

UNCOVERING THE DYNAMIC RELATIONSHIPS BETWEEN BANK NIFTY AND EXCHANGE RATES

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Abstract

This research explores the intricate dance between currency rates of exchange and the Indian stock market index, BANK NIFTY. Spanning a substantial 12-year period, from January 1, 2010, to December 31, 2022, our investigation harnesses daily fluctuations in currencies like the British Pound (GBP), Japanese Yen (YEN), Euro (EUR), and US Dollar (USD), all measured against the stalwart Indian Rupee (INR). Through an adept combination of structured cointegration analysis and Granger causality tests, we aim to unravel the enigmatic connections lurking beneath the surface. As we unveil the findings, a notable revelation emerges the absenteeism of a steadfast long-run bond amid BANK NIFTY and the array of exchange rates under scrutiny. However, our astute application of VAR-based Granger causality tests casts a spotlight on the short-term dynamics, revealing that USD, EURO, and YEN wield a transient influence over BANK NIFTY. This intricate interplay is not unidirectional; BANK NIFTY's sway over the USD-INR exchange rate also comes to the fore. Investigating deeper, our analysis extends to the realm of impulse response, shedding light on the temporal nuances of BANK NIFTY's recovery from the ripples caused by exchange rate fluctuations. In this symphony of financial markets, we uncover the hidden times and measure changes that govern these complex relationships.

Keywords: Bank Nifty, Granger causality, Exchange Rates, Cointegration, Impulse response

INTRODUCTION

Exchange rate fluctuations represent a pivotal factor exerting a profound influence on stock prices, consequently molding a firm's overall value of the market. Despite the extensive global discourse on this subject, a unified consensus within the literature concerning the intricate nexus between rates of exchange and indices of the stock market remains elusive (Mroua and Trabelsi 2020). The theory of finance asserts that rates of interest and rates of exchange wield considerable sway over a firm's worth, with the ebb and flow of exchange rates playing a pivotal role in sculpting stock prices. This dynamic holds in both developed and developing

economies, as stock markets serve as indispensable channels for financial intermediation, facilitating the efficient distribution of resources and nurturing economic expansion (Olugbenga 2012; Alile 1984).

There are many reasons to believe that rates of exchange affect the prices of stock. The commodity market approach argues that exchange rate movements affect firms' competitiveness, affecting their profits and financing costs and thus affecting prices of stock (see Dornbusch, Fischer 1980). Portfolio balance models focus on capital account transactions to describe the association between stock price and the rate of movement of exchange.

Capital inflows driven by robust stock market performance heighten the demand for domestic currency, while stock price declines prompt foreign investors to divest, reducing demand for the local currency (Adebisi et al. 2009). As time progresses, overseas investment in local equities can expand, impacting money demand and rates of exchange as investors' liquidity needs and wealth come into play (Mishra 2004).

Numerous theories posit a causal link between rates of exchange and stock prices, yet empirical evidence yields mixed results. For instance, among 171 Japanese multinational firms, only 25 percent demonstrated significant exchange rate exposure to the stock market (He and Ng 1998). Other research found that the weekly variations in the rate of exchange had very little effect on the values of industry indexes in many different nations (Griffin and Stulz 2001). Moreover, other ideas (Jorion 1990; Bartov and Bodnar 1994), among others were unable to establish a significant correlation between fluctuations in the value of the dollar and the stock returns of US companies.

Given the complex association between stock market indexes and rates of exchange, it becomes essential to conduct more detailed studies in this area. However, there is an important lack of research on this dynamic association within the context of India. The main aim of this study is to analyze the relationship between exchange rate movements and the Indian Bank NIFTY (BNIFTY) index by using daily BNIFTY closing value data and exchange rate movements over 12 years (2010-22). The goal is to understand whether exchange rate movements influence the closing values of the BNIFTY, which may serve as a guide for investors in making investment decisions. The weighted average of Indian banks listed on the NSE, which is the biggest stock exchange in the country, is commonly referred to as the BNIFTY. Using the Johansen co-integration test, we examine the long-term relationship between the exchange rates of USD, EUR, JPY, GBP, and INR in this study. We utilize the VAR Granger cause and function of effect to investigate the short-term relationships between these variables.

