

A BRIEF STUDY ON INDIAN FOREIGN EXCHANGE MARKET

*Project report submitted to Nagaland University in partial fulfillment
for the award of the degree of Bachelor of commerce*

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DECLARATION

I declare that the project report entitled “ A BRIEF STUDY ON INDIAN FOREIGN EXCHANGE MARKET” submitted by me for the award of the degree of **Bachelor of Commerce** of Nagaland University is my own work. The project report has been submitted for any other degree of this University and other University.

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CERTIFICATE

I forward this project report to be placed before the examiners for evaluation.

NGIPLON RACHEL CHOHWANGLIM

Supervisor

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1.1 BACKGROUND

Traditionally Indian Foreign Exchange Market has been a highly regulated one. Till about 1992- 1993 the government exercised absolute control on the exchange rate, export- import policy, FDI (FOREIGN DIRECT INVESTMENT) policy. The Foreign Exchange Act (FERA) enacted in 1973, strictly controlled any activities in any remote way related to foreign exchange. FERA was introduced during 1973, when foreign exchange was a scarce commodity. Post independence, union government socialistic way of managing businesses and the license raj made the Indian companies non competitive in the International market, leading to decline in export. Simultaneously India import bill because of capital goods, crude oil and petrol products increased the forex outgo leading to severe scarcity of foreign exchange. FERA was enacted so that all forex earnings by companies and residents have to reported and surrendered (immediately after receiving) to RBI (Reserve Bank of India) at a rate which was mandated by RBI.

FERA was given the real power by making “any violation of FERA was a criminal offense liable to imprisonment”(FEMA). It professed a policy of “a person is guilty of forex violations unless he proves that he has not violated any norms of FERA”. To sum up, FERA prescribed a policy - “nothing (forex transactions) is permitted unless specifically mentioned in the act”.

Post liberalization, the Government of India, felt the necessity to liberalize the foreign exchange policy. Hence, Foreign Exchange Management Act (FEMA) 2000 was introduced. FEMA expanded the list of activities in which a person/company can undertake forex transactions.

Through FEMA, government liberalized the export-import policy, limits of FDI (Foreign Direct Investment) and FII (Foreign Institutional Investors) investments and repatriations, cross-border M and A and fund raising activities.

Prior to 1992, Government of India strictly controlled the exchange rate. After 1992, Government of India slowly started relaxing the control and exchange rate became more and more market determined. Foreign Exchange Dealers association of India (FEDAI), set up in 1958, helped the government of India in framing rules and regulation to conduct forex exchange trading and developing forex market in India. (Dr Prabina Rajib, 2005).

The first chapter deals with Introduction which includes a brief background of the project, research methodology, objective and scope of the study, problems of the study, sampling techniques and chapter scheme. The second chapter deals with analysis and interpretation various data collected from the Internet in accordance with the objectives of the study and the third chapter deals with the summary of findings, suggestions and conclusion drawn from the overall analysis of the study.

1.2 OBJECTIVES OF THE STUDY.

The objectives of this study is to understand the various stages of developments in Indian Foreign Exchange Market and also to understand the various roles of Foreign Exchange Market in India.

1.3 REVIEW OF THE LITERATURE.

(*Khuntia et al. 2020*). This study empirically verifies the evolving and time-varying efficiency of Indian foreign exchange market using the framework of adaptive market hypothesis (AMH). Whether market efficiency is time varying or static, and if time varying, identification of possible events causing such time-varying efficiency are the

two major agenda of this study. We employ a set of recent methods which are robust and possess recent stronger power properties. Moreover, we follow a fixed-length rolling window approach to explore time-varying nature of market efficiency and to avoid data-snooping bias. Our overall findings suggest that market efficiency is not an all-or-nothing condition; it varies overtime. We also find that episodes of efficiency coincide with emergence of major events and market microstructure issues. Particularly, changes in exchange rate regime, financial turbulence, major central bank interventions and trade volume are the prominent causes for time-varying efficiency in INR-USD exchange rate. The evidence of swing between efficiency and inefficiently can prompt currency traders to exploit arbitrage opportunities that emerge with different market conditions.

(Ankita Srivastava 2017) This paper attempts to study theoretically the pricing of currency futures and the scope of the available models of pricing. The purpose of this study is to investigate the available literature on pricing of currency futures and understand the empirical analysis employed by various researchers. The thorough review of literature and the study of futures data on National Stock Exchange conclude that in developing countries like India, Athens, etc.. the markets are inefficient and thus the future or forward prices become equal to spot prices at the time of expiry i.e., convergence empirically but seeing the pattern of trading and the study on market efficiency in India supports the dependency of two on each other i.e., there is along stable relationship between foreign currency spot and futures market.

