

Trends in Exchange Rate of Indian Rupee as Against U.S. Dollar

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ARTICLE DETAILS

Article History

Published Online: 13 March 2019

Keywords

Exchange Rate, Indian Rupee, U.S. \$, Growth Rate, Trends, Pre- Crisis Period, Post- Crisis Period.

ABSTRACT

Financial markets are arrangements that deals in financial securities (or financial instruments) and financial services. These are the markets that facilitate the buying and selling of financial services. The corporations, financial institutions, individuals and the government are participants in the financial markets. The foreign exchange market is important element of the financial market of any country. In foreign exchange market, paper denominated in a given currency is traded against paper denominated in another currency. It is the market where exchange rates are determined. An exchange rate regime is the way at which one currency may be converted into another currency. In this paper, an attempt has been made to study the trends in exchange rate of Indian Rupee as against U.S. Dollar during the pre- crisis period and post- crisis period. The study found that the annual growth rate of Indian Rupee recorded negative only during 2010-11 but remained positive throughout the second phase. There was a highest increasing trend 140.64 per cent, 137.27 per cent, 128.21 per cent and 126.86 per cent in 2016-17, 2015-16, 2014-15 and 2013-14 respectively. The Indian Rupee recorded negatively insignificant growth rate of 1.46 per cent as against U.S. Dollar during the first phase and recorded significant growth rate of 6.23 per cent during the second phase.

1. Introduction

The foreign exchange market is important element of the financial market of any country. In foreign exchange market, paper denominated in a given currency is traded against paper denominated in another currency. It is the market where exchange rates are determined. An exchange rate regime is the way at which one currency may be converted into another currency. The exchange rates are quoted either in direct quotation or in indirect quotation. The direct quotation is the quotation in which exchange rates are expressed as number of units of domestic currency per unit of foreign currency. In indirect quotation, exchange rates are expressed as number of units of foreign currency per unit of domestic currency.

India has observed extreme fluctuations caused by rapid changes in demand and supply forces in Forex markets leading to sudden and sharp depreciation of Indian Rupee against US Dollar. There has been so wild fluctuations in exchange rate of Rupee as against U.S. Dollar since 2000, with the exchange rate peaking at 1 U.S. Dollar = 48.5 INR in 2002, to a low of 1 U.S. Dollar = 41.34 INR in 2007. Due to this volatile trend, exchange rate of Rupee as against U.S. Dollar arrived at uppermost in its lifetime of 1 U.S. Dollar = 68.85 INR on 28 Aug 2013 (RBI, 2017).

According to a study conducted by Jayachandran (2013), exchange rate fluctuations have significant negative impact on real exports and imports, meaning that higher fluctuations in exchange rate of Indian Rupee tend to reduce real exports in country. Srinivasan and Kalaivani (2012) also revealed that higher exchange rate fluctuation tends to reduce real exports in India over the period 1970 to 2011. Narang Viney (2014) analyzed that exchange rate fluctuations have adverse effect

on profitability, revenues, expenses, costs, imports and it caused into high burden of foreign currency loans. High burden of loans made our companies uncompetitive in international business. He also found that the rapid decline in rupee value will increase inflation due to increase in price of oil which in turn will adversely affect all related sectors of economy.

2. Review of Literature

Kaur (2000) in her thesis measured the extent of volatility of the Indian stock market during the period January 1990 to September 1998. It had been found that violent changes in share prices cluster around initiated in the country. For the total period, the overall monthly volatility of Sensex was 9.63 per cent and of Nifty was 9.46 per cent. It was also found that when compared with the other stock markets of the world, the volatility of the Indian market was quite high as against the major markets such as Hong Kong, Singapore, Germany, Japan, United Kingdom and USA. It was more volatile than even some of the emerging Asian and Latin American markets like Malaysia, South Korea, Thailand and Chile. The Indian stock market was less volatile during the study period than the highly volatile Latin American markets such as Argentina, Brazil and Mexico.

Prakash (2012) in his paper analysed major episodes of volatility in Indian foreign exchange market in the past two decades from 1993 to 2013, caused either by exogenous or endogenous factors, or a combination of both. The analysis revealed that there had been a significant increase in exchange rate volatility in the aftermath of the global financial crisis, signifying the greater influence of volatile capital flows on exchange rate movements. An important aspect of the policy response in India to the various episodes of volatility had been

market intervention combined with monetary and administrative measures to meet the threats to financial stability. The paper emphasised on the need to address the structural problems present in India's external sector, especially the persistence of large trade and current account deficits, for a sustainable solution to the problem of exchange rate volatility.

