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IMPACT OF EXCHANGE RATE ON STOCK MARKET IN INDIA

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ABSTRACT

How much one currency is worth in relation to another is shown by the exchange rate. Understanding the relative values of different currencies is crucial for comprehending the dynamics of trade and capital flows. It is widely believed that a country's financial and economic health can be accurately predicted by looking at the performance of the stock market. Since the 1980s, investors, decision-makers, financial analysts, and economists have paid more and more attention to the changing relationship between macroeconomic indicators and stock prices. One of the most significant macroeconomic indicators is the exchange rate. This study aims to investigate the impact of Exchange Rate on the Indian Stock Market's SENSEX and NIFTY 50 indices. Our country's exchange rate is measured against the US dollar. The last ten years, or from 2012 to 2022, have seen the collection of data from a variety of secondary sources, including websites run by the government, NSO, and CEIC. The degree of a relationship and the degree to which variables are aligned with the trend line or the line of best fit can be displayed using a scatter plot. The analysis's findings show that the exchange rate and a few selected macroeconomic indices have a substantial correlation. The study's conclusions would aid investors and traders in making informed decisions.

***KEYWORDS**: NIFTY, SENSEX, Exchange Rate, Macroeconomics, Stock Market.*

Introduction

The value of one nation's currency in relation to another is known as the exchange rate. Exchange rates are an important part of many different industries and can be a helpful tool in economic research (Ahalawat & Patro, 2019). Aside from variables like interest rates and inflation, one of the most important indicators of a country's relative economic health is the currency exchange rate. The stock market is commonly used to measure the expansion of an economy. It is crucial for directing scarce resources towards the most productive applications. It thus serves as a channel for the transfer of funds from financially robust to financially fragile sectors. Because a stock market provides a market for the trading of securities, it significantly increases the liquidity of the financial system. Market index movements are significantly impacted by changes in the macroeconomic fundamentals. This impact, however, may vary amongst economic sectors due to the fact that each has a unique level of sensitivity and risk-return profile. As a result, many consider the stock market to be a crucial part of the financial system. Macroeconomics studies the cyclical movements and patterns in the economy, including those pertaining to exchange rates, international trade, unemployment, money supply, and inflation. It also looks at budget deficits and other related issues. The exchange rate is one macroeconomic factor that has been demonstrated to have an impact on stock markets over time. Any nation's entire import and export procedure is dependent on its currency's exchange rate. A stronger domestic currency benefits import-oriented businesses at the expense of export-oriented ones. A rise in the value of the national currency will help the stock market.

Many people consider the Indian stock market to be among the most advanced capital markets in the world. The two most well-known stock exchanges in India are the National Stock Exchange (NSE)

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and the Bombay Stock Exchange (BSE). Founded in 1875, the Bombay Stock Exchange was the first stock exchange in the region. It's the widely recognised and widely followed benchmark equity index for the stock market, known as the BSE Sensex, or the stock index of the BSE. It is said that a reliable indicator of the state of the Indian economy is the BSE index. Nearly all of the top companies in the country are listed on the BSE, which is the largest stock market in India in terms of market capitalization and listed companies. The BSE became the first listed stock exchange in India in February 2017. November 1992 saw the founding of the National Stock Market Index, which was officially recognised as a stock exchange in April 1993. It is one of India's top stock exchanges. In 1994, the National Stock Exchange began operations.

Objectives

The primary objectives of the study are:

- To examine how the exchange rate relates to the SENSEX and NIFTY 50.
- To understand how changes in exchange rates and stock market indices relate to one another.

Research Methodology

The majority of the study is descriptive in nature. The current study is based on secondary sources of data; annual average data from 2012 to 2022 was gathered from a variety of government websites, including NSO, NSE, CEIC, and others. The degree of a relationship and the degree to which variables are aligned with the trend line or the line of best fit can be displayed using a scatter plot.

Literature Review

Patel (2012) Using monthly data from January 1991 to December 2011, the study examined the effects of eight macroeconomic variables on the widely followed composite stock market indices, SENSEX and S&P NIFTY. The Vector Error Correction Model (VECM), the Granger Causality Test, the ADF Unit Root Test, and the Johansen Cointegration Test were used to achieve this. The study found a long-term relationship between macroeconomic variables and stock market indices. Additionally, it illustrated the causal connection between oil prices, stock market indices, IIP, and exchange rates.

