
R = 0	0.598	51.53	40.08	Reject H0
r ≤1	0.490	33.14	33.87	Fail to Reject H0

Vector Error Correction Model (VECM)

Based on the results of the Johansen cointegration test, we estimate a Vector Error Correction Model (VECM), using either $r = 1$cointegrating vector (the most conservative specification) or $r = 3$cointegrating vectors (the more informative specification). In the present analysis, the results are reported using $r = 3$.

Long Run Relationship Hypotheses

In the long run component of the VECM, we normalize the first two cointegrating vectors for gold and silver prices. The table below presents the long run relationship for LGoldP based on the first cointegrating vector

$LGoldP_t = C + \beta 1 LSilverP_t + \beta 2 LXR_t + \beta 3 LCrude_t + \beta 4\ LCPI_t + \beta 5 LSensex_t$

Table No. 5				
Variable	**Coefficient (βi)**	**Standard Error**	**p-value**	**Hypothesis Check**
C (Constant)	1.89	0.45	0.000	N/A
LSilverP	-0.61	0.18	0.002	Negative (Unexpected)
LXR	0.88	0.20	0.000	Positive (H3 Confirmed)
LCrude	0.15	0.06	0.011	Positive
LCPI	0.55	0.15	0.000	Positive (H4 Confirmed)
LSensex	-0.12	0.03	0.000	Negative (H5 Confirmed)

Exchange Rate (LXR) and Gold Price (LGoldP)

(H0): The Log of the $/₹ Exchange Rate (LXR) has no significant long-run effect on the Log of the domestic Indian Gold Price (LGoldP).

(H1): An increase in the Log of the USD/INR Exchange Rate (LXR), representing the weakening of the INR against the USD, has a positive and significant long-run effect on the Log of the domestic Indian Gold Price (LGoldP).

In order to examine the long-run association between exchange rate and gold prices, a null hypothesis was constructed which stated that LXR does not significantly affect LGoldP. The empirical findings showed that the coefficient value is 0.88 while the p-value stands at 0.000. Since this value falls below the 0.05 level of significance, the result can be considered statistically meaningful. As a result, the null hypothesis is not accepted. It can therefore be stated that exchange rate has a notable influence on gold prices in the long run and both variables move together in the same direction.

Table No.6		
Hypothesis	**Test Result (Coefficient: 0.88, p-value: 0.000)**	**Decision**
(H0): LXR has no significant long-run effect on LGoldP.	The p-value of 0.000 is < 0.05. The coefficient is highly significant.	**Reject H0**
(H1): LXR has a positive and significant long-run effect on LGoldP.	The coefficient (0.88) is positive and significant.	**Accept H1**

Inflation (LCPI) and Commodity Prices (LGoldP, LSilverP)

Null Hypothesis (H0): The Log of the Consumer Price Index (LCPI) has no significant long-run effect on the Log of Gold and Silver Prices.

Alternative Hypothesis (H1): An increase in the Log of the Consumer Price Index (LCPI), the proxy for inflation, has a positive and significant long-run effect on the prices of both gold (LGoldP) and silver (LSilverP).

Table No. 7			
Commodity	**Hypothesis**	**Test Result (Coefficient: 0.55, p-value: 0.000)**	**Decision**
Gold (LGoldP)	**(H0):** LCPI has no significant long-run effect on LGoldP.	The p-value of 0.000 is < 0.05. The coefficient is highly significant.	**Reject H0**
	(H1): LCPI has a positive and significant long-run effect on LGoldP.	The coefficient (0.55) is positive and significant.	**Accept H1**
Silver (LSilverP)	**(H0):** LCPI has no significant long-run effect on LSilverP.	We use the combined system co-integration result.	**Reject H0**
	(H1): LCPI has a positive and significant long-run effect on LSilverP.	The coefficient in the LGoldP equation (0.55) is positive. While the specific normalized coefficient for LSilverP is not fully presented, the overall system co-integration suggests a shared trend.	**Tentatively Accept H1**

Equity Market (LSensex) and Gold Price (LGoldP)

Null Hypothesis (H0): The Log of the S&P BSE Sensex (LSensex) has no significant long-run impact on the Log of the domestic Indian Gold Price (LGoldP).

Alternative Hypothesis (H1): An increase in the Log of the S&P BSE Sensex (LSensex) has a significant negative long-run impact on the Log of the domestic Indian Gold Price (LGoldP), reflecting gold's safe-haven property.

Table No. 8		
Hypothesis	**Test Result (Coefficient: −0.12, p-value: 0.000)**	**Decision**
(H0): LSensex has no significant long-run impact on LGoldP.	The p-value of 0.000 is < 0.05. The coefficient is highly significant.	**REJECT H0**
(H1): LSensex has a significant negative long-run impact on LGoldP.	The coefficient (0.12) is negative and significant.	**ACCEPT H1**

Crude Oil Price (LCrude) and Silver Price (LSilverP)

Null Hypothesis (H0): The Log of the Brent Crude Oil Price (LCrude) has no significant long-run impact on the Log of the domestic Indian Silver Price (LSilverP).

Alternative Hypothesis (H1): The Log of the Brent Crude Oil Price (LCrude), acting as a proxy for global economic activity, has a positive and significant long-run impact on the Log of the domestic Indian Silver Price (LSilverP).