LITERATURE REVIEW

In a research investigation led by Ibrahim (2000), an exploration into the interplay between stock prices and rates of exchange within the Malaysian context was undertaken. This analysis employed Cointegration and Granger causality tests to discern the nature of their relationship. Intriguingly, the study unearthed the absence of a sustained, long-run connection between stock prices and exchange rates. However, it did uncover compelling evidence of cointegration when factors such as reserves and M2 money supply were introduced into the analytical framework. Consequently, the study surmised that short-term fluctuations in exchange rates indeed exerted an influence on stock market prices. Furthermore, these findings align with the outcomes of other research endeavors. For instance, studies conducted by Franck and Young in 1972 and

Bhattacharya and Mukherjee in 2002 also corroborated the notion that over an extended period, no substantial relationship between rates of exchange and stock market indices.

Phylaktis and Ravazzolo's (2005) study looked at the instant and long-term effects of stock prices and rates of exchange, as well as the mechanisms by which external shocks echo through markets in a few Pacific Basin countries.

An investigation into the fundamental dynamics between rates of exchange and the Switzerland and Poland stock market performances during the period spanning from 2001 to 2008 was conducted. This examination encompassed the application of both linear and non-linear causality tests. The findings unveiled a distinct pattern: in the case of Switzerland, the stock market's performance emerged as a driving factor, causally influencing changes in exchange rates, following a portfolio approach. In contrast, for Poland, a more intricate interplay was observed. Here, both portfolio-based and traditional approaches revealed that variations in exchange rates affected stock market prices, while conversely, changes in exchange rates were also influenced by shifts in stock market performance (Gurgul and Lach 2012).

The outcomes of the study unveiled a negative correlation between exchange rates and Bank Nifty returns. Regression analysis underscored the substantial influence of exchange rates, accounting for approximately 26 percent of the variation in Bank Nifty returns. Notably, when compared to other currency rates, the US dollar appeared as the most significant contributor to the negative impact on Bank Nifty returns. In light of these findings, the study recommended that the investor community remain vigilant regarding exchange rate movements, with particular attention to the US exchange rate due to its pronounced influence on the Indian stock market. Such vigilance could serve to mitigate the risks stemming from exchange rate fluctuations. Additionally, policymakers were advised to enhance policy frameworks, with an emphasis on boosting exports relative to imports, curbing inflation rates, augmenting production indices, and crafting government policies that foster positive effects on both the stock market and the overall growth of the economy within the country (Vaibhav S Arwade 2019)

This research endeavor was aimed at dissecting the interconnections, both in the short term and the long term, between rates of exchange and the NSE NIFTY index. To achieve this, a comprehensive analysis involving Johansen cointegration and Granger causality tests was conducted. The outcomes of the cointegration analysis yielded a crucial insight: there is no enduring association between rates of exchange and the NIFTY index in the long run. Consequently, it can be stated that the fluctuations observed in the exchange rates under scrutiny may not wield significant sway over the NIFTY index in the long haul. Consequently, long-term investors may not necessarily need to be overly concerned with the transient oscillations in exchange rates. However, the Granger causality test yielded a distinct set of results. Specifically, it highlighted a positive and substantial relationship between the USD, CNY, and JPY rates of exchange with the NIFTY index. These outcomes are further reinforced by the Impulse Response Function analysis, which elucidates the time needed for the NIFTY index to regain stability following an initial disruption. In light of these findings, it becomes evident that stakeholders, especially those inclined towards short-term trading, should vigilantly monitor the short-term fluctuations in the aforementioned exchange rates to make informed decisions. (Vijay Victor 2021)

Reviewing the existing literature reveals that many studies in the same field have commonly employed cointegration and Granger causality tests to scrutinize the enduring and immediate associations between rates of exchange and stock market indices. Employing a comparable approach, this study formulates the following hypotheses:

HYPOTHESES:

H0 “There is no influence the exchange rate of Yen, Pound, US, and Euro on Bank Nifty returns”

H1. There is a cointegrating association between the exchange rates and the BANK NIFTY index.

