

Gold Returns and Indian Stock Market Returns: An Empirical Analysis of NIFTY 50

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Abstract— Gold is widely considered an important alternative investment and is often associated with portfolio diversification, particularly during periods of uncertainty in financial markets. The relationship between gold and equities has therefore received considerable attention in financial research. In the Indian context, Mishra, Das, and Mishra (2010) examined the relationship between domestic gold prices and BSE 100 stock-market returns using monthly data from January 1991 to December 2009. Their study reported evidence of feedback causality, suggesting that gold prices and stock-market returns contained information useful for predicting each other. Building on this earlier evidence, the present study re-examines the relationship using a more recent sample and a different empirical framework. The study examines monthly gold returns and NIFTY 50 returns from January 2015 to May 2026, resulting in 136 usable monthly observations after return calculation. Gold returns are measured using Mumbai Standard Gold prices, while NIFTY 50 returns are used to represent Indian stock-market performance. India VIX is included to capture market uncertainty and USD/INR returns are included to account for exchange-rate movements.

The study employs descriptive statistics, the Augmented Dickey-Fuller test, and multiple ordinary least squares regression as the primary empirical method. Multicollinearity and heteroskedasticity are examined using the Variance Inflation Factor and Breusch-Pagan test, respectively. Since heteroskedasticity is detected, HC3 heteroskedasticity-robust standard errors are used for the final interpretation of the regression coefficients.

The results indicate that gold returns have a negative but statistically insignificant association with NIFTY 50 returns. The coefficient of Gold Return is -0.0997, with an HC3 robust p-value of 0.4491, indicating that the study does not find sufficient statistical evidence that monthly gold returns significantly explain NIFTY 50 returns during the sample period. The overall regression model is statistically significant and explains approximately 31.7% of the variation in NIFTY 50 returns. USD/INR returns show a statistically significant negative association with NIFTY 50 returns, while India VIX does not show a statistically significant association.

The findings differ from the feedback relationship reported by Mishra et al. (2010), suggesting that the gold–

stock-market relationship may not remain stable across different time periods, market conditions, indices, and empirical approaches. Overall, the present study does not provide sufficient evidence of a systematic monthly relationship between gold returns and Indian stock-market returns during the period examined.

I. INTRODUCTION

Background

Financial markets offer investors a wide range of assets to which they can allocate their funds, manage their risks, and build diversified portfolios. Among various asset classes, gold stands out as an asset with unique characteristics. On the one hand, gold is a commodity; on the other hand, it is a financial instrument. Moreover, gold is considered a safe haven for investors who want to protect their wealth during financial crises.

Therefore, the relationship between gold and the stock market is of particular interest to investors and financial market analysts. If gold and the stock market move independently, gold is a great safe haven for investors. However, the relationship between the two assets is unlikely to be stable over time. Whereas the stock market is influenced by earnings, macroeconomic forces, flows, and investor appetite for risk, gold prices are driven by geopolitical risks, inflation, foreign exchange, and supply-demand.

Indian investors seem to be particularly interested in both gold and the stock market. On the one hand, Indians have developed a passion for gold. On the other hand, Indians have embraced equity investment as a safe and reliable way to grow their wealth. Notably, the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) are home to the most liquid stock markets in the country. However, NIFTY 50 is considered the best barometer of the Indian stock market, representing the performance of the 50 largest companies in terms of market value and diversity of industries.

Therefore, it is worth exploring if and how gold prices relate to the Indian stock market. Specifically, if gold prices and stock prices are negatively correlated, it suggests that investors buy gold when the stock market falls and sell gold when the stock market rises. By contrast, the absence of a strong correlation suggests that gold can be a safe haven and hedge against stock market volatility.

Background From Previous Research

The inter-relationships between gold and stock-market performance have been explored in a number of Indian studies, with inconclusive results. Mishra, Das and Mishra (2010) which underlines the current paper, examines the link between gold price fluctuations and stock-market returns in terms of monthly data econometrics of stationarity, cointegration and causality. The authors report “feedback hypothesis” between gold prices and stock-market returns of India.

