AN EMPERICAL VIEW OF CURRENCY FORECASTING

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ABSTRACT

Augmented universal trade and cross-border interface have redefined the business dome. Accurateness in forecasting the foreign exchange rate or predicting the trend appropriately is of fundamental magnitude for any future investment. Exchange-Rate Determination explores the wide array of most popular strategies to institutional investors, global banks and corporations for forecasting exchange rates and discloses the strengths and weaknesses. To estimate the exchange rates diverse timeframes includes Short-run, Medium-run and Long-run. Bountiful techniques for forecasting foreign exchange rates are made accessible yet there is much of opposition. The superseding rule of forecasting exchange rates is that, in the end, no overriding rules exist besides fuzzy neural arrangements. Fund managers and financial professionals on every day base; make foremost decision based on exchange-rate variables and variations. Obtaining right exchange rate is noteworthy for any corporation in current economy.

Keywords: Forecasting, Investment, Strategies, Exchange rate determination and timeframes.

INTRODUCTION

Foreign exchange rate forecasting has become increasingly important since the dissolution of the Bretton Woods system and the advent of floating exchange rates in 1973. The substantial increase in exchange rate volatility has concomitantly placed a priority on the managerial function of foreign exchange risk management. Exchange rate forecasts are used by

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multinational corporations. Managers use foreign exchange forecasts to convert future foreign cash flows into domestic currency units; foreign and domestic costs of capital (or returns on investment) can then be compared when making a foreign financing or investment decision. Likewise, currency forecasts are required for deciding whether a foreign currency exposure should be hedged or not, monthly projections of foreign subsidiaries expenses and revenues, that are likely included in annual budgets. Furthermore, when formulating long-range strategic plans such as a subsidiary's asset and liability structure, pricing policy, or product mix, foreign exchange rate forecasts are again needed. Economists and investors always tend to forecast the future exchange rates so that they can depend on the predictions to derive monetary value.

OBJECTIVES OF THE STUDY

1. To study about the different models of currency forecasting.
2. To describe how exchange rate changes are measured.
3. To evaluate the future prospects of currency forecasting.

METHODOLOGY

The study is based on Secondary Data. The data collection includes from:

1. Exchange rates and forecast annual June 2016
2. Centre for Economic Policy Research (CEPR)
3. National Bureau of Economic Research (NBER)
4. Foreign Exchange Market (FOREX)
5. Treasury Reporting Rates of Exchange
6. Bureau of the Fiscal Service

LIMITATIONS OF THE STUDY

1. The present study does not cover the widespread on Currency forecasting due to the paucity of time and other restrictions.

2. Secondary data are used.

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REVIEW OF LITERATURE

The conventional monetary model is extended based on Dua and Ranjan (2010) by including capital flows, the forward rate, volatility of the capital flows, order flows and intervention by the Central bank as additional variables that influence the exchange rate. In addition to the variables included by Dua and Ranjan (2010), the stock price differential is also added as an additional determinant. The co integrating equation is estimated from July 1996 to April 2013. Granger causality tests reveal that the exchange rate is granger caused by most of the variables. A further estimation of the generalized variance decomposition of forecast errors shows that important determinants of INR/USD in descending order of importance include money supply differential, volatility of capital inflows, inflation rate differential, output differential, stock price index differential, interest rate differential and the forward rate. The forecasting performance of the model is also examined using VAR and BVAR models.

APPROACHES AND MODELS OF CURRENCY FORECASTING

The two most generally used methods for forecasting currency exchange rates are:

- **Fundamental Approach** − This forecasting technique operate on the basic data related to a country, such as GDP, inflation rates, productivity, balance of trade, and unemployment rate. This approach is apt for long-term reserves.

- **Technical Approach** − In this approach, the investor attitude determines the modification in the exchange rate by means of making calculation to arrive at positioning surveys, moving-average trend-seeking trade rules, and Forex dealers' customer-flow data. Some important exchange rate forecast models are discussed below.

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1. **Purchasing Power Parity Model :** The Purchasing Power Parity (PPP) forecasting approach is based on the Law of One Price. It is the economic presumption that the price of a given security, product or asset has the same price when exchange rates are taken into consideration. The law of one price exists due to arbitrage opportunities. PPP approach predicts that the exchange rate will adjust by offsetting the price changes occurring due to inflation.