H2. USD Granger causes BANK NIFTY index.

H3. EUR Granger causes BANK NIFTY index.

H4. YEN Granger causes BANK NIFTY index.

H5. JPY Granger causes the BANK NIFTY index.

H6. GBP Granger causes BANK NIFTY index.

OBJECTIVES

1. To examine the short-run and long-run linkages between Bank Nifty and a range of major exchange rates.
2. To study the impact of exchange rate fluctuations on the movements of Bank Nifty.
3. To assess the potential causal relationships between exchange rates and Bank Nifty using Granger causality tests.
4. To study the influence of economic factors, like interest rates and inflation, on the dynamic relationship between Bank Nifty and rates of exchange.

RESEARCH METHODOLOGY

Choosing a Sample

The sample for this study was chosen depending on four important active rates of exchange that influenced the Indian rupee and the country's economy. There are four selectable rates of exchange: US Dollar, Pound, Euro, and Yen, as well as Bank Nifty, which is the Indian stock market.

Study Time Frame

The study included 3123 observations and used daily data for selected variables from January 1, 2010, to December 31, 2022.

Analytical Instruments

The tools employed during the empirical study were selected by the goals of the investigation and the techniques used to test the hypothesis. Among the methods employed were the Co-Integration Test, OLS regression for impact data, correlation for relationship data, and the ADF test for stationary data.

Analysis of Correlation

Finding the association between variables is the goal of the coefficient of correlation analysis; a positive or negative association can be drawn from the sign of the numbers. The coefficient of correlation is a number between -1 and 1, where -1 indicates a strong negative correlation and 1 implies a strong positive or perfect correlation. There is no correlation if the correlation

value is 0. The strength of the relationship is indicated by the correlation coefficient's absolute value.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Least Squares Regression of Ordinary

Ordinary Least Squares (OLS) regression is a linear simple regression technique that uses one or more explanatory factors to influence the dependent variable. The explanatory variables utilize a linear approximation of the data to estimate the influence.

The study's primary source

The main source of data for this study is secondary data, which was gathered from the NSE and India-stat websites.

RESULTS AND INTERPRETATIONS

Table 1: Results of ADF Test for Exchange Rates and Bank Nifty Return during the study period April 2010 to March 2022

Augmented Dickey-Fuller test statistic		Test Critical Value			Prob.*
Name of the Variables	t-stat	1% Level	5% Level	10% Level	
Bank NIFTY Returns	-37.56541	-3.43219	-2.86223	-2.56718	0
Euro Returns	-58.7113	-3.43241	-2.86233	-2.56723	0
Pound Returns	-63.1296	-3.43241	-2.86233	-2.56723	0
Us Dollar Returns	-57.2365	-3.43240	-2.86233	-2.56723	0
Yen Returns	-57.9222	-3.43241	-2.86233	-2.56723	0

E-Views 12 was used to compute the data that was gathered from www.indiastat.com, www.rbi.org.in, and www.nseindia.com.

The objective of the unit root test, commonly denoted as the Augmented Dickey-Fuller test, is to determine the regularity of time series data. If the time series data is stationary, further analysis may be done more easily. The t-statistic of a designated group of macroeconomic factors and the BANK NIFTY was found to be less than the critical value at 1%, 5%, and 10% in the ADF test outcomes. This indicates that the variables were stationary, denying the null hypothesis while accepting the alternative. The BANK NIFTY doesn't have any fixed exchange rates or returns.