Luthra and Mahajan (2014) investigated how macroeconomic variables affected BSE Bankex. Macroeconomic variables included the exchange rate, inflation, gold prices, and GDP growth rate. Regression analysis shows that gold prices have a negative impact on the BSE Bankex while the exchange rate, inflation, and GDP growth rate have a positive impact on the banking index. None of these factors have much of an effect on bank stock prices.

Gurloveleen & Bhatia (2015) investigated the effects of several economic variables, including the gross fiscal deficit, inflation, call money, exchange rates, foreign exchange reserves, FIIs, and trade balance. The results of the ADF test, the Granger Causality test, and the multiple regression analysis used to test the same indicated that the exchange rate and all other FIIs had the largest impact.

Tripathi and Kumar (2015) investigated the impact of macroeconomic factors on stock returns for the BRICS countries using the ALDL bounds testing approach. The study discovered that the stock market was negatively impacted by oil prices, interest rates, and exchange rates. Additionally, they showed a positive relationship between money supply and stock returns.

Uma.T & Kalyanaraman (2016) found in his study that between 2006 and 2015, every macroeconomic index in India increased significantly, except for interest rates. The study found that the major macroeconomic indices, which include exchange rates, the consumer price index, GDP, the money supply (M1 and M2), and the BSE Sensex stock index, all experienced significant increases in values between 2006 and 2015. Each and every one of these macroeconomic indicators has a noteworthy and persuasive impact on the growth and well-being of the Indian economy. Any macroeconomic variable's rise can be ascribed to a collection of interconnected and oftentimes interdependent factors.

Garg and Kalra (2018) examined how macroeconomic variables affected the Indian stock market. They looked into how macroeconomic factors affected the Indian stock market using data spanning from 1991 to 2017. They found a positive correlation between macroeconomic variables such as GDP, gold prices, foreign exchange rate, exchange rate, and the Sensex, or benchmark index of the BSE, with the exception of unemployment and inflation.

Megaravalli and Sampagnaro (2018) investigated the relationship – both short-term and long-term – between China, Japan, and India's securities exchanges and key macroeconomic variables like inflation and exchange rates. The study employed monthly series data spanning from January 2008 to November 2016. The swapping scale, or exchange rate, has a positive and significant long-term impact on securities exchanges, according to the results of the pooled assessed implications of the three ASEAN countries. In contrast, inflation has a negative and negligible long-term impact. For the foreseeable future, there isn't an objectively significant correlation between macroeconomic variables and securities exchanges.

Krishna Gadasandula (2019) investigated the relationship between macroeconomic variables and the Indian stock market. The following tests are used: Granger and Geweke causality tests, Johansen-Julius co integration test, Zivot-Andrews (ZA), Philips-Perron (PP), and augmented Dickey Fuller (ADF) unit root tests. The results show that, in the cases of GDP and inflation, bank rate and GDP, exchange rate and GDP, NIFTY Index and GDP, exchange rate and inflation, and bank rate and NIFTY Index, respectively, there are one-way causal relationships.

Jain & Singh (2020) studied the impact of IIP and exchange rate on the BSE Sensex. Correlation and regression analysis were used. The study shows that the Indian stock market is impacted by IIP and exchange rates. IIP has a significant and positive influence on the Sensex, whereas the exchange rate has a negligible and negative impact.

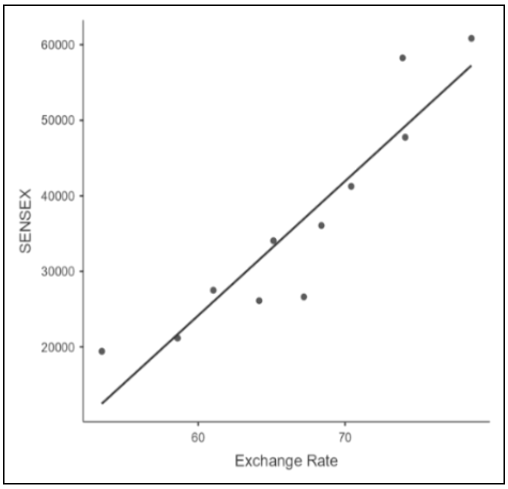
Yadav, Khera, & Mishra (2021) investigates the correlation between macroeconomic variables and the price dynamics of stocks in India. The BSE SENSEX serves as a stand-in for the Indian stock market, while the Foreign Reserve, Exchange Rate (Indian vs. US Dollar), and CPI represent the macroeconomic indicators. Between January 2000 and February 2020, monthly data from the Reserve Bank of India and the Bombay Stock Exchange were used to apply the Johansen Cointegration Test and the Vector Error Correction Model (VECM).

