

# The Impact of Exchange Rate Movements on Stock Market Volatility in South Asia's Diverse Economies

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## Abstract

**Introduction:** Comprehending the impact of exchange rate movements on stock markets reveals the interdependence of financial markets and the broader economy. The purpose of this study is to examine how changes in exchange rates affect stock market volatility in India, Sri Lanka, and Bangladesh. This approach highlights the similarities and contrasts between economies at different stages of development within the same region, making the results more pertinent to policymakers and investors.

**Methodology:** This research investigates the period from 2014 to 2023 using daily time series data, with a focus on volatility modelling and causality analysis. The Augmented Dickey-Fuller test is used to ascertain whether the time series is stationary. Using the Granger Causality Test, the strength and direction of the correlation between stock returns and currency rates in Bangladesh, India, and Sri Lanka are then examined. Further analysis of the volatility dynamics is done using the GARCH (1,1) model, surpassing Granger causality's directional linkages and capturing time-varying stock returns.

**Findings:** While the Granger causality test and the GARCH (1,1) model focus on distinct dimensions of causal links and volatility dynamics, respectively, their conclusions are broadly consistent across the three countries. Both tests demonstrated that Sri Lanka and India has significant correlations between currency rates and stock returns, implying a notable interaction between the two variables. Conversely, Bangladesh showed no significant interaction between the two. Furthermore, the GARCH model emphasized how historical volatility influences current volatility more than recent shocks, highlighting the significance of historical market conditions.

**Conclusion:** Depending on variables including economic size, trade openness, exchange rate regimes, imports/exports reliance, and diversity, exchange rate changes have varying effects on stock market volatility across South Asian economies. To enhance risk management and resilience, future studies should concentrate on sector specific reactions and the consequences of global shocks, particularly in areas like South Asia.

**Keywords:** Exchange rate movements, Stock market volatility, Granger causality test, GARCH (1,1) model, South Asia