



Rupee Dollar Value Trends : A Study of Influencing Factors

KEYWORDS

Crisis, Exchange Rate, Sensex

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ABSTRACT

The present study tries to identify the factors affecting the Indian rupee and the effectiveness of Exchange rate management in India. Several macroeconomic factors interplay with the rupee dollar exchange rate. Volatility of rupee has been exhibited varied behavior being influenced by a plethora of macro economic factors including the global events and wobbles. The paper attempts to put forward some of the important factors influencing rupee value.

INTRODUCTION

Volatility of rupee

A better way to understand the Rupee movement is to track the real effective exchange rate. (REER) is based on basket of currencies against which a country trades and is adjusted for inflation. A rise in index means appreciation of the currency against the basket and a decline indicates depreciation. RBI releases REER for 6 currency and 36 currency trade baskets since 1993-94 and we see that the currency did depreciate in the 1990s but has appreciated post 2005. It depreciated following Lehman crisis but has again appreciated in 2010-11.

- As India opened up its economy post 1991, Rupee depreciated as it had current account Deficits. Service exports have though lessened the current account deficits.
- South East Asian crisis followed by active monetary management by RBI
- Foreign investment leading to rupee appreciation
- Lehman crisis- sharp depreciation of the currency- Rupee plunged from around Rs 39 per \$ to Rs. 50 per \$. REER moved from 112.76 in 2007-08 to 102.97 in 2008- 09 depreciating sharply by 9.3% decline in oil prices from \$ 12 bn in Jul-Sep 08 to \$0.3 bn in Jan- Mar 09. The currency also depreciated tracking the global crisis which led to preference for dollar assets compared to other currency assets. (3)
- Higher capital inflows were on account of both FDI and FII.

FACTORS INFLUENCING RUPEE DOLLAR VALUE

1) Global events

Amid global events such as Ireland's debt crisis, monetary tightening in China and the North Korean artillery barrage, the US dollar has strengthened. Since India's economy is expected to grow at a robust rate over the next few years, a firm rupee could compensate for any appreciation in the dollar against other global currencies.

2) Return on the BSE Sensex affects return on exchange rate (Rs./US\$).

Its said by experts that the dollar-Sensex negative co-relation may not always work. the rise in demand for the dollar is because it has gained a safe-haven status as investors have started fleeing from commodities and equities led by concerns that the Ireland contagion may hit Portugal and Spain, and also concerns about the Korean military skirmish.

P Phani shekhar , a fund manager, Angel Broking, says, "Traders do not invest in a market because the dollar is giving them one or two per cent arbitrage. It is only because they have different hedge positions that movement in the dollar actually compels them to pull some money off the table from emerging markets to cover their hedge, which is currently happening."

The negative relationship between the dollar index and the Sensex has become very stark in the past few weeks or even recent years. But this inverse correlation may not always work. Analysts say the relationship is cyclical or seasonal and may change from time to time. The seasonal play can be quarterly, yearly or multi-year.

Experts, however, advise that merely looking at the value of a currency to take investment decisions may not be a good thing. They cite the example of the Indian IT industry, saying that during March 2009 and May 2010, the rupee appreciated over 10 per cent but the BSE IT index more than doubled as companies improved productivity, reduced costs and gained from higher volumes. Likewise, there have been instances when the dollar has appreciated against the rupee but the Sensex has gained.

3) Crude oil prices

Uptil now the major portion of the burden was taken by the Government through reduction in import duties on crude oil and through subsidization; thus causing concerns about the fiscal stability of the Government. It is now inevitable for the Government to shift the burden to consumers through a hike in prices. This would fuel inflationary tendencies in the economy as crude oil is major raw material for the manufacturing sector. A rise in oil prices the will rise leading rupee to depreciate. When there is depreciation in the Indian Rupee this will make the investment in the domestic country unprofitable and thus there will be decrease in FII inflows.(1)

4) Spill-over effect from NDF market of INR to its spot and forward counterparts and vice versa.

Misra and Behera (2006) shows that for India, it is the onshore spot and forward prices that influence the NDF market prices and not the other way round mainly because of the restricted participation of domestic players in the offshore market. The returns in the NDF market are mainly driven by the information flows in the Indian spot market and forward market. However, the sample period of this study was November 2004 to February 2007 during which rupee was relatively stable. In a subsequent study based on November 2000 to November 2009 period, Behera (2011) finds the evidence of greater volatility spillover from NDF to spot market since the period of introduction of currency futures in India

Another study covering a period of 2007 to 2009 by Guru (2009) also finds that dynamics of relationship between onshore and offshore markets has undergone a change with the introduction of the currency future market in 2008 and returns in NDF market seem to be influencing the domestic spot as well as forward market. NDF markets do have significant impact on onshore market, he further emphasises that until full capital convertibility is achieved, NDF market rates

and activity are important information signal and thus need to be monitored by investors and regulators. (2)

