

AN EMPIRICAL ANALYSIS OF RUPEE - DOLLAR FLUCTUATIONS ON ECONOMY

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Abstract:

The value of one unit of a currency in term of other currency is crucial aspect of stability of the country's economy in current uncertain global financial condition. The global financial crisis has resulted in the demolition of giant financial institutions & banks, tightening the flow of capital into the market, with considerable effects on the real economy all over the world. The crisis has a direct impact on demand and supply of currencies, leads to fluctuation of exchange rate, INR/USD, across countries, a shock to one currency is spreading rapidly to the economy, thereby frightening the stability of the whole economy. This paper empirically analyses the impact of INR/USD fluctuation of the country's economy. The conditions which have been produced in the economy due to devaluation of INR against the USD reveals a close statistical relation on many sectors, during the time span of 8 years, April 2006 to April 2014. The exchange rate has been witnessed high levels of volatility from a low of 39.37 in January 2008 to 66.89 in Sep 2013 during the chosen period. India by now suffered from huge fiscal and CAD (Current Account Deficit) adversely impacted by rate pressure. In last one year the local currency down around 15 % to the USD. To pathway it again many stiff decisions has been taken by RBI and Government. This paper analyses the impact and cause on the exchange rate on the economy and measures to create stability.

KEYWORDS:

Dollar Fluctuations, CAD, Exchange rate. USD, INR.

INTRODUCTION:

Exchange rate, the rate between currencies at which one currency will be exchanged with a different currency, also termed as a foreign-exchange rate, forex rate. The value of one unit of a currency in term of other currency is crucial aspect of stability of the country's economy in current uncertain global financial condition. The global financial crisis has resulted in the demolition of giant financial institutions & banks, tightening the flow of capital into the market, with considerable effects on the real economy all over the world. The crisis has a direct impact on demand and supply of currencies, leads to fluctuation of exchange rate, INR/USD, across countries, a shock to one currency is spreading rapidly to the economy, thereby frightening the stability of the whole economy.

The Current prevailing exchange rate (ER) is the Spot exchange rate while the rate which is quoted at present, but payment and delivery settlement will be held at an exact future date termed forward exchange rate. A demand – supply mechanism determine the exchange rate a currency, a currency tends to become more valuable whenever demand for it is greater than the available supply.

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The Indian rupee was associated to the UK Pound from 1950 to 1973. On 24th September 1975, the association between Indian rupee and pound was ended up and rupee ties to the pound sterling were detached. A floating exchange rate system was established by Country. The effective exchange rate of Indian rupee (INR) was placed on a floating basis and connected to a “Basket of currencies” with trading associates of India. A unified exchange rate system, a structure of the market driven exchange rate was adopted instead off Liberalized exchange rate system (LERMS) in 1993. However, the RBI did not surrender its power and duty to arbitrate into the market to manage the Indian currency.

In 1971 collapse of the Bretton Woods system marked the foundation of the floating exchange rate system in several countries. A series of economic reforms along with liberalization of foreign money inflows were started since the early nineties in India. Foreign exchange market is evolving as the one of the largest market in the world with a daily turnover of USD 5.5 trillion. The focus was given to large reforms of deepening and widening the Forex market and liberalization on control.

We review the theoretical and empirical evidence on the relationship between Co movements in the exchange rate, INR –USD, and the impact on the economy, via Current account deficit, Export, Import volume and Foreign Reserve of the country. We try to find the impact of Exchange rate on the performance of these economic indicators, between the time span of 8 years, April 2006 to April 2011. This Policymakers need to have a comprehensible understanding of the Impact, type and nature when deciding on suitable responses.

OBJECTIVES OF THE STUDY

- 1) To understand determinants of Exchange rate.
- 2) To study the empirical relation of Exchange rate fluctuation on the Indian economy
- 3) To study the empirical relation of Exchange rate fluctuation Current account deficit, Export, Import volume and Foreign Reserve of the country.
- 4) To study the Co relation of Exchange rate fluctuation and BSE Index, as a barometer of economic.

DETERMINANTS OF EXCHANGE RATES.

Exchange rates are a significant indicator of the whole economy. Exchange rates, for instance, give information about the differences in economic activities among regions and are measured as significant economic barometers.