1.4 DEFINITION

A Foreign Exchange Market is a stock market in which the currencies of other countries are bought and sold.

1.4.1 RATIONALE OF THE STUDY

The present study is undertaken to understand the following points ;

- 1) The various developments in the Indian Foreign Exchange Market and
- 2) The role of Foreign Exchange Market in India.

The Indian Foreign Exchange Market comprises of spot and forward market. The forward market in the country is active for the maximum period of six months where-two way quotas are available.

1.5 RESEARCH QUESTION.

- 1) What are the various stages of development in the Indian Foreign Exchange Market and
- 2) What are the roles of Foreign Exchange Market in India.

1.6 RESEARCH METHODS

In this project, the main methods used for the collection of data was through secondary sources.

1.6.1 SOURCES OF DATA COLLECTION

The data related to Indian Foreign Exchange Market is collected from the website of Reserve Bank of India (RBI), the Economics and Finance review of India, the International journal of business, the Global business review and the website of Geeksforgeeks and other journals related to Indian Foreign Exchange.

ANALYSIS AND INTERPRETATION

This chapter deals with the data collected from the Internet in accordance with the objectives of the study and were analyzed. The outcome of the present study yields a significant finding in respect to the Indian Foreign Exchange Market. The data collected for the present investigation has been thoroughly discussed under the following sub headings:

- 1) The various developments in the Indian Foreign Exchange Market and
- 2) The role of Foreign Exchange Market in India.

2.1 The various development in the Indian Foreign Exchange Market.

There was an external payment crises in India in 1990-1991. This was due to the macroeconomics imbalances in the second half of mid-eighties such as monetization of fiscal deficit, overvalued exchange rate, high tariffs and inward looking industrial policy. Internationals factors such as recession in the industrial world, first Iraq war in august 1990, restriction of external finance by international banks were responsible for the degradation of international confidence in India. As a result, the current deficit was around 3.2% of GDP.

The foreign exchange market in India has come a long way since it faced crises during the 1990-91 period. Since then there was no looking back. The Forex reserves have always been on the rise, and the overall economy reflected a buyout growth. On the export and import front, the country have exceedingly well and has been able to garner a competitive edge over several developing nations.

Some various stages are mention below:

- 1) A fundamental change in savings and investment, with funds managers and investment institutions around the world diversifying their investments across international borders and into multiple currencies.
- 2) In the aftermath of the global financial crisis and the Euro zone debt crisis, EMEs including India faced enhanced uncertainty, especially in the external sector on the back of both local and global developments. The worsening of India's external environment was amply reflected in the deterioration in various external sector vulnerability indicators between end March 2011 and end-March 2013. The external debt to GDP ratio increased from 18.2 per cent to 22.0 per cent. On the other hand, the import cover of reserves, which stood at 9.5 months at end-March 2011 declined sharply to about 7.0 months at end-March 2013. The CAD-GDP ratio deteriorated from 2.8 per cent to 4.7 per cent during the period. The weak macroeconomic environment was reflected in the form of sharp deceleration in GDP growth rate (4.5 per cent in 2012-13 and 4.4 per cent in Q1 of 2013-14), high level of inflation (average CPI and average WPI inflation of 10.2 per cent and 7.4 per cent respectively in 2012-13) and large fiscal deficit (4.8 per cent of GDP in 2012-13).
- 3) Though the trigger or the proximate cause for intense volatility witnessed in the domestic forex market during the period May-August 2013 was the heightened concerns about the possibility of early QE tapering, the more important cause was the existence of such weak macro-economic fundamentals. The possibility of early tapering of QE programmed by the US Fed triggered large selloffs by the Fills, especially in the bond market leading to heightened volatility of Rupee in line with other EME currencies. The hardening of long-term bond yields in the US and other advanced economies increased their attractiveness,

- 4) prompting foreign investors to pull funds out of riskier emerging markets, which had received large capital inflows in search of higher yields. The Indian Rupee became one of the worst performers during the period from the second half of May 2013 to August 2013. Rupee depreciated sharply by around 19.4 per cent against the US dollar from the level of 55.4 per US dollar on May 22, 2013 to a historic low of 68.85 per US dollar on August 28, 2013.