5) Effects of RBI intervention

The IMF's Principles for the Guidance of Members' Exchange Rate Policies describes that "a member should intervene in the exchange market if necessary to counter disorderly conditions which may be characterized inter alia by disruptive short-term movements in the exchange value of its currency". In the Indian context, in addition to the trade and capital controls imposed by the government, the Reserve Bank of India (RBI) uses its foreign exchange reserves for market intervention so as to align the market rate of rupee with its desired rate consistent with certain macroeconomic parameters. This official exchange rate management has a conventional objective of ensuring the currency not deviating far away from the long-run

equilibrium rate. However, other considerations like maintaining export competitiveness, guarding currency against speculation, etc., often outweigh this objective and necessitate official intervention to lean against the wind of short-term exchange rate movements. There is a theoretical positive association between exchange rate return and RBI intervention.

Rupee trends & exchange rate regimes

Indian rupee and its exchange rate historically.

1950 – 4.79
1955 – 4.79
1960 – 4.77
1965 – 4.78
1970 – 7.56
1975 – 8.39
1980 – 7.86
1985 – 12.36
1990 – 17.50
1995 – 32.42
2000 – 44.94
2005 – 44.09
2010 – 44 to 50

Before 2011 India had faced two major devaluation that is in the year 1966 and 1991.

The government had moved to dual exchange rate regime in March 1992 and abolish the EXIM scrip system. Under this regime the government allowed the importers to pay for some imports with foreign exchange valued at free market rates and other imports could be purchased with foreign exchange purchased at a government mandated rates.

The government then in march 1993 unified the exchange rate and allowed the rupee to float. From 1993 onwards , India has followed managed floating exchange rate system. At present , rupee is determined by market forces, but the RBI intervenes through exchange rate management and accordingly buying and selling the foreign exchange in order to meet the target rate and with the stated goal of "containing volatility" and influencing the market price.(3)

The link to the dollar along with easing of restrictions on India's current account and capital account during the 1990s. Reinhart and Rogoff classify the current currency regime in India as a "peg to the US dollar" (in various forms) since August 1979 The volatility of the rupee-dollar exchange rate, for example, is extremely low while that of the exchange rate of rupee and the euro or the yen is high. Tests based on a methodology devised by J. Frankel and S.-J. Wei show that the dollar is overwhelmingly the dominant currency in explaining fluctuations of the Indian currency. (4)

There were two arguments in the favour of Flexible Exchange Rate System. The first argument is related to the competitive position of a country in the international market. For e.g. if a price level in a country rises, it will make its products & services uncompetitive in international market and the balance of payments will suffer from a deficit. In order to keep equilibrium in the balance of payments, the country may use various macroeconomic policies to reduce the price level, and because prices are sticky-downwards this may lead to painful adjustment and may result in welfare losses. Therefore it is better, to leave the exchange rate to depreciate to compensate for the rise in price level and to keep the competitive position of the country without a need to undergo such long and painful adjustment.

The second argument of the proponents of flexible exchange rates is built upon the assumption that the stabilizing behaviour of speculators will make exchange rates relatively stable compared to fixed rates. For instance, if a currency depreciates from its long run value, speculators would know that the move is temporary, hence, would buy the currency since it is expected to appreciate in the future. Therefore, they stabilize the exchange rates' actual movements.

Central Bank Intervention

Intervention, more specifically direct intervention, can be defined as the purchase and sale of foreign exchange assets by monetary authorities. The purchase (sale) of monetary authority that leads to an increase (decrease) in the monetary base is non sterilized intervention. When the authority simultaneously or with a very short time lag take the necessary steps to offset the effects of the change in official foreign asset holdings on the domestic monetary base, it is called sterilized intervention. Non-sterilized intervention affects exchange rate by inducing changes in the stock of the monetary base. The effect of sterilized intervention on exchange rate is a matter of debate as it leaves the monetary base unchanged.

Sterilized intervention, generally, is thought of to work through three channels, namely Portfolio Balance channel, Signaling channel and Noise-trading channel. In the portfolio balance channel, domestic and foreign assets are assumed imperfect substitutes. Investors allocate their portfolios to balance exchange rate risk against expected rate of return so intervention could lead to a change in the value of the exchange rate. When the central bank sells foreign currency assets for domestic currency assets, other things being equal, this creates an excess supply of foreign currency assets, and an excess demand for domestic currency assets. To re-establish the equilibrium economic agents need to be compensated by a higher expected return on foreign currency assets. This may take the form of a widening interest-rate differential, or an appreciation of the domestic currency. Thus, even sterilized intervention could have an effect on exchange rates (5)