Data Analysis and Interpretation

Table 1: Exchange Rate and Sensex (2012-2022)

Years	Exchange Rate	Sensex
2012	53.4376	19426.71
2013	58.5978	21170.68
2014	61.0295	27499.42
2015	64.1519	26117.54
2016	67.1953	26626.46
2017	65.1216	34056.83
2018	68.3895	36068.33
2019	70.4203	41253.74
2020	74.0996	47751.33
2021	73.918	58253.82
2022	78.6045	60840.74

(Source: Website of BSE and NSO, RBI etc.)

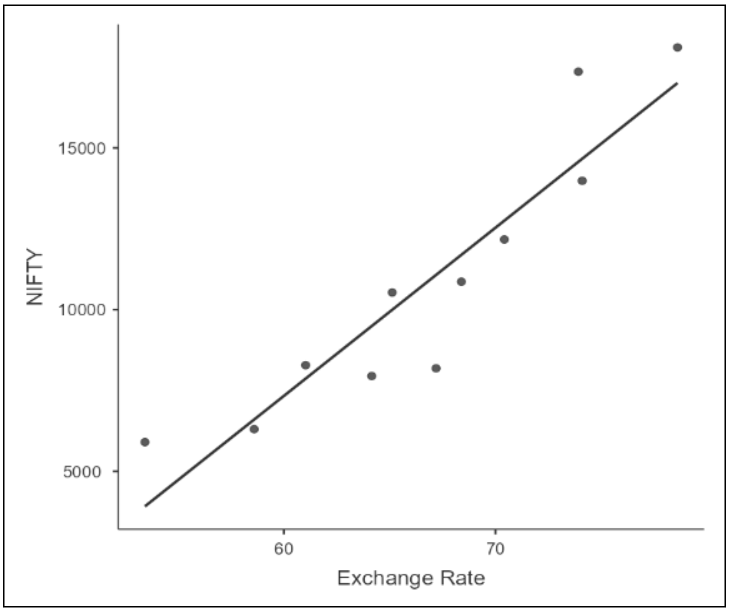


From the above data and scatter plot, it is clear that there is close association between Exchange Rate and SENSEX. When Exchange Rate increases SENSEX also rises and vice-versa except in 2017 which shows inverse relation between these two.

Table 2: Exchange Rate and Nifty-50 (2012-2022)

Years	Exchange Rate	Nifty 50
2012	53.4376	5905.1
2013	58.5978	6304
2014	61.0295	8282.7
2015	64.1519	7946.35
2016	67.1953	8185.8
2017	65.1216	10530.7
2018	68.3895	10862.55
2019	70.4203	12168.45
2020	74.0996	13981.75
2021	73.918	17354.05
2022	78.6045	18105.30

(Source: Website of NSE and NSO, RBI etc.)



From the above data and scatter plot, it is clear that there is close association between Exchange Rate and NIFTY. When Exchange Rate increases NIFTY also rises and vice-versa except in 2017 which shows inverse relationship between these two.

Conclusion

This study sought to ascertain the relationship between the exchange rate and the SENSEX and NIFTY. With the exception of 2017, when there is an inverse relationship, the analysis demonstrates a strong correlation between the exchange rate and a few chosen macroeconomic indices. The underlying theory is that a rising domestic stock market leads investors to feel that the country's economy is performing well, which in turn attracts interest from foreign investors and raises demand for the currency. Conversely, foreign investors withhold their money and lose faith if the stock market underperforms. Moreover, by considering additional sector indices and relevant macroeconomic variables at the national and international levels, the study's scope can be increased. When choosing what to trade and when to trade it, traders and investors should consider a number of indicators. While the forex market can be an intriguing element to take into account when analysing stocks, it is insufficient to accurately predict market movements on its own, and vice-versa.

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