2. **Relative Economic Strength Model :** The idea behind this approach is that a sturdy economic growth will magnetize more savings from foreign investors. To acquire these investments the investor will buy the country's currency increasing the demand and price (appreciation of currency) of that particular country. Another factor bringing investors to a country is its interest rates. High interest rates will attract more investors, and the demand for that currency will increase, which would let the currency to appreciate. Investors withdraw from investment due to low interest rates in the country. The investors may even borrow that country's low-priced currency to fund other investments. This is generally called carry-trade strategy. The relative economic strength approach does not exactly forecast the future exchange rate like the PPP approach. It just tells whether a currency is going to appreciate or depreciate.

3. **Econometric Model :** It is a technique that is used to forecast exchange rates by congregating all pertinent factors that may impinge on a certain currency. It links all these factors to forecast the exchange rate. The factors are normally from economic theory, but any variable can be added to it if required.

4. **Uncovered Interest Rate Parity (UIP) Model :** This model forecasts exchange rate movements in accordance with returns from investment in two currencies. The UIP creates an arbitrage mechanism that sets an exchange rate which equalizes returns from domestic and foreign assets.

5. **Random Walk Model :** This approach assumes that all available information on exchange rate movements in the future is reflected in the current exchange rate. Thus, the best possible forecast of a currency's value is its value today. This is the simplest approach for exchange rate forecasting.

6. **Time Series Model :** It is also known as the autoregressive moving average (ARMA) process. Past behavior and price patterns can affect the future price behavior and patterns.

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7. **Fisher Model :**   The International Fisher Effect (IFE) is an exchange-rate model designed by the economist Irving Fisher in the 1930s. It is based on present and future risk-free nominal interest rates rather than pure inflation, and it is used to predict and understand present and future spot currency price movements. It is assumed that the risk-free aspects of capital must be allowed to free flow between nations that comprise a particular currency pair. It states that nominal interest rates (r) are a function of the real interest rate (a) and a premium (i) for inflation expectations.

$$R = a + i$$

8. **Bottom Line :** Forecasting exchange rates is a very difficult task, and many companies as well as investors merely hedge their currency risk.

ADVANTAGES OF CURRENCY FORECASTING

There are few merits of currency forecasting that is listed below:

★ Currency forecasts are necessary to evaluate the foreign denominated cash flows involved in international transactions and to evaluate the risks attached to it.
★ With accurate forecasts to the impact on currency removes the jeopardy.
★ Gives knowledge to make better-informed decisions.
★ Customer relationships are an integral part of currency management and growth. Maintaining current customer relationships and implementing a culture of service and added value can reduce the turnover of customers and grow their loyalty.
★ A significant advantage of currency forecasting is, it is very easy and quick to use and interpret the graphical representations by using specific forecasting software.

LOOPHOLES OF CURRENCY FORECASTING

➢ Volatile business environment and other factors such as federal and state regulations, effects of business competition and economy wreck havoc on currency forecast.
➢ Relying on rough estimates is a major disadvantage of the currency forecast.
➢ Technical difficulties or advancement in newer technology and lack of skilled expertise is again a major loophole.

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➢ No forecast is ever 100 % accurate, not even in the short term as degree of probability is involved.

FACTORS INFLUENCING CURRENCY FORECASTING

1. **Differentials in Inflation :** A country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. Those countries with higher inflation see depreciation in their currency's value in relation to the currencies of their trading partners.

2. **Disparity in Interest Rates :** By manipulating interest rates, central banks exert influence over both inflation and exchange rates. Higher interest rates offer lenders a higher return relative to other countries. The impact of higher interest rates is mitigated, however, if a country's inflation is much higher than other countries', or if additional factors serve to drive their currency value down. The opposite relationship exists for decreasing interest rates.

3. **Current-Account Deficits :** The current account is the balance of trade between a country and its trading partners, reflecting all payments between countries for goods, services, interest and dividends. A deficit in the current account shows a country is importing goods and services more than it is exporting them. The country will then typically borrow capital from foreign sources to make up the deficit, causing its currency to depreciate relative to its trading partner.