Many factors determine exchange rates, and all are linked to the trading association between two or more countries. Remember, exchange rates are relative, and are expressed as an evaluation of the currencies of two countries. Some principal determinants of the exchange rate between two countries are following, these factors are not in a fixed order; like many aspects of economics, the comparative importance of these factors is much debate

Differentials in Interest Rates

Interest rates and exchange rates are all highly correlated. By changing interest rates, central banks exert control over exchange rates, and changing interest rates directly impact currency values.

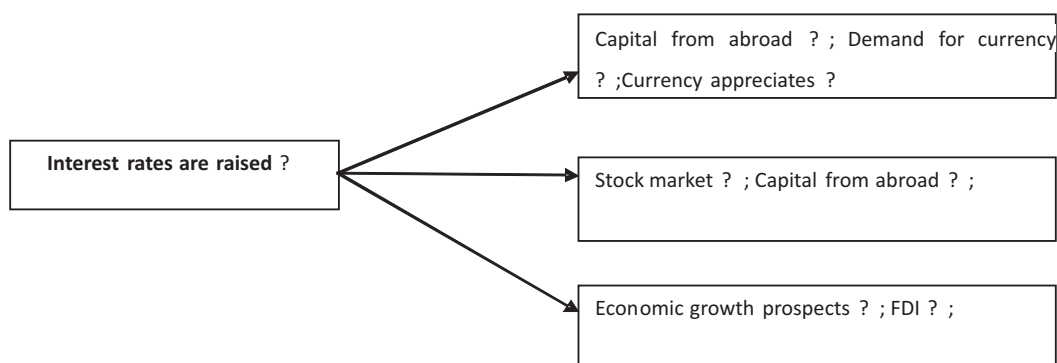


FIG:1 Impact on the exchange rate when interest rates are raised

Higher interest rates pull foreign capital and result the exchange rate to rise. The reverse connection exists for decreasing interest rates - that is, lower interest rates cause decrease in exchange rates.

Differentials in Inflation

A country with a constant lower inflation exhibits a growing currency value, as its purchasing power increases compared to other currencies. During the last two decades, the countries with low inflation integrated Germany, Japan, and Switzerland, while Canada and U.S.A achieved low inflation recently. The countries with the highest inflation normally sees depreciation in their currency in comparison to the currencies of other trading partner. This is also typically accompanied by upper interest rates.

Public Debt

Countries will engage in large-scale deficit financing to pay for public sector projects and governmental funding. While such activity stimulates the domestic economy, nations with large public deficits and debts are less attractive to foreign investors. A large debt encourages inflation, and if inflation is high, the debt will be serviced and ultimately paid off with cheaper real dollars in the future.

In the worst case scenario, a government may print money to pay part of a large debt, but increasing the money supply inevitably causes inflation. Moreover, if a government is not able to service its deficit through domestic means (selling domestic bonds, increasing the money supply), then it must increase the supply of securities for sale to foreigners, thereby lowering their prices. Finally, a large debt may prove worrisome to foreigners if they believe the country risks defaulting on its obligations. Foreigners will be less willing to own securities denominated in that currency if the risk of default is great. For this reason, the country's debt rating (as determined by Moody's or Standard & Poor's, for example) is a crucial determinant of its exchange rate.

Terms of Trade

A ratio comparing export prices to import prices, the terms of trade are related to current accounts and the balance of payments. If the price of a country's export rises by a greater rate than that of its imports, its terms of trade have positively improved. Increasing trade shows greater claim for the country's exports. This results in raising revenues from exports, which provides enlarged demand for the country's currency which leads to increase in the currency's value. If the exports rises by a smaller rate than that of its imports, the currency's value will reduce in relation to its trading partners.

Political Stability and Economic Performance

Foreign investors inevitably seek out stable countries with strong economic performance in which to invest. A country with positive attributes will attract investment funds away from other countries supposed to have more economic and political risk. Political instability, for example, can reduce confidence and a movement of capital to the currencies of more stable countries.

Speculators, Traders and Financial Instruments

Past and expected values of the currency exchange rate itself may impact on current values of it. The foreign exchange traders, investors and speculator may turn out to be very relevant to the determination of the exchange rate in market. Financial instruments like F&O (future, Forward And option) may also play an vital role on the determination of exchange rates.

