

IMPACT OF FOREIGN EXCHANGE PRICES ON THE STOCK MARKETS PRICES (AN ANALYSIS OF INDIAN MARKETS)

Khurshid Ali¹ & Khalid Ashraf Chisty²

¹*Assistant Professor, Higher Colleges of Technology, Abu Dhabi, United Arab Emirates*

²*Assistant Professor, Department of Commerce, University of Kashmir, Srinagar, Jammu & Kashmir, India*

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ABSTRACT

In this study, the researchers have analyzed the relationship between foreign exchange markets and stock markets. In order to achieve the set objectives of the study, the daily observations of both the markets are recorded and each day's observations are averaged and that average value stands as the representative of the day. The reference period of four years has been taken from 01-01-2009 to 31-12-20112 and Granger Causality test is employed to determine whether foreign exchange market influences the stock market or it is the other way around. The findings of the study affirm that there exists no causality relationship between the two markets. These findings corroborate with the findings put forth by Mohammad and Rashid (2003), Badnar and Gentry, Geepi Gulati and MOnika Kakhani, et. al., Hence, strengthening the findings of the study.

KEYWORDS: Foreign Exchange Market, Stock Market, Granger Causality Test

INTRODUCTION

The contemporary global financial system is highly intricate and interdependent, besides, the advancement of information technology has induced synergetic correlation among the various organs of the financial system. Hence, it attracts researchers, practitioners and policy makers, etc. to explore the dynamic relationship among various subsystems of the financial system. Now-a-days in a financial system, every market influences the functioning of another market. In this regard, the interaction between stock market and foreign exchange market has attained forefront for these two markets are the most sensitive segments of a financial system and are considered barometers of the economic health of a country. Besides, the exposure of a country towards the outer world can be easily felt from these markets.

Globalization has converted the whole world into a single financial hub, thereby, facilitating the movement of capital across the globe. In this process, the emerging economies like, India have emerged as attractive destinations for the international capital for providing better returns. But these returns can be eroded in case of depreciation in the currency of the host country. This depreciation in the domestic currency influences the inflow of foreign capital in the form of both Foreign Institutional Investment (FIIs) and Foreign Direct Investment (FDI).

However, the erosion in the market capitalization of listed companies influences the inflow of FIIs only. Besides, the exchange rates also affect the competitiveness of a country in the international markets. Any depreciation leads towards an increase in the import bill and any appreciation leads towards a decrease in the export earnings. This complex nature of the market keeps policy makers busy in maintaining a proper equilibrium in the exchange rates throughout the world, particularly in developing country.

Indian stock market was opened to foreign investors in 1992, since then huge foreign investment has been put in the stock market of India. The continuity of this story depends upon the returns generated by the stock market. The deregulation process has helped India to grow enormously which got reflected into the returns generated by the stock market. Hence, it can be said that the foreign exchange market and stock market are two important components of any financial system which help us in knowing the direction taken by the economy.

REVIEW OF LITERATURE

The study was undertaken by Aggarwal regarding exchange rates and stock prices in emerging financial markets and the study put forth that there exist an inverse relationship between exchange rates and stock prices. The study of Sonnen and Hennigor made an analysis of exchange rates and stock prices and the findings confirmed negative relationship between the controlled variables. Bahmani et al examined the reverse relationship between the controlled variables and witnessed that the controlled variables do influence each other in the short run but could not establish a long-run relationship.

The study was undertaken by Abdulla (1997) in which the researchers took India, South Korea, Pakistan and Philippines as the sample and analyzed the relationship between the exchange rates and stock prices. The results confirmed that the controlled variables do have long-term relationship in case of India and Philippians. However, in case of Pakistan and South Korea short-term positive relationship was found as exchange rates influence stock prices. Amare and Mohsin (2000) made a comprehensive study in which the researchers took nine Asian countries as the sample. The results confirm significant links except in case of Japan, Singapore and Thailand. The findings affirmed that there exists bi-directional links between the controlled variables in the long-run. In the short run stock prices do influence exchange rates in most cases. Muhammad and Rashed (2003) examined the links between exchange rates and stock prices but the findings witnessed no short-run or long-run relationship between the controlled variables.