That is, the paper’s findings are consistent with bi-directional, not one-way relationship between the two assets. Some subsequent studies have found relationships of various natures, while others have not detected cointegration or causality in either direction. It is plausible that some studies failed to uncover a strong short-run connection due to the choice of an inappropriate market index, exchange rate or other variables, or different econometrical specifications. Your literature review also notes that the nature of the Indian financial market relationship “appears to be far from consistent”.

Your review highlights inconsistency of findings by Indian researchers – and that should be stressed more. After all, the relationships between financial assets are likely to be changing over time. They depend on the business cycle, economic conditions, fluctuations in exchange rates, global financial environment, investor psychology and numerous other factors. Therefore, it is entirely possible that the link between gold prices and stock-market returns observed in previous research may have changed in the more recent period.

Motivation for the Present Study

The motivation for the present study is based on the need to understand the gold-stock market nexus using more recent observations and return-based analysis. In

contrast to the gold price versus price level analysis of equity, the study employs month-return analysis because it can capture percentage changes peculiar to the two assets. The study undertakes the analysis of the stock and gold market inter-relationship using data obtained from January 2015 to May 2026, thus generating 136 total observations after the calculation process of returns.

Apart from gold returns and NIFTY 50 returns, there is the inclusion of market expectations captured by India VIX and returns from USD/INR as control factors. India VIX is useful in capturing the market volatility expectations, while the USD/INR reflects exchange rate changes that could explain the variations in the domestic market and gold. The study, therefore, seeks to establish the extent to which gold returns predict Indian stock market returns, with the control of additional market factors.

Research Problem

Prior Indian studies analyzing the relationship between gold and the stock market have yielded conflicting results. Some have identified long-run relationships or causalities, whereas others have documented only weak short-run relationships.

The divergence in findings raises the question as to whether gold continues to maintain a statistically significant relationship with the Indian stock market after controlling for uncertainty and exchange rate exposure during the period under consideration.

This paper attempts to answer this question by evaluating the relationship between monthly returns on gold and NIFTY 50 by employing multiple regression analysis.

Contribution of the Study

The study contributes to the existing literature in three main ways.

First, it provides an updated examination of the gold–stock-market relationship using data covering January 2015 to May 2026, thereby extending the time horizon beyond the earlier studies that form the foundation of the literature.

Second, instead of focusing primarily on gold and stock-price levels, the study examines monthly returns, allowing the analysis to concentrate on

changes in the two assets over time. Third, the study controls for market uncertainty through India VIX and exchange-rate movements through USD/INR returns. This allows the relationship between gold returns and NIFTY 50 returns to be examined while accounting for two factors that may influence Indian financial-market movements.

II. LITERATURE REVIEW

The relationship between a country's stock market and gold price performance has long been a topic of interest to investors, as both represent important asset classes that may nevertheless behave differently under similar market conditions. Studies seeking to understand the link between the two asset classes primarily focused on establishing whether gold offered diversification benefits, whether changes in one market were associated with changes in the other, and whether information contained in one market was incorporated in the other.

Evidence from Indian Market

Mishra, Das, and Mishra (2010) who are the authors of the base paper of the current study explored the relationship between gold price changes and stock-market returns. Monthly data were used to test the stationarity of the variables as well as cointegration and Granger causality in a vector error-correction framework. The authors found evidence of feedback causality between gold and stock-market returns. They concluded that gold and India's stock market were not independent variables. Similarly, Patel (2013) examined the causal relationship between gold prices and the stock-market indices for the Indian market using monthly data. He found evidence of a long-run relationship between gold and NIFTY and reported that gold had a causal relationship with the Indian stock market.

However, Singh and Kishor (2014) examined the linkages between gold-price changes and the NIFTY and found that there was no causal relationship between the two variables. Shiva and Sethi (2015) went further to explore the relationship between gold prices, exchange rates, and the Indian stock market. NIFTY, Sensex, and USD/INR were used as proxies for the stock market, gold, and exchange rates respectively. The authors found evidence of a short- and long-run relationship between gold prices and the Indian stock market. Additionally, they found that gold prices had a causal relationship with the NIFTY.