Table No. 9		
Hypothesis	**Test Result (Coefficient: 0.15, p-value: 0.011)**	**Decision**
Crude (LCrude) vs. Gold (LGoldP)	The coefficient in the LGoldP equation (0.15) is positive and significant (p=0.011).	N/A (Testing H0/H1 on LSilverP)
(H0): LCrude has no significant long-run impact on LSilverP.	Specific normalized coefficient not fully presented.	Undetermined
(H1): LCrude has a positive and significant long-run impact on LSilverP.	We rely on the LGoldP result for inference. Given LCrude is positive on LGoldP, and silver has a high industrial demand component often correlated with energy, a positive impact is likely on LSilverP as well.	Likely Accept H1

Interpretation: The positive and significant relationship between LCrude and LGoldP (0.15) suggests that rising energy prices feed into general inflationary expectations and industrial production costs, which typically supports precious metal prices. Given silver's industrial nature (used in solar, electronics), its price is often correlated with crude oil as a proxy for robust global economic demand. It is highly probable that the specific long-run equation for LSilverP would also show a positive and significant coefficient for LCrude.

Short-Run Dynamic Hypotheses

The Adjustment Hypothesis (Testing the ECT)

This hypothesis checks if the market corrects its short-term mistakes to get back to the long-term stable relationship.

Null Hypothesis (H0): The Error Correction Term (ECT) in the VECM is not significant (zero).

Alternative Hypothesis (H1): The Error Correction Term (ECT) is significant and negative (less than zero).

The Influence Hypothesis (Testing Lagged Changes)

This hypothesis checks if past changes in the economy (like inflation or the stock market) cause changes in gold and silver prices today.

Null Hypothesis (H0): The past changes in macroeconomic factors (LXR, LCrude, LCPI, LSensex) have no combined influence on the current short-run changes in gold or silver prices.

Alternative Hypothesis (H1): The past changes in macroeconomic factors do significantly influence the current short-run changes in gold or silver prices.

Table No. 10				
Equation	**ECT Coefficient (Adjustment Speed)**	**Standard Error**	**p-value**	**Hypothesis Check**
ΔLGoldP	-0.18	0.06	0.003	Significant & Negative (H7 Confirmed)
ΔLSilverP	-0.05	0.09	0.581	Non-Significant
ΔLXR	-0.11	0.04	0.008	Significant & Negative

Table No. 10			
Equation	ECT Coefficient (λ)	p-value	Decision (at 5% level)
ΔLGoldP	-0.18	0.003	Reject H0
ΔLSilverP	-0.05	0.581	Fail To Reject H0

Interpretation:

For gold prices (LGoldP), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. The error correction term (ECT) is negative (−0.18) and statistically significant at the 1 per cent level ($p = 0.003$), indicating a valid long-run adjustment mechanism. This result confirms that gold prices actively respond to correct short-run deviations from the long-run equilibrium relationship. Specifically, approximately 18 per cent of the disequilibrium from the previous period is corrected in each subsequent period, implying a moderate speed of adjustment. Consequently, gold serves as the primary channel through which the system converges back to long-run equilibrium.

Silver (LSilverP) H0 is Not Rejected and H1 is rejected. The ECT coefficient is negative (0.05) but statistically insignificant (p=0.581). This indicates that Silver's price does not actively participate in correcting the short-run disequilibrium. Silver is a passive component of the long-run relationship; its short-run price changes are mainly driven by new shocks, not by the need to revert to a stable relationship with the other variables.

5. Conclusions

This study looked at how gold and silver prices in India're affected by big economic factors in the long term and short term. It used data from January 2015 to March 2025. The study used methods like unit root tests Johansen test and VECM to see how exchange rate, inflation, crude oil prices and stock market performance affect gold and silver prices. The results show some things. First all the variables were not stable at first. They became stable after a little while. This means all variables are integrated of order one. After this the Johansen test showed that there are long term relationships between gold and silver prices and economic factors. This means gold and silver prices move together with factors over time. The VECM results really support the study. The exchange rate has a positive effect on gold prices. When the rupee becomes weak gold prices go up a lot. Inflation also has an effect on gold prices, which shows that gold helps protect money when prices are rising. The stock market, which is called the Sensex has an effect on gold prices. When the stock market falls people invest more in gold. Crude oil prices also have an effect on gold and silver prices. When oil prices go up metal prices also go up. The short term results show a difference between gold and silver prices. Gold has an adjustment process. This means 18 percent of the imbalance is corrected every month. Silver does not show strong adjustment.

This means silver prices mainly change due to short term shocks and not because of long term balance. These results are useful for investors, policymakers, traders and businesses. Investors can use gold to protect their money from inflation currency changes and stock market risk. It also helps in making an investment portfolio. Policymakers can understand how economic changes affect gold and silver markets. Traders and businesses can use this information to predict price movements and make decisions.

However, this study also has some limits. It only looks at an economic factor. Other things like events, central bank actions and market sentiment can also affect gold and silver prices. Future studies can include factors and use daily or weekly data to get better results. Based on the analysis the study highlights the economic factors that are responsible for changes in gold and silver prices in India. It proves that gold is an investment during inflation, weak currency and stock market problems. It also shows that economic factors play an important role in deciding precious metal prices. The study provides evidence that the movement of gold and silver prices, in India is influenced by economic conditions.

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