Stavarak (2004) examined the interdependence between the stockmarkets and the real effective exchange rates of four veteran European Union members, four new members and the United States of America. The results of the study confirmed both short-run and long-run relationship in case of veteran European Union members and the United States of America. In the case of new members only negative short run linkages could be found.

Ajayi and Mougoue (1996) Examine the short-run and long-run relationship between stock prices and exchange rates in eight advanced countries. The findings put forward affirmed that an increase in stock prices causes the currency depreciation for both the U.S.A and the U.K. markets. Bodnar and Gentry (1993) undertook a study but could not find any significant linkages between dollar movements and stock returns for the U.S.A. firms. The study made by Chamberlain, Howe and Popper (1997) finds that the banking stock returns are very sensitive to exchange rate movements but not for Japanese banking firms. The study undertaken by Deepa and Monika (2012) concluded that there exists no relationship between the

controlled variables. Ma and Kao (1990) in their study came up with the findings which affirmed that a currency appreciation negatively affects the domestic stock market for an export oriented country and positively affects the domestic stock market for an import oriented country. Pan Fok and Lui1 (1999) investigated the causal relationship between stock prices and exchange rates and concluded that the exchange rates granger-cause stockprices with less significant causal relations from stockprices to exchange rates. The study further affirmed that the causal relationships have been stronger after the Asian Crises.

RESEARCH METHODOLOGY

Granger causality analysis (GCA) is a method for investigating whether one time series can correctly forecast another. This method is based on multiple regression analysis. Therefore, in this study Granger Causality Test is employed to test the bi-directional relationship between the variables under the study.

If we have two time series X and Y, the paired model is as following:

$$Y_t = \sum_{n=1}^p A_n X_{(t-p)} + \sum_{n=1}^p B_n Y_{(t-p)} + CZ_t + E_t$$

$$X_t = \sum_{n=1}^p A_n Y_{(t-p)} + \sum_{n=1}^p B_n X_{(t-p)} + CZ_t + E_t$$

Data-Base

In order to achieve the set objective of the study, the daily observations of both the markets are recorded such as open price, high price, low price, last price and close price and each day's observations are averaged and that average value stands as the representative of the day. This data has been obtained from the official website of National Stock Exchange of India (NSE). The stock market is represented by S&P CNX-50 and the exchange rate by INR-USD. The reference period of four years has been taken from 01-01-2013 to 31-12-2016. The Granger Causality test is employed to determine whether foreign exchange prices influence the stock market prices or it is the other way round.

Hypothesis

H01: Foreign exchange rate does not Granger cause stock indices

H02: Stock index does not Granger cause foreign exchange rate.

Table 1

Null Hypothesis	Observe	F-Statistic	Probability
CNX Does not Granger cause currency	934	0.921	0.398
Currency does not Granger cause CNX	934	0.949	0.385

From the above analysis, it can be seen that the probability value stands at 0.3986 which is higher than the significance value which is 0.05%, hence, on the basis of these results Null Hypothesis is accepted that CNX NIFTY 50 does not Granger Cause Currency prices. In case of second Null Hypothesis, the probability value stands at 0.3986 which is again higher than the significance value of 0.05%, thus, accepting the second Null Hypothesis that Currency Prices do not Granger Cause CNX NIFTY 50. Therefore, it can be said that both the variables under study do not have any statistically significant relationship as both of the variables do not influence each other. The findings of the study affirm that there exists no causality relationship between the two markets. These findings corroborate with the findings put forth by Mohammad and Rashid (2003), Badnar and Gentry, Gepti Gulati and Monika Kakhani, et. al., Hence, strengthening the findings of the study.

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