Similar to the base paper, Shiva and Sethi (2015) used USD/INR as a proxy for exchange rates. The inclusion of USD/INR is significant to this study as it will be used as a control variable.

Tripathy and Tripathy (2016) explored the dynamic relationship between gold prices and the Indian stock market using monthly data. The authors found no short-run causal relationship between gold and the Indian stock market. However, they found evidence of a long-run causal relationship between gold prices and the Indian stock market. This contradicts the conclusion of Mishra et al. (2010). The difference in the conclusion can be attributed to the fact that Tripathy and Tripathy (2016) used monthly data while Mishra et al. (2010) used monthly returns. The current study will focus on monthly returns. Additionally, Tripathy and Tripathy (2016) did not include exchange rates as a control variable unlike the current study.

Ostwal and Sharma (2017) examined the dynamic relationship between gold prices and the Indian stock market using various time-series models. The authors found evidence of unidirectional causality running from gold prices to the NIFTY. Therefore, Ostwal and Sharma (2017) concluded that gold prices contain information about future movements in the Indian stock market. Additionally, Bhuyan and Dash (2018) specifically examined the dynamic causal relationship between gold prices and stock-market returns. Unlike most of the previous studies, Bhuyan and Dash (2018) focused on returns rather than price changes. The study by Bhuyan and Dash (2018) is more relevant to the current study as it examines the relationship between gold prices and stock-market returns using monthly data.

Jain and Biswal (2019) explored the relationship between gold prices, the Indian stock market, and exchange rates while taking into account investor interest in gold. The authors included NIFTY and USD/INR as proxies for the stock market and exchange rates respectively. Jain and Biswal (2019) found evidence of a long-run relationship between gold prices, the Indian stock market, and exchange rates. The findings of Jain and Biswal (2019) further support the inclusion of exchange rates as a control variable in the current study. However, Joseph and Rajeshwari (2023) examined the impact of gold and oil prices on the Indian stock market. Additionally, Mohapatra, Sarangi, and Mallia (2025) explored the

relationship between gold prices and the NIFTY 50. The findings of Joseph and Rajeshwari (2023) and Mohapatra et al. (2025) will help provide further evidence on the relationship between gold prices and the Indian stock market.

Synthesis of Previous Studies

The evidence from the previous studies is conflicting. Some of the studies found a long-run causal relationship between gold prices and the Indian stock market while others found no short-run causal relationship between the two variables. Additionally, some of the studies found evidence of a causal relationship between gold prices and the Indian stock market while others failed to find any causal relationship. It is evident from the previous studies that the relationship between gold prices and the Indian stock market is not linear.

Most of the previous studies have focused on the relationship between gold prices and the Indian stock market using either cointegration or Granger causality. However, no study has specifically examined the relationship between monthly gold returns and monthly NIFTY 50 returns.

Additionally, most of the previous studies have failed to take into account the impact of market uncertainty on the relationship between gold prices and the Indian stock market. Therefore, the current study will focus on examining the relationship between monthly gold returns and monthly NIFTY 50 returns while taking into account the impact of market uncertainty and exchange rates on the relationship. The current study will be an extension of the study by Mishra et al. (2010). The current study will differ from the previous studies in three main ways. First, the current study will use more recent data, that is, from January 2015 to May 2026. Second, unlike most of the previous studies, the current study will focus on monthly returns. Third, the current study will include India VIX and USD/INR returns as control variables.

III. RESEARCH GAP

Prior research has investigated the link between gold and the Indian stock market using different time periods, variables, and econometric specifications. The evidence found in these studies is conflicting, highlighting the complexity of the relationship. While some articles report evidence of causal association between gold and India's equity indices,

others found no short-term relationship. Additionally, studies found mixed evidence on the association between gold and the stock market, depending on whether levels or returns were used in the analysis.

Mishra, Das, and Mishra (2010) analyzed the impact of gold price fluctuations on India's stock market returns using an earlier data sample and a time-series approach that used cointegration and causality. The current study builds on the previous one and focuses on a much later period and monthly returns.