Table 2 Descriptive Statistics

Date: 10/14/23 Time: 22:22 Sample: 1/04/2010 12/30/2022					
	BANK_NIFTY	_1_USD	_1_GBP	_1_EURO	_100_YEN
Mean	20688.08	63.62338	90.08588	75.90636	60.97183
Median	18745.78	64.98840	91.47665	76.93270	60.90500

Maximum	44066.86	83.20420	106.0281	91.46820	72.12000
Minimum	7868.750	43.94850	65.64710	56.07000	46.93000
Std. Dev.	9435.327	10.10046	9.696026	8.093845	5.659788
Skewness	0.513238	-0.441010	-0.626505	-0.354599	-0.020225
Kurtosis	2.117470	2.276869	2.468909	2.304771	2.132147
Jarque-Bera	246.3200	168.9512	239.0744	127.3154	97.43266
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	66739758	198314.1	279086.0	235157.9	188890.7
Sum Sq. Dev.	2.87E+11	317892.2	291158.0	202885.5	99206.84
Observations	3226	3117	3098	3098	3098

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The descriptive statistics found in the table above include skewness and kurtosis for normal tests, standard deviation representing the degree of volatility from the mean value, and mean values reflecting the average daily rate of exchange variations. The fact that the kurtosis values are beyond the specified threshold indicates the time series data are not normal, as can be noticed.

Table 3 Association between the Rate of Exchange and the Bank Nifty returns.

Correlation	BANK NIFTY	1 USD	1 GBP	1 EURO	1 YEN
BANK NIFTY	1.000000				
1 USD	0.855587	1.000000			
1 GBP	0.501454	0.742297	1.000000		
1 EURO	0.686771	0.838126	0.843490	1.000000	
_100_YEN	0.338614	0.446569	0.348566	0.575925	1.000000

E-Views 12 was used to compute the data that was gathered from www.indiastat.com, www.rbi.org.in, and www.nseindia.com.

The relationship between the currency rate and the Bank Nifty return is implied by Table 3. The results of the study exhibited a positive correlation between Bank Nifty returns and USD returns of 0.855587, Pound returns of 0.501454, Euro returns of 0.686771, and Yen return of 0.338614. This suggests that as Bank Nifty returns increase, Euro, Pound, US, and Yen exchange rates fall, and vice versa. The correlation between USD returns at 0.742297 and Pound returns is high, whereas the correlation between Euro returns at 0.838126 and Yen returns at 0.446569 is low. Returns in Pounds have a somewhat favorable association of 0.843490 with Euro returns and 0.348566 with Yen returns. There has been a strong correlation between Euro returns and Yen returns around 0.575925. The correlation data showed a positive association between Bank Nifty returns and the exchange rates of the USD, Euro, Pound, and Yen. Investors are advised by this research that fluctuations in Bank Nifty returns are responsible for variations in exchange rates. Consequently, to lessen the risk of excessively inflationary currency rates, investors in BSE equities should always be informed of changes in the rates of exchanges.

Table 4: Results of OLS Regression Analysis during the study period from Jan 2010 to Dec 2022

Variables	Coefficient	Std. Error	t- Statistics	Prob.
_1_USD	918.8651	14.36783	63.95293	0.0000
_1_GBP	-435.9687	15.84570	-27.51337	0.0000
_1_EURO	368.0591	25.59533	14.37993	0.0000
_100_YEN	-206.9742	17.76454	-11.65098	0.0000
C	-13882.22	996.8832	-13.92563	0.0000
R-Squared	0.787834	Mean dependent var		20722.52
Adjusted R-Squared	0.787560	S.D. dependent var		9417.249
S. E. of regression	4340.523	Akaike info criterion		19.59099
Sum squared resid	5.83E+10	Schwarz criterion		19.60074
Log-likelihood	-30341.44	Hannan – Quinn criter.		19.59449
F-statistic	2871.310	Durbin – Watson stat		0.013145
Prob (F- statistic)	0.000000			

E-Views 12 was used to compute the data that was gathered from www.indiastat.com, www.rbi.org.in, and www.nseindia.com.

