IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"IMPACT OF MACROECONOMIC VARIABLES ON EXCHANGE RATE OF INDIAN CURRENCY"

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ABSTRACT:

The price of one currency in terms of another currency (exchange rate) is a very important variable for an open economy in the global market, because it affects the overall economic performance and growth of the economy. So, the relationship between exchange rate and the related macro-economic factors causing variability in the value of the former carries a high degree of significance for any open economy. Exchange Rate is one of the most important factor for any economic growth of any country, it has direct effect on international trade. This paper investigates the impact of macroeconomic factors (Current Account Deficit (CAD), Import, Export and Purchasing Power Parity (PPP)) on Exchange Rate Volatility (USD to INR) in India. To analyze how this variables have relationship in long and short run with exchange rate. Considered for analysis by applying ADF test, Stationarity Testing, Stability Test, Johansen Co- integration test, Granger Causality test to know how the variables are affecting Exchange rate and ARIMA method of forecasting has been used for forecasting future movement of exchange rates for a particular period of years. CAD of the country is controlled automatically Exchange rate will be controlled and it will also reduce the impact on all other variables. In a globalised world, exchange rate of a country is an important factor which reflects the stability and strength of its economy. Even though exchange rate it basically fixed based on the demand and supply of one's currency in the international market, we could identify various macro-economic factors which are having an impact on exchange rates with reference to developing countries like India. A clear understanding of these factors are real indicators of the movements of exchange rates. Here it is an attempt to identify the impact of various macro-economic factors like crude oil prices, GDP fluctuations, Consumer Price Index (CPI), Major capital market indices like BSE Sensex, Gold prices etc. on exchange rate of Indian currency.

Purpose: To analyze the effect of select macro-economic factors influencing the Indian Rupee value against US Dollar post- globalization.

Design/Methodology/Approach: The nature of research is Exploratory & Analytical that generates a posteriori hypothesis by analyzing a data-set and looking for potential relations between variables.

Research Implications: A strong relation between the dependent & independent variables suggests that steps taken to compress imports and promote FDI in explored & unexplored sectors can help improve the current rupee value.

Key Words: Exchange Rate, International Market, Macro-economic Factors, Indian Currency,GDP, FDI, Indian Rupee, US Dollar, Macro-economic, Post-globalization.

INTRODUCTION:

Currency Exchange Rate is one of the most important determinants of a country's economic health. Especially when a free market economic situation of the world is concerned, it is a crucial aspect which decides strength in the international trade and commerce of a country. There a question arise which are the major factors having a deep impact on the value of its currency. Currency's price, like any commodity, is determined by its demand and supply in the international market. When the supply of a currency increases, its value will fall. The opposite holds true when demand for currency increases. Currency price of an economy is affected by a variety of factors prevailing at a given time. Some of the most important factors affecting currency price generally include interest rates, international trade, inflation, political stability, and the like. The Currency exchange rates are typically four times as volatile as interest rates and ten times as volatile. The higher the volatility in exchange rate, higher will be difficulty in making investment and international business decisions which indicates a higher exchange rate risk. Hence, it becomes important for participants in the international market to know about such risks and make a choice between the two alternatives available i.e., either to invest in the domestic market and earn a specific return or to invest in international market with higher level of uncertainty where they can reduce their risk through various hedging mechanisms available. India has recently witnessed high levels of volatility leading to sharp depreciation of the Indian Rupee against the US Dollar"[1]. In 2022, the Indian Rupee breached the 80.50 per dollar. The government is trying to narrow the current account deficit by making use of certain structural measures. Exchange Rates is one of the most important determinants of countries economic growth. It plays an important role in counties trade. Exchange rate is where price of once countries currency in converted into price of other countries currency. The factors which mostly affect exchange rate of a country to fluctuate are Interest Rates, Inflation Rate, GDP, Current Account Deficits (CAD), export, import, PPP, policies and terms of trade which plays a major role. Exchange rate can be best understood as nothing more than a benchmark for a nation's money supply. When the rupee depreciates against the dollar, it simply means value of the Indian currency has gone down relatively against the greenback. This can happen because of two things: 1) increase in rupees in the market; or 2) decrease of dollars in the market"[2].