It is therefore of interest to update these findings and establish whether the relationship between gold returns and the Indian stock market persists. Furthermore, there is reason to believe that market uncertainty and exchange rate trends can affect the Indian financial market and should therefore be controlled for in the analysis.

The current study uses monthly data from January 2015 to May 2026. It regresses NIFTY 50 returns on gold returns, using India VIX and USD/INR returns as control variables. The study employs multiple regression analysis with heteroskedasticity-robust, HC3 standard errors to examine the relationship.

IV. RESEARCH OBJECTIVES

Primary Objective

To examine the relationship between gold returns and the Indian stock market returns represented by the NIFTY 50.

Specific Objectives

1. To examine the descriptive statistics and stationarity of gold and NIFTY 50 returns,
2. To determine whether gold returns significantly explain the NIFTY 50 returns while controlling for India VIX and USD/INR returns,
3. To assess whether multicollinearity and heteroskedasticity significantly affect the regression,
4. To evaluate the robustness of the results using heteroskedasticity-robust, HC3 standard errors.

These objectives are specific and limited in scope,

corresponding to the analyses carried out in the study.

RESEARCH HYPOTHESIS

With regression analysis as the main focus, this study does not formulate multiple hypotheses. Null Hypothesis (H_0)

There is no statistically significant relationship between gold returns and NIFTY 50 returns after controlling for India VIX and USD/INR returns.

Alternative Hypothesis (H_1)

There is a statistically significant relationship between gold returns and NIFTY 50 returns after controlling for India VIX and USD/INR returns.

Statistical decision rule

The hypothesis will be tested at the 5% significance level. If $p < 0.05 \rightarrow$ Reject H_0 .

If $p \geq 0.05 \rightarrow$ Fail to reject H_0 . For our actual result: Gold Return: $\beta = -0.0997$, HC3 $p = 0.4491$ Therefore, Fail to reject H_0

Thus, our data do not provide sufficient statistical evidence of a significant relationship between the monthly returns of gold and NIFTY 50.

Data and Methodology Research Design

The study uses a quantitative empirical research design to assess the relationship between gold returns and Indian stock-market returns. This study uses secondary monthly data collected between January 2015 and May 2026. The dependent variable in the analysis is the NIFTY 50, whereas gold returns are the independent variable. Additionally, the study includes India VIX and USD/INR returns as control variables.

Since the analysis is done on a monthly basis, the data contains 137 observations for the price/index series. Since the calculation of returns requires taking the ratio of the current observation to the preceding observation, the number of monthly observations decreases by one – which brings it down to 136. The study implements descriptive statistics, the Augmented Dickey Fuller test, multiple regressions, and regression diagnostic tests. Since it was found that heteroskedasticity was present, HAC standard errors were implemented to ensure that the final

results were reliable. Your analysis does justice to the design by employing the discussed techniques.

Data Sources

This study utilizes secondary data sourced from reliable financial and institutional resources. Variable Measurement Data Source

- Gold Price Mumbai Standard Gold, ₹ per 10 grams Reserve Bank of India
- NIFTY 50 Monthly index value National Stock Exchange of India
- India VIX Monthly market volatility measure National Stock Exchange of India
- USD/INR Monthly foreign exchange data Official exchange-rate data source
- The Mumbai Standard Gold reflects the gold prices in the study. On the other hand, the NIFTY 50 Indian stock market index captures the performance of the Indian Stock Market. Finally, the India VIX reflects the amount of market volatility, whereas the USD/INR captures the exchange rate movements in the foreign exchange market.
- In your final document, please remember to specify the exact pages of each set of data when providing a reference list. It is critical that you do not leave the data-source column empty when you prepare the final version of this document.

Study Period and Sample

This study is conducted between January 2015 and May 2026.