The evidences from most of the studies are in favor of signaling channel, which reveals the monetary policy intentions of the central bank through interventions. The portfolio channel through which sterilized intervention affect exchange rates, on the other hand, has received little empirical support. Using bivariate vector auto regressions and Granger causality tests, Lewis (1995) has examined whether intervention helps predict future changes in monetary policy in the US context. The study reports a mixed picture of the signaling story and finds a circular relationship between intervention and future monetary policy. Kaminsky and Lewis (1996) have also reported similar results, which indicate that the US intervention provided a signal to future changes in interbank rates and monetary aggregates, but sometimes in the opposite direction of that predicted by the conventional signaling hypothesis. Ghose (1992) tested the portfolio balance channel by examining the effects of changes in relative asset supplies on the US\$-Deutschemark rate and found a weak, but statistically significant, portfolio balance influence on the exchange

rate. In Fatum and Hutchison (1999), the evidence obtained from GARCH model found dollar intervention not related to a rise in expected future short-term interest rates (monetary tightening). They have used the federal funds futures market prices as the proxy for market expectations on future monetary policy. (6)

Aguilar and Nydahl (2000) reported results from GARCH models that central bank's sterilized intervention has not systematically reduced the volatility of Swedish kroner rates against US\$ and Deutsch Mark. The evidence presented in Bonser-Neal (1996) on the Federal Reserve's intervention suggested that the central bank intervention had little effect on volatility.

Galati and Melick (1999) studied the impact of the Federal Reserve's and BoJ's intervention on the instantaneous and expected volatility (derived from option prices) of yen-US\$ exchange rates and found that the interventions did not have any impact on the forward rates but suggested that it could increase the uncertainty in the movement of spot rates. However, Baillie and Osterberg (1997) found some evidence that intervention leads to increases in volatility and also influences the risk premium in the Deutschemark-US\$ and Yen-US\$ forward markets. They have also reported that intervention is Granger caused by high volatility of changes in the nominal exchange rate and unidirectional from intervention to risk in the forward market. They have concluded that intervention is motivated by increases in spot rather than forward market volatility. (7)

6) FII inflows

The revaluation of Chinese currency has led to drastic changes in the Net FII Flows to India. As an outcome of Yuan revaluation, there is a tendency for Indian rupee to appreciate. The appreciating rupee would further invite dollar inflows and consequently greater FII inflows. The nuances of relation between exchange rate and FII inflows can be captured through the interest parity condition. Thus this will lead to the following two impacts, i.e. either the currency of the Asian Countries will appreciate with the revaluation of Yuan, thus making it profitable for them to bring US dollars into India now and take money out when there is a currency appreciation. Or, if the domestic currency does not appreciate, India's exports will become more competitive with respect to China, Indian companies will do well, stock prices will rise giving the Foreign investors a profit on their return. (8)

7) Currency futures rate and forward rate

A key question is whether or not the current forward price actually predicts the respective spot price in the future. There are a number of different hypotheses which try to explain the relationship between the current forward price, and the expected future spot price. Researchers have found that the forward exchange rate is a biased predictor of the future expected spot exchange rate. Forward market is still a biased predictor of the future spot exchange rate for both 1-month and 3-month contracts..

8) Long memory of exchange rate

Various studies are done on analysis of financial time series using ARMA/GARCH process in context of Indian exchange markets but exchange rate returns are highly persistent, i.e., that an unexpected shock to the underlying variable has long lasting effects. In a long memory process, the effects of shocks tend to persist. For example, establishing that shocks to an exchange rate persist, may give the Central Bank's authorities additional incentives to intervene in the currency markets. These interventions would aim at steering the nominal exchange rate toward its long-run equilibrium path, for the cost of inaction on the part of the monetary authorities is further divergence of the nominal exchange rate from its long-run equilibrium value. Alternatively, if the monetary authorities believe that the prevailing nominal exchange rate is in the proximity of its long-run equilibrium, and that lack of intervention in the currency markets would cause divergence of nominal rate from its equilibrium rate, with possible dire consequences, then regular and frequent interventions in the currency markets would be justifiable. (9)

Conclusion

This study provides the basic understanding of the term 'volatility' of rupee and highlights the various macroeconomic factors which have a strong bearing on it. Global exposure of markets, FII flows, Crude oil prices, and RBI interventions and monetary policy could be identified as the foundation of a structure which regulate the volatility in rupee dollar exchange rate. As unexpected shock to the exchange rate has long lasting effects even other considerations like maintaining export competitiveness, guarding currency against speculation, etc., necessitate official intervention by the Reserve Bank of India (RBI), which uses its foreign exchange reserves for market intervention so as to align the market rate of rupee with its desired rate consistent with certain macroeconomic parameters. This official exchange rate management has a conventional objective of ensuring the currency not deviating far away from the long-run

Equilibrium rate and even theoretical positive association has been found in previous studies between exchange rate return and RBI intervention.

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