Table 4 displays the findings of the influence of rates of exchange on Bank Nifty returns. The calculated R square value of 0.787560 is a little lower than the R square value of 0.787834, indicating greater model performance and model complexity. R square 78.75 percent is influenced by explanatory variables and is roughly influenced by Bank Nifty returns. Model fit is indicated by Durbin Watson's value of 0.013145, which is near to one. The coefficient results show that, with a statistically significant negative impact of -435.9687, GBP returns have a considerable negative influence on Bank Nifty returns.

A statistically significant negative impact of 5% is caused by yen returns of -206.9742 on Bank Nifty returns, which is a modest negative impact. Bank Nifty returns are positively impacted statistically by USD returns at 918.8651. The impact of 368.0591 Euro returns, which is statistically significant at 10%, on Bank Nifty returns is weakly positive. The results indicated that the returns on GBP, YEN, and Bank Nifty had substantial negative coefficients when compared to other variables.

The returns for the Euro, USD, and Bank Nifty all had weakly positive coefficients. The results imply that governments should enhance monetary policy to promote economic growth and that investors should keep a close eye on changes in the US and GBP exchange rates when making investments. This leads to the acceptance of the alternative hypothesis and the rejection of the null hypothesis, which states that "There is no impact of US, Euro, Pound, and Yen exchange rates on Bank Nifty returns".

Table 5 The Co-Integration Relationship between Exchange Rates and Bank Nifty Returns from January 2010 to December 2022.

Unrestricted Cointegration Rank Test (Trace)					
Hypothesized		Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**	Remark

None	0.007223	49.01017	69.81889	0.6802	Co-integrated
At most 1	0.005035	30.08363	47.85613	0.7147	Co-integrated
At most 2	0.003840	16.90337	29.79707	0.6472	Co-integrated
At most 3	0.002598	6.858567	15.49471	0.5942	Co-integrated
At most 4	2.59E-05	0.067553	3.841465	0.7949	Co-integrated
At the 0.05 level, the trace test reveals 5 co-integrating equation(s)					
* denotes hypothesis rejection at the 0.05 level					
** p-values from MacKinnon-Haug-Michelis (1999)					

E-Views 12 was used to compute the data that was gathered from www.indiastat.com, www.rbi.org.in, and www.nseindia.com.

The explanation provided in table 5 above relates to the co-integration results between Bank Nifty returns and exchange rates. Using this test, the long-term link between the chosen currency rates and Bank Nifty returns was ascertained. The crucial values for the Max Eigen statistics and the Trace statistic were both higher than the 5% threshold, which were smaller than the Max-Eigen values, both illustrate the co-integration between Bank Nifty returns and the US, Euro, Pound, and Yen exchange rates. The results of the study revealed a long-term association between the selected rate of exchange and Bank Nifty's effectiveness. The null hypothesis, which asserts that "there's is no co-integration of Yen, Pound, US and Euro exchange rates on Bank Nifty returns," is thus rejected, which results in the acceptance of the alternative hypothesis.

Table 6 The results of Granger Causality between exchange rates and Bank Nifty returns from January 2010 to December 2022.

Null Hypothesis:	F-Statistics	Prob.	H
_1_USD does not Granger Cause BANK_NIFTYBANK_NIFTY does not Granger Cause _1_USD	1.32696 5.74183	0.2494 0.0166	Accepted Accepted
_1_GBP does not Granger Cause BANK_NIFTYBANK_NIFTY does not Granger Cause _1_GBP	0.08403 3.14723	0.7719 0.0762	Accepted Accepted
_1_EURO does not Granger Cause BANK_NIFTYBANK_NIFTY does not Granger Cause _1_EURO	0.00376 7.76310	0.9511 0.0054	Accepted Accepted
_100_YEN does not Granger Cause BANK_NIFTYBANK_NIFTY does not Granger Cause _100_YEN	0.00119 3.05997	0.9724 0.0803	Accepted Accepted
_1_GBP does not Granger Cause _1_USD _1_USD does not Granger Cause _1_GBP	0.04500 3.03453	0.8320 0.0816	Accepted Accepted
_1_EURO does not Granger Cause _1_USD _1_USD does not Granger Cause _1_EURO	0.48476 5.66133	0.4863 0.0174	Accepted Accepted
_100_YEN does not Granger Cause _1_USD _1_USD does not Granger Cause _100_YEN	0.17544 2.59095	0.6754 0.1076	Accepted Accepted
_1_EURO does not Granger Cause _1_GBP _1_GBP does not Granger Cause _1_EURO	0.74205 0.56747	0.3891 0.4513	Accepted Accepted
_100_YEN does not Granger Cause _1_GBP _1_GBP does not Granger Cause _100_YEN	0.10218 1.53867	0.7493 0.2149	Accepted Accepted