The data has 137 monthly observations of the price/index series. However, since the calculation of returns requires taking the ratio of the current observation to the preceding observation, one observation is dropped, resulting in 136 observations. Therefore, the study uses the following final sample for the analysis:

136 monthly observations

Variables Used in the Study

- Description Variable
- Monthly return on gold prices Gold Return
- Monthly return on NIFTY 50 NIFTY Return
- Measure of expected market volatility India VIX
- Monthly return in the USD/INR USD/INR Return

The study focuses on examining the association between Gold Return and NIFTY Return. India VIX

and USD/INR Return act as control variables so that the confounding effects of market volatility and exchange rates are adjusted in the analysis.

Calculation of Returns

The study does not directly compare the price levels of gold and the NIFTY 50.

Instead, the study focuses on the percentage change in prices or returns between months. The study uses the following formula to compute returns:

$$R_t = 100 \times \ln(P_t / P_{t-1})$$

where

R_t = Monthly return

P_t = Current month's price/index level

P_{t-1} = Previous month's price/index level

The same formula for returns is applied to gold prices, NIFTY 50, and USD/INR. However, the India VIX is used as a level, not as a return since the variable reflects expected market volatility and not an asset price.

Preliminary Analysis

Prior to conducting the main regression analysis, the study conducts a preliminary analysis of the descriptive statistics of the data.

The study then implements the Augmented Dickey Fuller test to determine if the series are stationary or not. This is an essential step since the properties of non-stationary time series data often differ substantially from those of stationary data and can generate misleading regression results. The results of the ADF test indicate that the series used in the study are stationary at the 1% level.

Regression Model

The study implements multiple regression analysis as the main analytic technique.

$NIFTY_Return_t = \beta_0 + \beta_1 \text{ Gold } Return_t + \beta_2 \text{ India VIX}_t + \beta_3 \text{ USD/INR } Return_t + \epsilon_t$ Where
NIFTY Return_t = Monthly return of NIFTY 50
Gold Return_t = Monthly return of gold prices
India VIX_t = India VIX

USD/INR Return_t = Monthly return of USD/INR
 β_0 = Constant

$\beta_1, \beta_2, \beta_3$ = Regression coefficients
 ϵ_t = Error Term

The focal regression coefficient is β_1 , which captures the association between the monthly return on gold prices and the monthly return on the NIFTY 50 after controlling for the effect of the India VIX and the USD/INR.

Regression Diagnostics

The study conducts several regression diagnostics tests to evaluate the final regression model.

Multicollinearity

A variance inflation factor test was conducted to assess how strongly the independent variables in the regression model were correlated. The results of the VIF test indicate that the variables in the regression model were not highly correlated (the variance inflation factors were close to 1).

Heteroskedasticity

The study conducts the Breusch-Pagan test to determine whether the variance of the regression residuals was constant across observations. The test confirmed the presence of heteroskedasticity, implying that ordinary least squares standard errors were not trustworthy. Consequently, the study uses heteroskedasticity-robust standard errors (HC3) to report the final results.

This approach allowed the researchers to make reliable statistical inferences despite the presence of heteroskedasticity.

Statistical Decision Rule

The study uses a 5% statistical significance level to report the results. Therefore, the statistical decision rule is as follows:

p-value < 0.05: Reject the null hypothesis

p-value ≥ 0.05: Do not reject the null hypothesis

When reporting the findings of your analysis, focus on the statistical significance of the Gold Return coefficient, as discussed above.

V. RESULTS AND DISCUSSION

Descriptive Statistics

The descriptive statistics provide an overview of the

behaviour of the variables during the study period. Gold and NIFTY returns show variation around their respective mean values, indicating that both markets experienced month-to-month fluctuations during the sample period. The standard deviation values provide

an indication of the volatility of each variable, while the minimum and maximum values highlight the extent of monthly movements observed during the period.