- 5) To stem the sharp and substantial depreciation of the Rupee, policy makers resorted to a mix of policy measures including forex market intervention, monetary tightening through reduction in banks' access to overnight LAF, increase in MSF rate and increase in daily minimum CRR maintenance requirements and administrative measures, such as, import compression of non-essential items like gold, opening of special dollar swap window for the PSU oil companies, special concessional swap window for attracting FCNR (B) deposits, increase in overseas borrowing limit of banks, bringing of outward FDI flows to the approval route, reduction in Liberalized Remittance Scheme (LRS) entitlement, disallowing banks from carrying proprietary trading in exchange traded derivatives, etc. The Reserve Bank made net sales to the tune of US\$ 10.8 billion in the forex market during the period May-August 2013. The Reserve Bank also intervened in the forward market resulting in doubling of net forward liabilities to US\$ 9.1 billion as at end-August 2013 from US\$ 4.7 billion in July 2013. Apart from monetary and administrative measures, the flow encouraging measures, such as, enhancement of FII investment limit in government debt by US\$ 5 billion to US\$ 30 billion was undertaken in June 2013.

- 6) The special forex swap facilities extended by the Reserve Bank at concessional rate for fresh longer term FCNR (B) deposits and banks' overseas borrowings along with enhancement in their overseas borrowing limits led to forex inflows in excess of US\$ 34 billion that aided in restoring stability of the Rupee. The Reserve Bank undertook the concessional swap facility as an exceptional measure with the broader public policy objective of bolstering the forex reserves for strengthening Bank's market intervention capability. Similarly, the swap windows to meet oil demand were conceived as a purely temporary dollar lending arrangement to OMCs. The swap window attract a fair amount

of criticism from the perspective of execution of the second leg but the Reserve Bank can look back at these temporary arrangements with a sense of satisfaction of restoring confidence and stability in the foreign exchange market and India's external sector outlook.

- 7) Alongside, various measures taken by the Reserve Bank and the Government of India including the fiscal steps taken to compress gold demand helped in stabilizing the financial markets, in general, and the forex. Market, in particular through sharp reduction in CAD and increase in capital inflows. Consequently, the Rupee made a smart recovery in September- October 2013. With the return of stability in the forex market, a calibrated unwinding of exceptional monetary and administrative measures of July 2013 was undertaken from September 2013 onwards.
- 8) Despite the announcement on December 18, 2013 of commencement of tapering by the US Fed starting from January 2014 and the subsequent announcements about the increase in its pace, the Rupee has generally remained stable, which indicates that the markets have broadly shrugged off QE tapering fears. The Rupee has remained relatively stable as compared to other major EME currencies like Brazilian Real, Turkish Lira, South African Rand, Indonesian Rupiah and Russian Rouble. The daily volatility (annualized) of Rupee during the period from January 1 to September 30, 2014 remained at 5.9 per cent as against South African Rand (11.5 per cent), Brazilian Real (10.8 per cent), Turkish Lira (10.6 per cent), Russian Ruble (9.9 per cent) and Indonesian Rupiah (6.9 per cent). In terms of point-to-point variation, Rupee has marginally appreciated by about 0.5 per cent during the above period, while other currencies have witnessed depreciation, viz., Russian Rouble (16.9 per cent depreciation), South African Rand (7.4 per cent), Turkish Lira (5.8 per cent) and Brazilian Real (3.4 per cent). The contagion effect of sharp fall in Argentine Peso against the US dollar in the second half of January 2014 also did not have any major impact on the Rupee. Even the recent geo political crises in Ukraine, Iraq and Gaza did not have any significant impact on the Indian financial markets. This has led to some analysts describing Indian Rupee as the most agile out of the fragile currencies of EMEs.
- 9) The fact that weak macroeconomic fundamentals have a tendency to accentuate the contagion effect of any adverse external development was amply demonstrated during the May August 2013 episode of volatility. Countries with large macroeconomic imbalances,

especially large CAD, such as, Brazil, Turkey, India, Indonesia, etc., experienced much larger volatility as compared to other EMDEs with current account surplus/better fundamentals. In a scenario of intense volatility, traditional monetary policy defense at times proves inadequate as was experienced by other EMDEs like Turkey and Indonesia. Thus, a mix of measures, including administrative measures,

coupled with effective communication by central banks helps in containing the exchange rate volatility. The episode of volatility for an EMDE central bank is to have sufficient tools in its toolkit and employ them in a flexible, proactive and pragmatic manner. In this context, having large forex reserves, which was earlier considered wasteful on account of quasi fiscal costs, has become a new virtue. Even the debate surrounding capital account liberalization has decisively veered towards having some necessary capital controls in place to protect the EMDEs from the vagaries of international capital flows where a deluge is generally followed by sudden stops. The need for the EMDEs to have prudent capital controls in place has been duly recognized by the ardent votaries of full capital account liberalization like the IMF. Unfettered capital account liberalization is now passé and the new mantra is having certain necessary capital controls in place and uses them proactively during episodes of heightened volatility.