4. **Public Debt :** Countries will engage in large-scale deficit financing to pay for public sector projects using governmental funding. While such activity stimulates the domestic economy, nations with large public deficits and debts are less attractive to foreign investors. This is because a large debt encourages more inflation, and higher inflation translates into lower currency value.

5. **Terms of Trade** : A country's terms of trade is a ratio comparing export prices to import prices. If the price of a country's exports rises by a greater rate than that of its imports, its terms of trade have favorably improved, which tends to show currency appreciation. However, if the price of a country's imports rises more than the rate of exports, their currency's value will decrease in relation to trading partners.

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6. **Political Stability and Economic Performance :** Foreign investors inevitably seek out stable countries with strong economic performance in which to invest their capital. Political turmoil, for example, can cause a loss of confidence in a currency, and a movement of capital to the currencies of more stable countries.
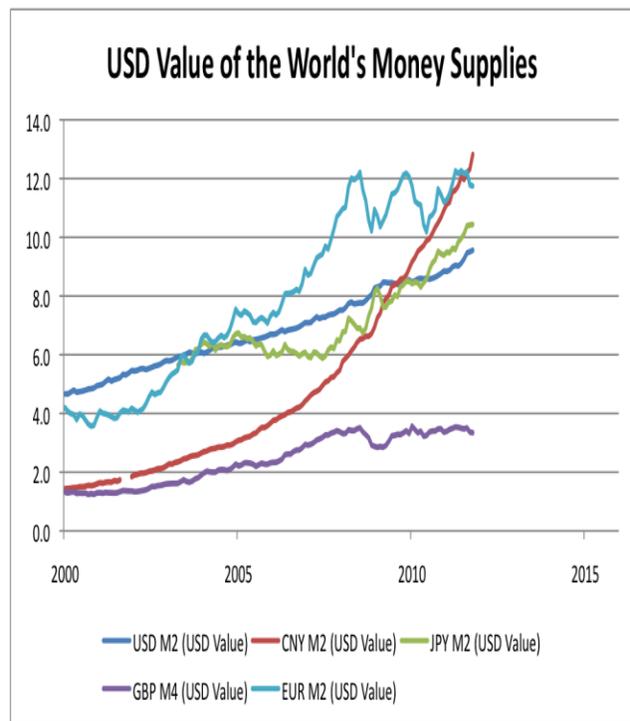
FUTURE PROSPECTUS OF CURRENCY FORECASTING

