
EFFECT OF EXCHANGE RATE FLUCTUATION ON INDIAN ECONOMY

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INTRODUCTION

Floating exchange rate is the major cause of currency fluctuation rather than fixed exchange rate. As appreciation (increase in value of domestic currency) and depreciation (decrease in the value of domestic currency) is not allowed under fixed exchange rate. Interest rate differentials which affect capital flow, inflation, merchandise trade are the numerous factors affecting the exchange rate.

Capital inflow occur when interest rate for domestic economy exceed interest rate for foreign economy. India provides an interesting case study to explore the impact of exchange rate fluctuation on exports. During 1960 and 1970, before the introduction of LPG (Liberalization Privatization Globalization) policy India's exchange rate more or less remain fixed. Since 1991 India implement liberalization reform targeting foreign exchange market and tradable sector. The year 1991 marked the beginning of an extensive regime shift so to speak.

By 1992-93 India encourage export by devaluating the currency. After 1991 Indian economy basically follow managed floating exchange rate regime in which the Reserve Bank of India intervenes from time to time to stabilize the nominal exchange rate. Basically, foreign exchange rate volatility influences the value of the firm since the future cash flows of the firm change with the fluctuations in the foreign exchange rates.

Exchange rates can impact stock values for domestic as well as global and export-focused businesses. Changes in exchange rates will have an immediate impact on the value of a multinational corporation's foreign operations and a long-term impact on its profitability.

Devaluation makes imported good expensive for domestic consumer and cheaper for foreign consumer. It will have a positive effect on exports which increases the income of domestic firm thereby boosting the average level of stock price.

MAJOR REASON BEHIND FALL IN THE VALUE OF INDIAN RUPEE

Value of domestic currency depend upon various factor imports and exports, inflation, employment, interest rate, growth rate, trade deficit, performance of equity markets, foreign exchange reserves, macroeconomic policies, foreign investment inflows, banking capital, commodities prices and geopolitical conditions. However lower demand for domestic currency leads to depreciation of domestic currency and appreciation of foreign currency.

1. Mounting Current account deficit: Any deficit in current account shows that a country's total imports of goods, services and transfers is greater than the country's total export of goods, services

and transfers. This situation makes a country a net debtor to the rest of the world. In such a situation a country buys foreign currency to meet its debt, which increases the value of foreign currency and reducing the value of domestic currency.

2. Interest Rate: Currency fluctuation is caused due to interest rate differentials. Domestic investor are interested to invest in foreign economy because interest rate for foreign economy exceeds domestic one thereby it leads to appreciation of foreign currency and depreciation of domestic currency.

3. Inflation: Inflation is a process of persistent rise in general price level. When compared to other nations, a nation with persistently lower inflation will have stronger purchasing power, increasing the value of its currency. When purchasing power declines as a result of inflation, consumption declines and sectors suffer. Costs for imports are also rising. Of course, exporters make more money in local currency.

4. High government deficit: It occurs when total expenditure of the government exceeds the revenue it generates excluding money from borrowings, and was registered nearly 10 percent of GDP due to which investor lose faith in Indian economy.

5. Lower Inflows of Foreign Capital: India remained unable to attract enough foreign capital from non-resident citizens to make up for the trade deficit. According to RBI data, the total amount of direct and portfolio investment inflows into India was \$62 billion in the 2007–2008 fiscal year, \$28 billion in the 2008–2009 fiscal year of the global financial crisis, and then \$70.1 billion, \$64.4 billion, and nearly \$60 billion in the first 11 months (April–February) of the 2011–2012 fiscal year. Foreign investors have doubt regarding India's commitment to economic reforms, retrospective taxes, and policy paralysis within the government have forced foreign investors to either postpone their investment decisions, or take money out of Indian stock markets. Thus, it results was fall in the value of rupee.

6. Oil prices: There is sharp rise in oil price due to political uncertainties in West Asia. Price increase has not impacted Indian resident as election season prevent government from increasing price of petrol and diesel. A weak rupee increases the import bill and cancels out the benefit of any decline in global crude prices. Unfortunately, investors do pay attention to ratings, including speculative investors. Having exposed itself excessively to such investors, India's government does have reason to fear further downgrades and further volatility.

IMPACT ON INDIAN ECONOMY

Usually there is a depreciation of Indian currency which is the major concern for Indian economy. Importers of capital goods, raw material, intermediates and components would be hit hard due to high and persistent inflation. Importer of a commodity varying from food articles to petroleum products would be adversely affected by depreciation of domestic currency. Due to fall in the value of domestic currency corporates taking loan from foreign economy due to fall in foreign interest rate are counting heavy losses.