Sahu (2012) in his paper analyzed the volatility spillovers from the exchange rates of the Brazilian Real, the Russian Ruble, the South Korean Won, the Singapore Dollar, the Japanese Yen, the Swiss Franc, the British Pound Sterling and the Euro to the exchange rate of the Indian Rupee during the period from 2005 to 2011. The study employed a two-step multivariate GARCH framework to examine the dynamics of exchange rate volatility and its spillovers. The study found evidence of conditional autocorrelation and persistence of volatility in daily exchange rates of all nine currencies. The study further viewed that volatilities observed in the exchange rate of the leading currencies transmit to volatility in the daily exchange rate of the Indian Rupee.

Khondker et al. (2012) analyzed the effects of exchange rate fluctuations on economic growth in Bangladesh over the period 1980 to 2012. The study was based on secondary data. The statistical tool Vector Autoregressive (VAR) was used for analysis. The study revealed that 10 per cent depreciation of the real exchange rate was observed in the long-run as a result of increase in the aggregate output by 3.2 per cent, while, a contractionary effect was observed in the short-term. The analysis also found that same size of depreciation in the real exchange rate had result in half per cent decline in Gross Domestic Product.

3. Objectives of the study

The main objectives of the study are:

- To study the trends in exchange rate of Indian Rupee as against U.S. Dollar in pre- Crisis period.
- To study the trends in exchange rate of Indian Rupee as against U.S. Dollar in post- Crisis period.

4. Research Methodology

The present study is based on secondary data. The data relating to exchange rate of Indian Rupee as against U.S. Dollar during pre- crisis period and post- crisis period has been collected from the annual reports of Reserve Bank of India for the period 2001-02 to 2016-17. For the purpose of the study, the trends in exchange rate of Indian Rupee as against major U.S. Dollar were analyzed during first phase i.e. 2001-02 to 2008-09 as well as second phase i.e. 2009-10 to 2016-17. To analyze the trends on year- to- year basis percentage growth rate over the base year is calculated and to check the overall trend pattern of exchange rate of Indian Rupee as against U.S. Dollar exponential growth rate is calculated. The coefficient of variation is calculated to see the variability in exchange rate

5. Trends in Exchange Rate of Indian Rupee as against U.S. Dollar

The U.S. dollar is the world's primary reserve currency as it is the most used in international transactions. The Reserve Bank intervened actively in the forex market to reduce the volatility in the market. During this period, the Reserve Bank made direct interventions in the market through purchases and sales of the US Dollars in the forex market and sterilised its impact on monetary base.

TABLE 1.1
Trends in Exchange Rate of Indian Rupee as against U.S. Dollar
(Per Unit of U.S. Dollar)

First Phase				Second Phase			
Year	Exchange Rate of Indian Rupee	% (Trend)	Percentage Change	Year	Exchange Rate of Indian Rupee	% (Trend)	Percentage Change
2001-02	47.6919	100	-	2009-10	47.4433	99.48	-
2002-03	48.3954	101.48	1.48	2010-11	45.5626	95.54	-3.96
2003-04	45.9515	96.35	-5.05	2011-12	47.9229	100.48	5.18
2004-05	44.9315	94.21	-2.22	2012-13	54.4099	114.09	13.54
2005-06	44.2735	92.83	-1.46	2013-14	60.5019	126.86	11.20
2006-07	45.2495	94.88	2.20	2014-15	61.1436	128.21	1.06
2007-08	40.2607	84.42	-11.03	2015-16	65.4685	137.27	7.07
2008-09	45.9933	96.44	14.24	2016-17	67.072	140.64	2.45
E.G.R.	-1.46			E.G.R.	6.23		
Mean	45.34			Mean	56.19		
C.V.	5.45			C.V.	15.17		
t-value	-2.11			t-value	9.31		

Table 1.1 presents the trends in exchange rate of Rupee as against U.S. Dollar during the first phase i.e. 2001-02 to 2008-09 as well as second phase i.e. 2009-10 to 2016-17. The exchange rate of Indian Rupee as against U.S. Dollar decreased from 47.69 to 45.99 during the first phase period and increased from 47.44 to 67.07 during the second phase. The annual growth rate of Indian Rupee as against U.S. Dollar

recorded highest during 2008-09 but remained negative throughout the first phase. The annual growth rate of Indian Rupee recorded negative only during 2010-11 but remained positive throughout the second phase.