OBJECTIVES OF THE STUDY:

- To use a most fitted model and look at the factors which influence Exchange rate volatility.
- To identify whether various macroeconomic determinants like crude oil prices, BSE Sensex, gold prices, GDP, CPI etc. cause volatility in foreign exchange rate with respect to Indian currency.
- To analyse the cause-and-effect relationship between exchange rate and each macroeconomic variable using regression analysis technique.
- To find the degree of correlation between exchange rate and various macroeconomic variables.
- To study the fluctuation in Indian rupee against the dollar (INR/USD) post globalization.
- To find out the dependency of exchange rate on the causal macro-economic factors.
- To find out the factors affecting Rupee value and their relation with exchange rate.

SIGNIFICANCE OF THE PAPER: The study on the reasons for the changes in exchange rate gains relevance in a country like India where trade in goods and services across international borders are taking place at a faster pace. So, it becomes necessary to analyse the impact of various factors that cause volatility in the exchange rate. Hence this research has been carried out to investigate various macroeconomic variables leading to acute variations in the exchange rate of Indian currency"[3].

STATEMENT OF THE PROBLEM: Since developing countries have adopted either floating or managed floating exchange rates, their exchange rates are subjected to frequent fluctuations, which in turn would affect the value of goods and services being traded, both positively and negatively. When India is concerned, the volatility in exchange rate is a big problem faced by all those who relate to currency exchange. This is an attempt to explore the connection of various macro-economic determinants like, crude oil prices, BSE Sensex, gold prices, GDP, CPI etc on exchange rates.

RESEARCH METHODOLOGY:

For the study, Secondary data have been referred by the researcher. Data regarding BSE Sensex, exchange rates, crude oil prices, gold prices, CPI, GDP etc. for the past 10 years ranging from 2012 to 2022 have been collected from official websites of Bombay Stock exchange, Reserve Bank of India, Petroleum Planning and Analysis cell of Government of India, World Bank etc. Tools like averages, linear regression, correlation etc. were used for analysing the data.

REASONS FOR VARIATION IN RUPEE VALUE:

The main reasons responsible for the Indian rupee depreciation are as follows:

- High inflation: During periods of high inflation, Indian goods become more expensive in the global markets, thus making them less competitive as compared to goods from other countries like China. Increasing gold imports adds even more to the deficit.
- Widening current account deficit: This also contributes to high demand for dollars in the foreign exchange market.
- Oil price: India has to import a bulk of its oil requirements to satisfy local demand, which is rising year-on-year. In International markets, prices of oil are quoted in dollars. So, whenever the domestic demand for oil increases or when the price of oil increases in the international market, there will be a rise in demand for dollars to pay for the oil so imported which depreciates the rupee further.
- Foreign Institutional investors (FII): As per the data reported, FIIs (Foreign Institutional investors) is showing some disinterest in Indian markets lately. The slowdown in the developed economies like the US and Japan is believed to be the key reasons.
- Policy inaction: Perception of lack of clarity on the policy pulls up the speculative.
- Low forex reserves: The forex reserves have declined in the recent months. Due to this, the RBI is unable to intervene aggressively in the markets for foreign exchange.
- Growth slow-down: India's economic growth fell to a decade low of 5 per cent in 2012-13 due to which foreign investors have started pulling money out of the Indian markets speedily.

Capital controls: The decision by the Reserve Bank and the government to impose temporary restrictions on capital flows has only discouraged foreign firms from pumping money into India"[4]

- Demand and supply rule: If the demand for the dollar is greater than its supply in India, then the dollar will appreciate i.e., the rupee depreciates and vice-versa.
- Recession in the Euro zone: India's largest supply market: Due to the Euro-crisis, risk averse investors are selling Euro and buying Dollars thereby leading to appreciation of the dollar in comparison to other currencies.

RUPEE DEPRECIATION AND APPRECIATION:

Devaluation means decreasing the value of a nation's currency relative to gold or currencies of other nations. Devaluation is usually undertaken as a means of correcting a deficit in the balance of payments, Inflation and economic growth of a nation.