1. Encourage export and discourage import: Depreciation of Indian currency makes exports cheaper and imports expensive. Indian resident have to pay more for the imports thereby reducing

the demand for imported good, at the same time domestic goods and service become cheaper for the foreign buyer, which leads to increase in demand for domestic goods and service thereby increasing the revenue generation for domestic firm. The various sectors like petroleum and petroleum products, engineering goods drugs and pharmaceuticals – which have import inputs of as much as 75-77 percent, 19-21 percent and 17-19 percent, respectively (As per report of Associated Chambers of Commerce and Industry of India) lead to a strict dent on their income due to fall in the value of rupee.

2. Impact on foreign investor: When foreign investor invest in Indian stock market they experience profit if rupee appreciates and suffer losses if it depreciates. Suppose, a foreign investor invests \$4,00,000 in the Indian stock market and at an exchange rate of \$1 = Rs. 50. So, the amount invested is Rs 2 crore. Suppose, after one year, even if the value of investment doesn't appreciate the foreign investor can earn a profit if the exchange rate has changed to \$1 = Rs. 55 (Rupee depreciation). If the investor sells his investment and converts the currency, he would get \$3,63,636. So, he would lose \$36,364 as a loss due rupee depreciation.

3. High Inflation: Increase in price of essential commodities and raw material increase the price of final good thereby increasing inflation further in the economy. As a result of increase in domestic price normal resident drive up the demand for foreign good, which reduces the value of domestic currency thereby depreciating domestic currency.

4. Increase in cost of borrowing: The reduction in the value of the rupee has a significant impact on the cost of borrowing for businesses. Interest rate differences in domestic and international markets incentivize businesses to raise capital through foreign markets. The advantages of doing so have been negated by the rupee's declining value. Both the amount of foreign debt and the cost of dollar loans taken out by businesses have increased. An increase in interest rates and a rise in foreign institutional investors' (FIIs') dissatisfaction. Rupee depreciation slows economic growth overall by raising interest rates and discouraging FII investment.

5. Increase in fiscal burden: Hike in price of imported good increases government expenditure thereby leading to fiscal deficit. Government demand foreign currency to meet out its expenditure, as a result foreign currency appreciates and domestic currency depreciates.

IMPACT ON COMPANIES AND CONSUMERS

A depreciating rupee makes import of Crude oil more expensive leading to increase in petrol and diesel price which directly hike up the operating expense of the companies, thereby hitting their profit margins.

1. Impact of rupee depreciation on power generating companies: A sharp decline in the value of the rupee makes the imported coal (input for electricity generation) expensive for power generating companies which further increases the level of energy deficit in the country. All the three sectors of the economy namely agriculture, industry and services are severely impacted.

2. Impact on fertilizer industry: With the Indian currency depreciating domestic fertilizer industry come under pressure as price of DAP (imported fertilizers) increases in the international market. In such a scenario the fertilizer makers have been trying hard to renegotiate the rates with their

suppliers so that they can abstain from passing on the price burden to the consumer. In addition, the fear of a demand contraction as well as the competition prevailing is acting as a deterrent for the fertilizer companies from raising their prices.

EFFECTS OF DEPRECIATION ON TRADE BALANCE AND REAL NATIONAL INCOME

From our previous discussion regarding the way demand and supply curves for foreign exchange determine the exchange rate, it follows that when a country's currency, say the Indian rupee, depreciates due to supply and demand factors or is devalued by the government, the prices of Indian exports in terms of foreign currency, say the dollar, will fall.

This will lead to an increase in the number of Indian exports that are required. India's exports will rise as a result. On the other side, when the Indian rupee depreciates or is devalued, imported goods from other nations will cost more in terms of rupees (for instance, a dollar's worth of goods from the US will cost more in terms of the Indian rupee).

As a result, rising import costs will encourage people and businesses in India to import fewer items and try to replace foreign imports with products made at home. Depreciation or devaluation will therefore result in more exports and lower imports, which will increase net exports and raise the net aggregate demand for goods made domestically.

And if levels of output, particularly industrial output, are below their maximum levels, a rise in domestic net aggregate demand will result in an increase in domestic output and in GDP or real national income.