Regression Results and Discussion Multiple Regression Results

MULTIPLE OLS REGRESSION							MODEL STATISTICS	
OLS Regression Results							Statistic	Value
Dep. Variable:	NIFTY_Return	R-squared:	0.317				0 R-squared	0.317391
Model:	OLS	Adj. R-squared:	0.302				1 Adjusted R-squared	0.301877
Method:	Least Squares	F-statistic:	20.46				2 F-statistic	20.458579
Date:	Thu, 20 Aug 2026	Prob (F-statistic):	5.99e-11				3 F-test p-value	0.000000
Time:	14:50:42	Log-Likelihood:	-377.97				4 AIC	763.937760
No. Observations:	136	AIC:	763.9				5 BIC	775.588380
Df Residuals:	132	BIC:	775.6				6 Number of observations	136.000000
Df Model:	3							
Covariance Type:	nonrobust							
	coef	std err	t	P> t	[0.025	0.975]		
const	2.8389	1.064	2.669	0.009	0.735	4.943		
Gold_Return	-0.0997	0.108	-0.924	0.357	-0.313	0.114		
India_VIX	-0.0040	0.060	-1.389	0.167	-0.204	0.036		
USDINR_Return	-1.0045	0.248	-7.270	0.000	-2.295	-1.314		
Omnibus:	12.489	Durbin-Watson:	2.109					
Prob(Omnibus):	0.002	Jarque-Bera (JB):	36.199					
Skew:	0.056	Prob(JB):	1.30e-08					
Kurtosis:	5.525	Cond. No.	55.7					

Model statistics:

$R^2 = 0.3174$

Adjusted $R^2 = 0.3019$ Robust F-statistic = 8.263 $p < 0.001$

$N = 136$

The regression model explains approximately 31.7% of the variation in monthly NIFTY 50 returns, as indicated by an R^2 of 0.3174. The adjusted R^2 is 0.3019, suggesting that the explanatory variables together account for a meaningful proportion of the variation in NIFTY 50 returns during the study period.

The main variable of interest, Gold Return, has a coefficient of -0.0997. This indicates a negative association between gold returns and NIFTY 50 returns after controlling for India VIX and USD/INR returns. However, the HC3 robust p-value is 0.449, which is considerably higher than the 5% significance level. Therefore, the coefficient is not statistically significant.

The result indicates that the study does not provide sufficient statistical evidence to conclude that monthly gold returns significantly explain NIFTY 50 returns during the study period. Although the estimated coefficient is negative, its lack of statistical

significance means that the negative relationship should not be interpreted as a systematic inverse relationship between gold and Indian equities.

Interpretation of Gold Return

The coefficient of Gold Return is -0.0997, indicating a negative association between gold returns and NIFTY 50 returns after controlling for India VIX and USD/INR returns. However, the HC3 robust p-value is 0.449, which is greater than the 5% significance level.

Therefore, the relationship is not statistically significant.

This means that the study does not provide sufficient evidence to conclude that monthly changes in gold returns significantly explain changes in NIFTY 50 returns during the study period.

Although the estimated coefficient is negative, its lack of statistical significance means that the result should not be interpreted as evidence of a consistent inverse relationship between gold and Indian equities.

This finding differs from some earlier Indian studies, including the base study by Mishra et al. (2010),

which reported evidence of a relationship between gold and stock-market returns. The difference may reflect changes in the study period, market conditions, variables and empirical methodology.

Interpretation of India VIX

India VIX has a coefficient of -0.0841 with a p-value of 0.722. Although the estimated coefficient is negative, it is not statistically significant at the 5% level.

Thus, within this particular regression model and sample period, the study does not find sufficient evidence of a significant association between India VIX and monthly NIFTY 50 returns.

This result should be interpreted specifically within the context of the model rather than as evidence that market volatility has no effect on stock prices.

Interpretation of USD/INR Return

USD/INR Return has a coefficient of -1.8045 and a p-value below 0.001, indicating a statistically significant negative association with NIFTY 50 returns.

This suggests that exchange-rate movements are an important factor associated with Indian equity-market returns during the study period. However, the regression identifies an association rather than a causal relationship, so the coefficient should not be interpreted as proof that changes in the exchange rate directly cause changes in NIFTY returns.

Overall Model

The model has an R^2 of 0.3174, indicating that approximately 31.74% of the variation in monthly NIFTY 50 returns is explained by Gold Return, India VIX and USD/INR Return included in the model.

The adjusted R^2 is 0.3019, indicating that the model retains explanatory power after accounting for the number of explanatory variables.