The future relevancy of currency forecasting in India is showing good prospects, as currency forecasting can increase cash flow visibility and control, strengthen risk management, and support better decision making like a coin having both head and tail it has its own inhibitions and prospects. Let us understand with the help of the following pictorial representation given below:
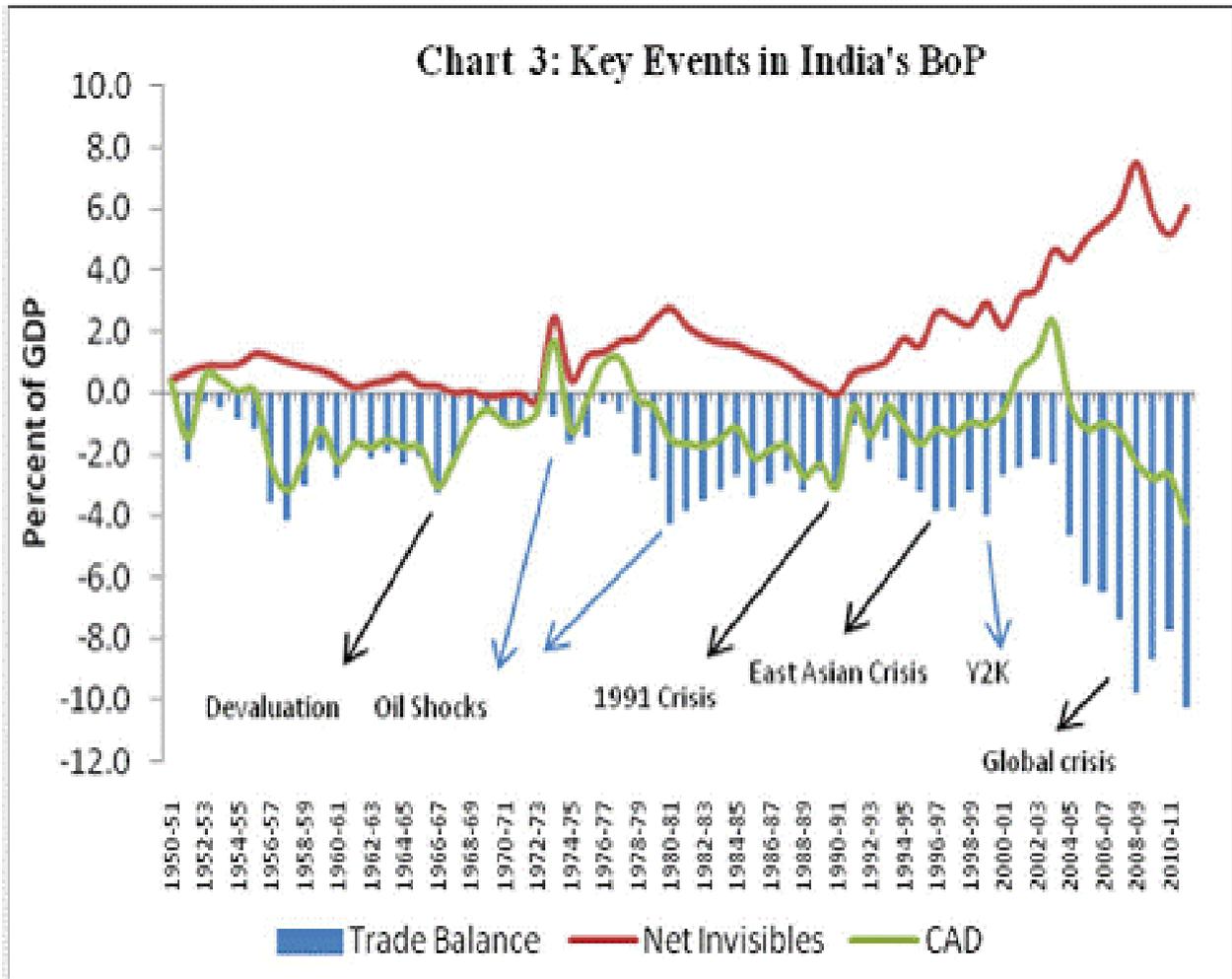
Below is the Table showing Historical Indian Rupee Rate (INR USD)

Historical Indian Rupee Rate (INR USD)							
Year	INR/USD	Year	INR/USD	Year	INR/USD	Year	INR/USD
1947	1	1981	8.68	1992	22.72	2003	46.60
1952	4.75	1982	9.48	1993	28.14	2004	45.28
1966	7.10	1983	10.11	1994	31.39	2005	44.01
1973	7.66	1984	11.36	1995	32.43	2006	45.17
1974	8.03	1985	12.34	1996	35.52	2007	41.20
1975	8.41	1986	12.60	1997	36.36	2008	43.41
1976	8.97	1987	12.95	1998	41.33	2009	48.32
1977	8.77	1988	13.91	1999	43.12	2010	45.65
1978	8.20	1989	16.21	2000	45.00	2011	46.61
1979	8.16	1990	17.50	2001	47.23	2012	53.34
1980	7.89	1991	22.72	2002	48.62	2013	58.53
						2014	61.00

Average annual currency exchange rate for the Indian Rupee (Rupees per U.S. Dollar) is shown in this table: 1973 to present

Source: http://www.forecast-chart.com/usd-indian-rupee.html

USD Value of the World's Money Supplies

(Chart legend: USD M2 (USD Value), CNY M2 (USD Value), JPY M2 (USD Value), GBP M4 (USD Value), EUR M2 (USD Value))

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Chart 3: Key Events in India's BoP

CONCLUSIONS

As a part of risk management, currency exposure forecasting management is one of the major importance to many MNCs. The traditional risk related to international business can be managed more professionally by using advanced financial instruments. Paradoxically these instruments enlarge the business risks if they are not used properly. Currency forecasting is though not a new phenomenon and foreign currency can fluctuate considerably and thereby a strong deeper cash position has to be stiffed for economic progression and the Indian economy has to concentrate on the segment of devaluation of rupee and FOREX markets.

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