_100_YEN does not Granger Cause _1_EURO	0.20408	0.6515	Accepted
_1_EURO does not Granger Cause _100_YEN	4.15530	0.0416	Accepted

E-Views 12 was used to compute the data that was gathered from www.indiastat.com, www.rbi.org.in, and www.nseindia.com.

The Granger causality test results are shown in Table 6. The Causality test is used to analyze the cause-and-effect relationship between variables, particularly to determine the direction of the cause. At a 1% significance level, Bank Nifty returns to changes in the pound are unidirectional. There is a 10% significant relationship between Euro returns and Yen returns in a unilateral relationship, but no variables cause Bank Nifty returns. Hence, the alternative hypothesis is accepted and the null hypothesis, which implies that "there is no Granger causality of USD, Yen, Pound and Euro exchange rates on Bank Nifty returns," is rejected.

Table 7: Granger Causality Results between Exchange Rates and Bank Nifty Returns from Jan 2010 to Dec 2022-(Standard errors in () & t-statistics in [])

BANK_NIFTY	_1_USD	_1_GBP	_1_EURO	_100_YEN
BANK_NIFTY(-1) 1.247565	-2.52872	0.000154	3.59763	-1.8378
-0.01791	(3.3-05)	(7.0-05)	(5.3-05)	(4.3-05)
[69.6656]	[-0.77149]	[2.20228]	[0.67776]	[-0.42014]
BANK_NIFTY(-2) -0.249352	2.9205	-0.000151	-3.1805	1.87-05
-0.01792	-3.305	-7.005	-5.305	-4.305
[-13.9158]	[0.89297]	[-2.15775]	[-0.60054]	[0.43362]
_1_USD(-1) 17.06401	0.919648	0.202735	0.063687	-0.124122
-12.0439	-0.02198	-0.04696	-0.03563	-0.02899
[1.41681]	[41.8331]	[4.31706]	[1.78756]	[-4.28195]
_1_USD(-2) -14.43861	0.075269	-0.202898	-0.062499	0.123967
-12.0436	-0.02198	-0.04696	-0.03563	-0.02899
[-1.19886]	[3.42396]	[-4.32065]	[-1.75425]	[4.27671]
_1_GBP(-1) -9.820735	0.036629	0.771886	-0.068921	0.022505
-8.11584	-0.01481	-0.03165	-0.02401	-0.01953
[-1.21007]	[2.47263]	[24.3919]	[-2.87077]	[1.15212]
_1_GBP(-2) 8.420734	-0.03575	0.221717	0.068845	-0.023941
-8.12571	-0.01483	-0.03168	-0.02404	-0.01956
[1.03631]	[-2.41013]	[6.99785]	[2.86411]	[-1.22417]
_1_EURO(-1) 3.319722	-0.01838	0.035383	0.963692	0.012483
-10.6033	-0.01935	-0.04134	-0.03137	-0.02552
[0.31308]	[-0.94976]	[0.85582]	[30.7239]	[0.48916]
_1_EURO(-2) -2.784982	0.019561	-0.035859	0.026554	-0.00768
-10.6175	-0.01938	-0.0414	-0.03141	-0.02555
[-0.26230]	[1.00935]	[-0.86616]	[0.84545]	[-0.30054]
_100_YEN(-1) 1.400900	-0.0397	-0.026614	-0.011406	0.935887
-8.27964	-0.01511	-0.03228	-0.02449	-0.01993