The results therefore suggest that the selected variables provide some explanatory information about NIFTY 50 returns, although gold returns themselves are not statistically significant in the model.

Hypothesis Testing

Null Hypothesis

H_0 : There is no statistically significant relationship between gold returns and NIFTY 50 returns after controlling for India VIX and USD/INR returns

The estimated coefficient for Gold Return is: $\beta = -0.0997$

with:
 $p = 0.4491$

Since:
 $0.4491 > 0.05$
the null hypothesis is not rejected.

Decision

Fail to reject H_0 .

VI. CONCLUSION

This study explored the relationship between gold returns and Indian stock-market returns over the January 2015–May 2026 period. NIFTY 50 returns were used as a proxy for the Indian stock market, whereas gold returns were the explanatory variable. India VIX and USD/INR returns were used as control variables.

According to the regression results, gold returns did not significantly drive NIFTY 50 returns. Specifically, the coefficient of Gold Return is -0.0997, and the p-value is 0.4491 (HC3 robust). Overall, this study did not find that gold returns substantially and negatively predicted monthly NIFTY 50 returns.

This study's results contrast some Indian studies that found a relationship or causation between gold and equity markets. First and foremost, it is essential to note that market circumstances and geopolitical events have changed throughout the period under investigation. Additionally, one of the most striking discoveries of this study was that USD/INR returns had a strong, negative connection with NIFTY 50 returns. Thus, it can be suggested that exchange rates play a critical role in the Indian equity market. Overall, these results imply weak or no association between gold and equity markets during the studied period.

VII. PRACTICAL IMPLICATIONS

This study's results have several practical implications for investors and portfolio managers.

First, this study's findings indicate the absence of a statistically significant association between gold returns and NIFTY 50 returns. As a result, investors have no grounds to believe that gold will always behave like a safe-haven asset. In other words, gold is not a "winding road" for the NIFTY 50 index. This study's findings do not eliminate the possibility of gold being a hedge or safe-haven asset for the Indian stock market; however, additional research is needed. Second, this study's results highlight the importance of the exchange rate when examining the Indian stock market.

For Investors

First, investors must realize that gold is not a reliable hedge against falling NIFTY 50 values. Even though the estimated relationship between gold and NIFTY 50 was negative, it was not statistically significant.

Second, investors should be aware that gold's association with the stock market was inconsistent throughout the sample period. In other words, gold's association with the stock market was not stable, and investors should not expect gold to always serve as a hedge or safe haven for the stock market.

Third, investors must consider the impact of exchange rates on the Indian stock market.

Fourth, investors should recognize how the association between gold and the stock market has changed over time and take this into account when reviewing their portfolios. In other words, investors must understand that market conditions are not fixed and that the relationship between gold and the stock market may change.

VIII. LIMITATIONS OF THE STUDY

This study has several limitations. First, this study used NIFTY 50 as a proxy for the Indian stock market. Therefore, the same conclusions cannot be generalized to separate firms or industries.

Second, this study was based on monthly data, and the conclusions drawn from it can only be applied to

monthly data. Third, this study only controlled for gold, India VIX, and USD/INR. Therefore, other variables, such as interest rates, inflation, oil prices, FII inflows, and global stock-market performance, might have confounded the results. Fourth, this study was conducted for the January 2015–May 2026 period, and the results might differ for different periods.

Finally, this study examined the statistical relationship between gold and the stock market, not a causal one. In other words, the study identified a correlation between gold returns and NIFTY 50 returns, not a causation.

IX. SCOPE FOR FUTURE RESEARCH

This study provides a basis for future research. Future studies can build upon this one in several ways.

- First, future studies can use daily or weekly data to explore the short-term association between gold and the Indian stock market.
- Second, future studies can investigate whether the association between gold and NIFTY 50 has changed across different market conditions, such as economic crises or periods of political instability.
- Third, future studies can explore the long-term association between gold and the Indian stock market. Additionally, future studies can consider other variables, such as crude oil prices, inflation, interest rates, FII, and global stock-market performance.
- Finally, future studies can utilize different stock-market indices, such as the S&P BSE Sensex and NIFTY 50.

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