EFFECT OF FOREIGN EXCHANGE RATE SHOCK ON INDIAN ECONOMY

Given expanding financial and commercial integration, the Indian economy has become more vulnerable to external shocks. Four major global shocks are examined: the US monetary policy shock, the oil supply shock, the uncertainty of the global economic policy, and the geopolitical risk shock. The dynamic causal consequences of these shocks on the Indian economy are described by combining the Local Projections and Structural Vector Autoregression methods with an external instruments strategy.

These external shocks have a large impact on both macroeconomic and financial indicators. At two- to four-year periods, these shocks account for roughly 15 to 35 percent of the volatility in inflation, GDP, and financial variables. The extent of the effects on output, however, is smaller when compared to both the global and peer developing countries' output.

ROLE OF RBI IN FOREX RESERVE

Current status of the reserve: From September 2021 to September 2022, foreign exchange reserves fell from \$642.45 billion to \$597.72 billion (April 2022).

The RBI's reserve position at the IMF and special drawing rights both decreased by \$33 million and \$26 million, respectively.

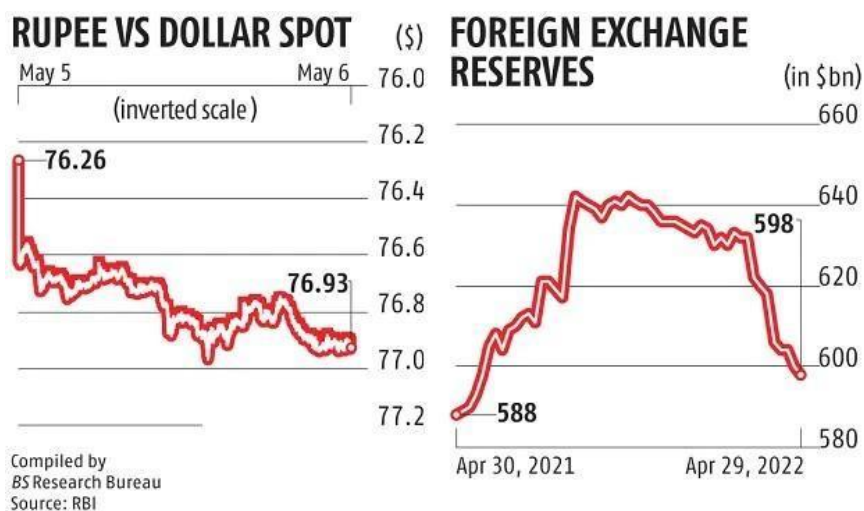
Reason for dip in forex reserve

1. Fall in foreign currency assets (FCAs): The foreign currency assets also include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the reserves.

2. Appreciation of the US dollar: The demand for dollars remained high as the Russia-Ukraine war led to a spike in oil and commodity prices.

3. Capital outflows by foreign portfolio investors (FPIs): FPIs pulled out \$21.43 billion since September 2021 as the US Federal Reserve started monetary policy tightening and interest rate hikes.

4. Effect of gold prices: Decline in gold prices has also played a part in the decline in foreign exchange reserves.



Rupee vs Dollar Spot and Foreign Exchange Reserves (Source: RBI / BS Research Bureau)

DETERMINANT OF EXCHANGE RATE VOLATILITY

There are many variables that have direct or indirect impact on the exchange rate of currency. The main determinants of exchange rate are as follows:

1. Inflation Rate

Year	Inflation Rate
2015	4.91%
2016	4.95%
2017	3.33%
2018	3.94%
2019	3.73%
2020	6.62%
2021	5.13%
2022	6.89%
2023	5.14%

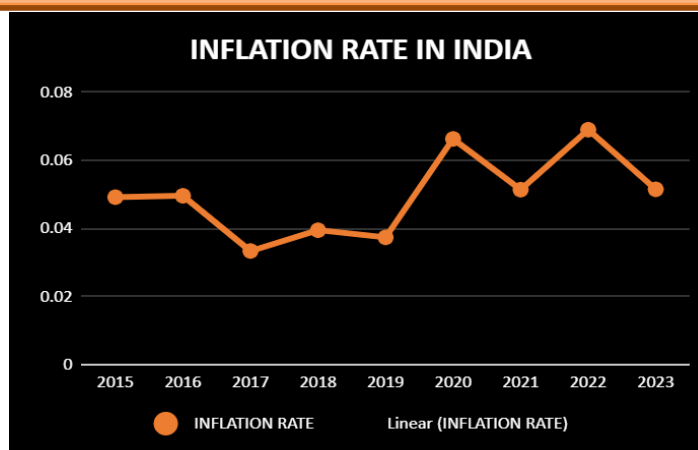


Figure 1: Inflation Rate in India

Interpretation: The inflation rate and exchange rate moderately correlated, and the statistical analysis shows that there is indirect correlation between inflation rate and exchange rate since the value of r is -0.606 . This correlation is significant at 0.01 level. The general price level fall sharply in the economy from 2015 to 2019 and then show a significant rise from 2020 to 2023.