A currency speculator, who expects the rate of a foreign currency to be higher in two months, may purchase the currency in the spot market at today's spot rate, hold it for two months, and then resell it in the spot market after two months. If he is right, he will earn a profit; otherwise, he will break even or get a loss. On the other hand, a speculator who expects the rate of a foreign currency to be lower in two months can borrow the foreign currency and exchange it for the domestic currency at today's spot rate. After two months, if the spot rate on the foreign currency is adequately lower, he can earn a profit by repurchasing the foreign currency (to repay the foreign exchange loan) at the lesser spot rate.

RESEARCH METHODOLOGY :

The study makes an attempt to establish relation between ER of Usd/INR and Economic indicator

in India during the period of April 2006 to April 2014, ER (USD/INR) have been witnessed high levels of volatility from a low of 39.37 in January 2008 to 66.89 in Sep 2013 during the chosen period.

The monthly data on ER are collected from Database of Indian Economy, RBI Timely data on other variables Trade balance, Export, Import volume and Foreign Reserve of a country consider in this study has been sourced from the RBI, while Data of BSe Sensex sourced from BSE India.

The paper attempted to study the relationship of ER on stock indices and other indicator through the statistical correlation test The tests have been conducted between ER USD/INR) and time series data on selected indicators.

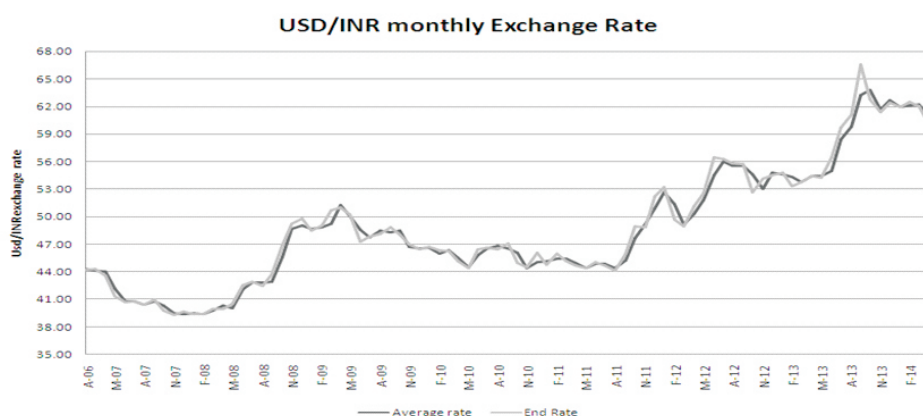
Correlation measures the degree of association between two variables, Karl Pearson's Coefficient of Correlation is used to show a degree of quantitative relation between two variables X & Y.

The coefficient of correlation (r) lays in between +1 and -1, used to measure the extent of the connection between two variables. Where +1 and -1 are the two extreme ends of the scale show strong +ve correlation and a strong -ve correlation respectively. The sign of 'r' shows direction and absolute rate indicates the amount of the relationship.

DATA AND EMPIRICAL ANALYSIS :

The accessible situation is creating external as well as internal threats for the economy. India may face financial crisis if we fail to stop falling in the rupee. There is a complex choice for the central bank to best use its narrow reserve and continue the reliability among foreign investors. The data is showing continuous depreciation of the INR with US dollar.

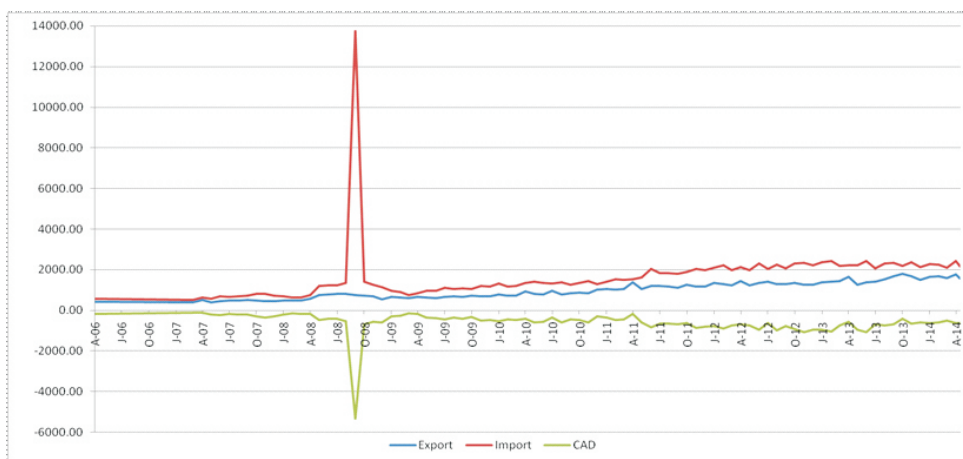
The 96 Monthly data from April-2006 till April 2014 of ER USD/INR (ERUI), Foreign Exchange Reserve in USD Million (FEU), BSE by index BSE-Sensex (BSE-S), Current Account Deficit (CAD)s, Export Volume (EX), Import volume (IM) has been calculated.