Rupee depreciation means that rupee has become relatively less worthy with respect to dollar i.e., rupee has lost some value w.r.t. the dollars. If the Indian Rupee moves from Rs. 60 a dollar to Rs. 80 a dollar then the rupee is said to have depreciated.

Rupee appreciation means that the rupee has become more valuable in comparison to the dollar. If the Indian Rupee moves from Rs. 80 a dollar to Rs. 60 a dollar then the rupee is said to have appreciated. It means that we can buy more dollars now with the same amount of rupees.

This is important because when goods are imported, we first buy dollars and then the goods. So if dollars become expensive, it follows that imports are expensive"[5].

LIMITATIONS OF THE STUDY:

- The study is to be conducted taking into consideration the summarized data of macroeconomic variables of Indian Rupee for particular period of years.
- To study the impact of the exchange rate caused by other macroeconomic variables are not to be considered.
- The exchange rates are subjected to frequent fluctuations during the periods 2019 and 2022 due to worldwide Covid pandemic, which has to be taken into consideration.

To give an overview of theoretical approaches to Indian Currency Market & Rupee position in the global foreign exchange market"[6].

SETTING UP OF HYPOTHESIS:

Hypotheses Development: There are several factors affecting the exchange rate like the inflation, interest rates, current account deficits, public debt, the terms of trade, economic and political factors, FDI, FII, etc. From these following independent variables can be identified for the purpose of the study:

- Crude oil prices do not cause volatility in exchange rates
- Inflation Rate
- Lending Interest Rate
- GDP fluctuations do not cause volatility in exchange rates
- Consumer Price Indices(CPI) do not affect exchange rates
- BSE Indices do not cause fluctuations in exchange rates
- Foreign Direct Investment (FDI)
- Gross Domestic Product (GDP) Growth Rate
- Current Account Deficit
- Gold prices do not cause variation in exchange rates"[7]

FACTORS AFFECTING EXCHANGE RATE OF RUPEE AGAINST THE DOLLAR:

The exchange rate of any currency gets affected by many factors (variables) that have positive or negative impact"[8]. The main variables of Exchange rate are:

- Current Account Deficit;
- Inflation Rate;
- Gross Domestic Product (GDP) Growth Rate;
- Lending Interest Rate; and
- Foreign Direct Investment (FDI).

CONCLUSION:

On the basis of above analysis, it can be concluded that the high volatility Indian Rupee, shown over the years is backed by many reasons. After performing the correlation coefficient function between various macro economic variables the researcher came to a conclusion that there are high degree of correlation between the variables like crude oil prices, GDP, CPI, BSE Index and gold prices with exchange rate. That means all these variables highly affect the exchange rate of Indian rupee. The changes in these variables highly affected the exchange rate due to which the exchange rate has become highly volatile. Depreciation in Indian currency with respect to foreign currency has made imports costlier, and it has also created tension among the minds of traders who are exposed to the exchange rate risks. To overcome the risk associated with exchange rate traders enter into risk hedging options like derivatives to make good the loss. There is a need to take some actions to control the devaluation of the Rupee, for which following suggestions are given:

- ✓ Oil import is one of the reason for which country needs to demand the foreign currency, the government has to stagger the demand.
- ✓ The flow of foreign investments into India impacts the exchange rate to appreciate as it has positive relation. So, the government should take initiatives which encourage and increase foreign investments into India.
- ✓ The government can consider temporary import compression.
- ✓ There are many sectors which are untapped by the FDI. The government needs to provide the platform through which these types of investments could reach to India.
- ✓ FDI, especially Greenfield investment will provide new and better opportunities in many investment avenues.
- ✓ Inflation has negative correlation with Exchange Rate of Indian currency.
- ✓ Lending Interest rate has negative correlation with Exchange Rate of an Indian currency.
- ✓ GDP Growth rate has positive correlation with Rupee value and Current account deficit has negative correlation with rupee value. Hence inclusion of these variables in government's plan of action can help improve rupee value.

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