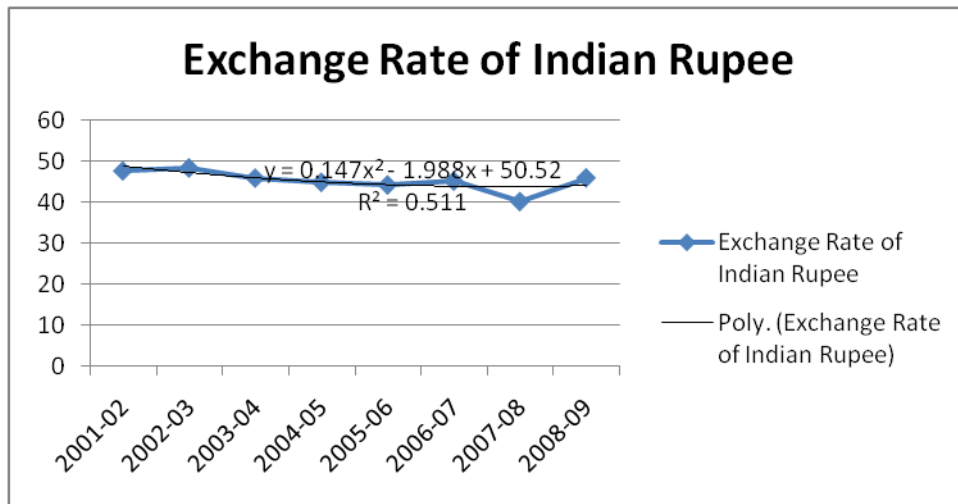
In first phase, there was a slightly increasing trend 101.48 per cent in 2002-03 from the base year 2001-02. There was a

slight decreasing trend after 2002-03 throughout the study period but in 2007-08, there was high decreasing trend 84.42 per cent. In second phase, there was a decreasing trend 99.48 per cent and 95.54 per cent in 2009-10 and 2010-11 respectively, while there was an increasing trend throughout the study period. There was a highest increasing trend 140.64 per cent, 137.27 per cent, 128.21 per cent and 126.86 per cent in 2016-17, 2015-16, 2014-15 and 2013-14 respectively. The Indian Rupee recorded negatively insignificant growth rate of 1.46 per cent as against U.S. Dollar during the first phase and

recorded significant growth rate of 6.23 per cent during the second phase.

The trends in exchange rate of Indian Rupee as against U.S. Dollar in first phase has been shown diagrammatically in figure 1.1. The figure represents the polynomial trend which shows that there are fluctuations in exchange rate during first phase. The value of coefficient of determination R^2 was found to be 0.511 which is higher in other trends that represents that our polynomial model of trend line is best fitted model of trend line.

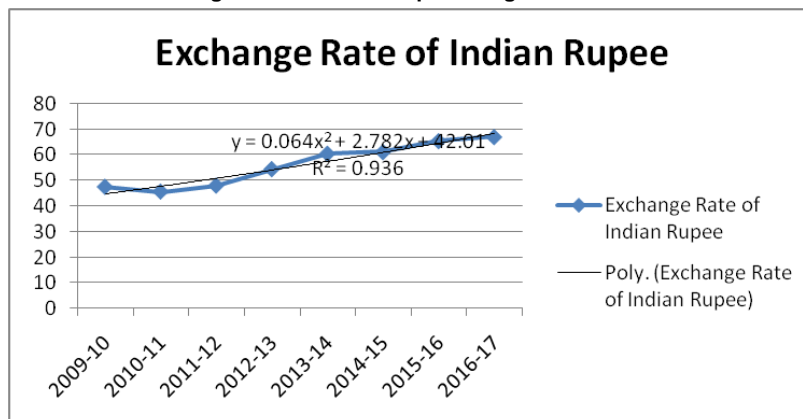
Figure 1.1: Trends in Exchange Rate of Indian Rupee as Against U.S. Dollar in First Phase



The trends in exchange rate of Indian Rupee as against U.S. Dollar in second phase has been shown diagrammatically in figure 1.2. The figure represents the value of $R^2 = 0.936$ which shows that there were many fluctuations in exchange

rate during second phase. The value of coefficient of determination R^2 was found to be higher in other trends that represents that our polynomial model of trend line is best fitted model of trend line.

Figure 1.2: Trends in Exchange Rate of Indian Rupee as Against U.S. Dollar in second Phase



6. Conclusion

The study revealed that the annual growth rate of Indian Rupee as against U.S. Dollar recorded highest during 2008-09 but remained negative throughout the first phase. The annual growth rate of Indian Rupee recorded negative only during 2010-11 but remained positive throughout the second phase. There was a highest increasing trend 140.64 per cent, 137.27 per cent, 128.21 per cent and 126.86 per cent in 2016-17, 2015-16, 2014-15 and 2013-14 respectively. The Indian Rupee recorded negatively insignificant growth rate of 1.46 per cent as

against U.S. Dollar during the first phase and recorded significant growth rate of 6.23 per cent during the second phase. The value of coefficient of determination R^2 was found to be 0.511 which is higher in other trends that represents that there is polynomial trend in first phase. The value of coefficient of determination R^2 was found to be 0.936 which is higher in other trends that represents that there is polynomial trend in second phase.

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