Source: RBI and planning commission

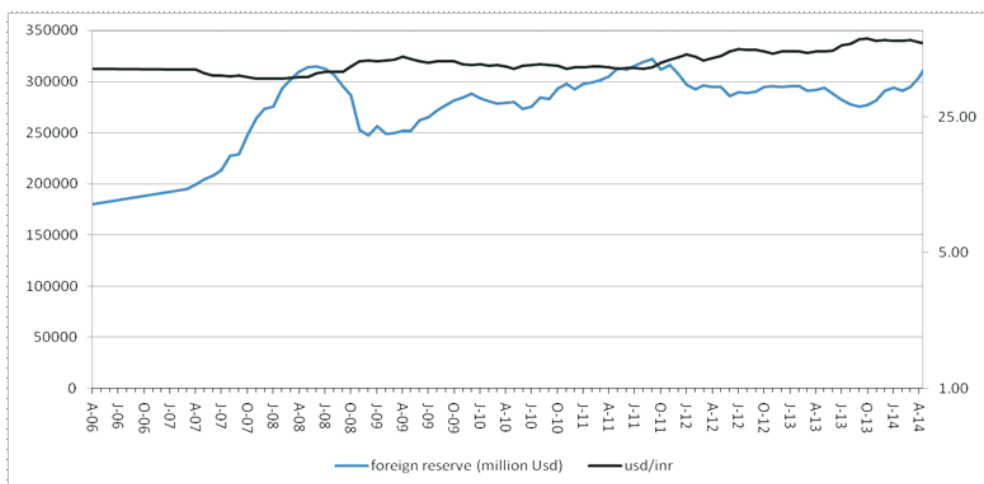
Chart 1: Monthly USD/INR End Rate And Average Rate

Chart 1 shows the movement of the closing price and average price of USD/ INR on monthly basis on the gather data from April -2006 to April-14.



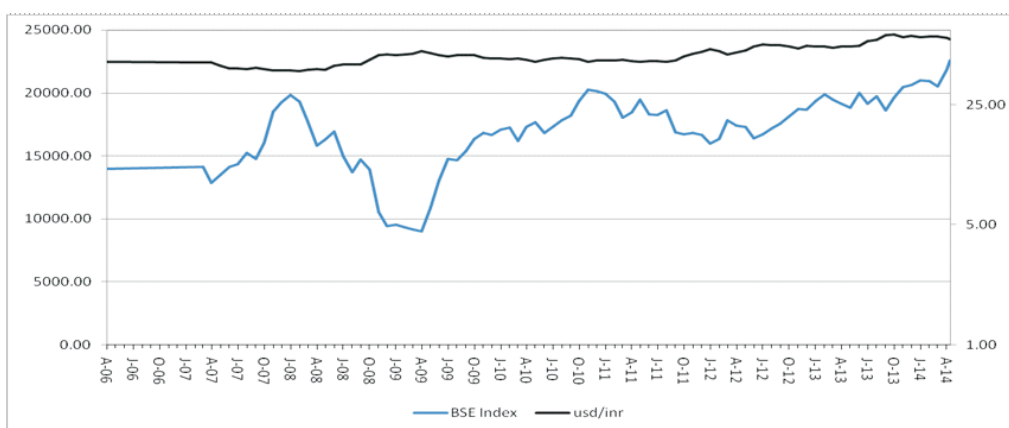
Source: RBI and planning commission India

Chart 2: Monthly Current Account Deficit (CAD), Export Volume (EX), Import volume (IM)
 Chart 2 explore the monthly movement of Import , Export and Current Account Deficit of India. The line graph shows the co-movement of three parameter during study period.