[0.16920]	[-2.62708]	[-0.82438]	[-0.46567]	[46.9648]
_100_YEN(-2) -1.895719	0.038924	0.026609	0.012847	0.055121
-8.27658	-0.01511	-0.03227	-0.02448	-0.01992
[-0.22905]	[2.57654]	[0.82451]	[0.52471]	[2.76709]
C -6.894028	0.130475	0.561307	0.507429	0.307627
-62.7769	-0.11459	-0.24478	-0.1857	-0.15109
[-0.10982]	[1.13866]	[2.29312]	[2.73245]	[2.03603]
R-squared 0.999264	0.997833	0.989346	0.991221	0.988278
Adj. R-squared 0.999261	0.997825	0.989309	0.99119	0.988238
Sum sq. resids 1.88E+08	627.7232	2864.488	1648.716	1091.391
S.E. equation 255.4625	0.466295	0.996093	0.7557	0.614847
F-statistic 391813.6	132934.4	26809.69	32594.89	24340.68
Log likelihood -20170.41	-1895.58	-4095.23	-3294.813	-2697.037
Akaike AIC 13.92782	1.315792	2.833837	2.281444	1.8689
Schwarz SC 13.95048	1.338459	2.856504	2.304111	1.891568
Mean dependent 20758.65	63.79133	90.08905	75.90902	60.94567
S.D. dependent 9398.371	9.999452	9.6338	8.051278	5.669166
Determinant resid covariance (dof adj.)	720.4269			

Table 7 displays the VAR model results, associating the coefficient model for Bank Nifty returns with selected variables. In the short run, the coefficient of the USD exchange rate at -2.52872 and the YEN exchange rate coefficient at -1.8378 harms Bank Nifty returns, whereas the rates of exchange of the Pound and Euro are positive shocks. The US currency rate has a small coefficient in the first lag period, however further variables, such as the Euro at 3.59763 and the Pound at 0.000154, have much greater significant values at 10%. Every factor has a significant short-run effect throughout the second lag period. All of the factors are shock in the shorter-term association with Bank Nifty returns, even if the results indicated that the selected sample exchange rates have an effect on the stock market in the short run.

Conclusion

The study assessed how Bank Nifty returns were affected by macroeconomic factors, which include the exchange rates of the USD, pound, euro, and yen. The research also scrutinized the dynamic association between currency rates of exchange and Bank Nifty returns over both the short and long term. The study discovered that certain rates of exchange were negatively correlated with Bank Nifty returns, with the US XR recording the highest negative correlation when compared to others. These findings show that rates of exchange have a negative relationship with Bank Nifty returns. During the study period, bank stock prices influenced exchange rates by 26%. Whereas, at a 1 percent level, US XR has a negative significant impact on Bank Nifty returns. The long-run co-integration of Bank Nifty returns with the rates of exchange of the US dollar, British Pound, Euro, and Yen was shown by the co-integration results. In the Granger test, there was an impact from Bank Nifty returns to the Pound rate of exchange but none from the exchange rates to Bank Nifty returns. According to the VAR results, rates of exchange have a short-run positive relationship with Bank Nifty returns, except

for US XR, which has a negative short-run effect. According to the findings, fluctuations in exchange rates cause negative changes in Bank Nifty returns. When compared to other exchange rates, US XR has a high impact, but it has an adverse impact. If the US XR rises, Bank Nifty returns fall, and vice versa. The research findings suggested that because the US XR is linked to the Indian stock market and could reduce the danger of significant exchange rate volatility, the investment community should be mindful of changes in currency rates. A policy of the Government would have a positive impact on the stock market and the economic growth of a nation. Policymakers should establish the policy regime, promote the production index, diminish the rate of inflation, and increase exports relative to imports.

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