2. Interest Rate

Year	Interest Rate
2015	10%
2016	9.70%
2017	9.50%
2018	9.50%
2019	9.50%
2020	9.20%
2021	8.70%
2022	7.75%
2023	7.05%

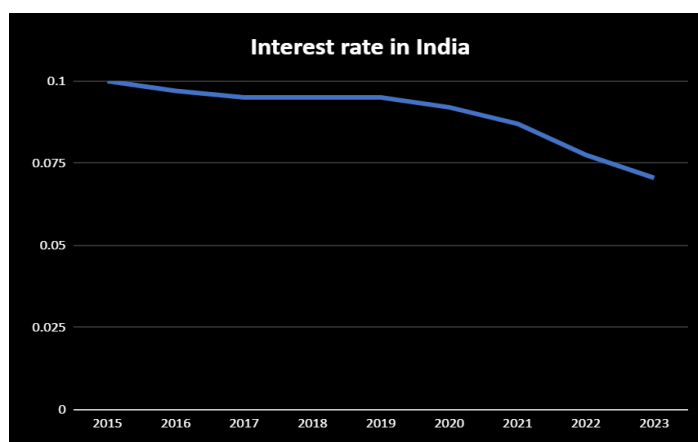


Figure 2: Interest Rate in India

Interpretation: GDP vs. Exchange Rate — the analysis of correlation between these two variables shows that there is a moderate positive relationship between the GDP and exchange rate as the value of r is 0.525 and this relationship is significant at 0.05 level. There has been gradual decline in interest rate from 2015 to 2023.

3. GDP Growth Rate

Year	GDP Growth
2015	3.10%
2016	2.80%
2017	3.40%
2018	3.30%
2019	2.60%
2020	-3.10%
2021	5.90%
2022	8.70%
2023	5.50%

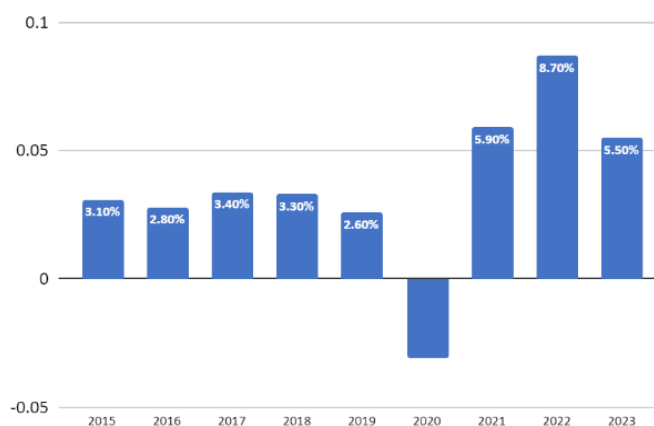


Figure 3: GDP Growth Rate

Interpretation: The interest rate and exchange rate highly correlated, and the statistical analysis shows that there is negative correlation between interest rate and exchange rate since the value of r is -0.934. This correlation is significant at 0.01 level. In 2020, during the COVID-19 scenario, India experienced a negative GDP growth. GDP further shows a significant rise from 2020 to 2023.

CONCLUSION

The exchange rate regime in our country has undergone a significant change during the 1990s. Until February 1992, exchange rate in India was fixed by the Reserve Bank of India. The present exchange rate system in our country is popularly known as 'managed floating exchange rate regime'. The fall in the value of currency affects a lot of economic growth indicators. Depreciation of rupee reduces the inflow of foreign capital, rise in the external debt pressure, and also grow India's oil and fertilizer subsidy bills.

Current account deficit is improved by stimulating exports and reduction in imports. However, devaluation can be seen as an attractive solution to unemployment when other options, like increased public spending, are ruled out due to high public debt. Devaluation is common among emerging economies as they build up foreign exchange reserve which protect them against future financial crises, by maintaining a low exchange rate. High inflation appreciates the currency whereas high interest rate depreciates the same. However, decline has been observed in inflation rate and lending interest rate in recent years.

LIMITATIONS

Main limitation of my project is time constraint, due to which I am unable to study all the factors affecting the exchange rate volatility.

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