Source: RBI and planning commission India

Chart 3: Monthly Foreign Exchange Reserve in USD Million (FEU) and Avg USD/INR.
 Chart 3 show co movement of Monthly Foreign Exchange Reserve in USD Million (FEU) and Average price of USD/INR for selected research period, this graph predict the Un-even distributive movement.



Source: RBI and planning commission India
 Chart 4: Monthly Avg BSE INDEX and Avg USD/INR
 Chart 4 use to show co movement of Monthly Average BSE Index in USD Million (FEU) and Average price of USD/INR for selected research period

Descriptive Statistics				
	Mean	Median	Std. Deviation	No of observation
ERUI	48.84	47.23	6.49	96
FEU(\$ million)	280786.54	289255.50	29526.55878	96
CAD	-586.09	-543.90	569.430655	96
EX	986.06	897.97	398.7897107	96
IM	1659.41	1414.09	1433.51343	96
BSE-S	16916.18	17291.36	2956.09	96

Table 1: Descriptive Statics

The table 1 reveals descriptive statics Mean, Median and Standard Deviation (σ) of 96 monthly collected data of the selected variables. Correlation co-efficient (r) were calculated by Karl Pearson method to find the relationship between FPE .The correlation Matrix is presented in Table 2.

This is clearly observed that the value of the coefficient of the Pearson Correlation (r) for all variables is in the range of -1 to +1.

Correlations Table							
	Correlation	ERUI	FEU	TB	EX	IM	BSE-S
ERUI	R	1	0.4229	-0.1301	0.7811	0.2264	0.3526
FEU(\$ million)	R	0.4229	1	-0.2866	0.5578	0.2995	0.6983
CAD	R	-0.1301	-0.2866	1	-0.2471	-0.9773	-0.1926
EX	R	0.7811	0.5578	-0.2471	1	0.3418	0.6275
IM	R	0.2264	0.2995	-0.9773	0.3418	1	0.1354
BSE-S	R	0.3526	0.6983	-0.1926	0.6275	0.1354	1

Table 2: Correlations Table

It was found that ER USD/INR (ERUI) and Trade Balance (TB) showed a significant negative correlation. Foreign Exchange Reserve in USD Million (FEU), BSE by index BSE-Sensex (BSE-S), Export Volume (EX), Import volume (IM) are the four selected variables which have a positive correlation ER USD/INR (ERUI).

Average USD/INR exchange rate (ERUI) is the most important governing factor of the cross border trade. The strong negative correlation between these variable approaches the pepsinate relation between them.

CONCLUSION AND RECOMMENDATION

The study for the period April 2006 to April 2014 revealed, a bi-directional correlation between ER USD/INR (ERUI) and the BSE-Sensex (BSE-S). Interest rates in India attract cross border investment to get the advantage of the positive interest rate degree of difference. Same time huge Import pressure force the demand side USD. Depreciation in the Foreign reserve (FEU) due to large Current Account Deficit (CAD) put pressure on sustainability of Exchange rate, as enhanced market response and amplified net out flows of USD.

Looking for international environment the raising Petrol prices is one of the most road block in exchange rate stability. There is a lot that can be done to attract foreign investment and enhance the INR value lead to economic growth in India. Stakeholders and entrepreneur across the industry need to work jointly with transparency and trust to produce a healthy environment for Investment.

The exchange rate of the currency in which holds the bulk of its investments determines that real return. A declining exchange rate decreases the purchasing power and capital gains derived from any investment. Moreover, the exchange rate affects other earnings factors such as inflation, interest rates and capital gains from securities.

Government should take some serious measures to bring FDI and create a strong environment for economic growth to loosen rules for investment in the Indian financial market. The answer to tackling the issue lies in attracting adequate foreign flows and the best way of doing this is by liberalizing FDI ceilings with minimizing practical hassles and creating required infrastructure to make it easy for business. Key policy reforms such as rolling of Goods and Services Tax (GST), Direct Tax Code (DTC), FDI in aviation and retail, the Companies Bill and diesel decontrol should be initiated properly.

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