- 10) As regards the movement of Rupee during the recent period, it has remained largely range-bound with strengthening bias on the back of sustained capital inflows and improving macroeconomic fundamentals. In a comparative sense in Q2 of 2014-15, the Indian Rupee depreciated 2.72 per cent against the US dollar while the Russian Ruble depreciated about 13 per cent, Turkish Lira by 6.5 per cent, the Brazilian Real by 10 per cent, and the South African Rand by 5.5 per cent. There has been continuing FII inflows to the domestic equity markets as well as resumption of FII inflows to debt market, especially since December 2013 (except in April 2014 when there was a net outflow). During 2014 so far, foreign portfolio inflows to debt and equity markets have been around US\$ 34 billion with the larger part going to the debt segments. The substantial reduction in gold imports and increase in exports led to significant reduction in current account deficit to 1.7 per cent of GDP in Q1 2014-15 from 4.8 per cent in Q1 2013-14. In the recent period, inflation has decelerated (7.8 per cent CPI inflation in August 2014), growth has picked up (5.7 per cent in Q1 of 2014-15 as compared to 4.7 per cent in Q1 of previous year), and fiscal deficit has

reduced (4.5 per cent of GDP during 2013-14). India's forex reserves have increased by around US\$ 40.3 billion in the past one year to around US\$ 316 billion as on September 12, 2014. While the country's external debt may have risen to 1.8 per cent for the quarter ended June 2014, the share of short-term debt in the total debt has declined primarily due to restrictions on FII investments in the short end of the G-sec. It is equally important to note that short term debt as a percentage of reserves have also declined largely due to increase in the size of foreign exchange reserves. The sharp increase in forex reserves and improvement in macroeconomic fundamentals, including the short-term debt profile, have significantly enhanced the resilience of the economy to external shocks. Political stability in terms of formation of a new Government with clear mandate, Government's continued commitment to fiscal consolidation and sustained decline in oil prices have boosted the confidence in the country's macro-economy. The recent upgrade in country's outlook from negative to stable by S & P in a sense reflects and reinforces this new confidence. Thus, it can be said that India is in a much better position to withstand large capital outflows triggered by external developments. (*Harun R. Khan 2014*)

11) Technological advances which have made it possible to achieve the real time transmission of huge amounts of market information worldwide and to analyze that information rapidly so that market opportunities can be identified and exploited. In addition, financial transactions can now be execute quickly and safely, with a level well below those which were possible previously.

12) A fundamental change in the international monetary system from the fixed exchange rates arising out of the Bretton Woods agreement to a much more flexible system in which countries can float their exchange rate practices of their own choosing.

In August 1994 further development of the Foreign Exchange Market in India was provided with the setting up of Expert Group of Foreign Exchange Markets in India which submitted its report in June 1995. The group made several recommendations for deepening and widening of the Indian Foreign Exchange Market.

Hence from beginning from January 1996, wide-ranging reforms have been undertaken in the Indian Foreign Exchange Markets. After a decade, an Internal Technical Group on the Foreign Exchange market (2005) was constituted to undertake a complete review of the measures initiated by the Reserve Bank and identify areas for further liberalization or relaxation of restrictions in a medium-term framework.

2.2 Roles and Functions of the Foreign Exchange Market in India.

2.2.1. Roles of Foreign Exchange Market in India

The foreign exchange market is a financial institution that facilitates the exchange of one country's currency for that of another. Foreign exchange market are the oldest and the most financial marketplaces. It is a worldwide over-the-counter (OTC) marketplaces that decides currency exchange rate all over the world. Banks, dealers, commercial companies, investment management firms, and hedge funds make up the foreign exchange markets. In all major financial centers, all major currencies are exchanged. The currency market is open five days a week, 24 hours a day. In the forex market, currency trading entails the simultaneous buying and selling of two currencies. In this method, the value of one currency (base currency) is determined by comparing it to another currency (counter currency). The foreign exchange rate is the price of which one currency. The forex market has no physical address. It is an electronically linked network. In a simple definition, the exchange rate is a value at which one currency is exchanged for another or the worth of one currency in terms of one currency in terms of another economic zone or currency.

In financial centers, the foreign exchange market is just a subset of the money market. It is a location where foreign currencies are purchased and traded. A foreign exchange market is made up buyers and seller of foreign currency claims, as well as middleman. In the foreign exchange market, there are many different types of traders. Banks are the most significant among them. Banks that deals in foreign exchange have branches in several countries with significant balances. The services of such institutions

commonly referred to as “Exchange Banks,” are available all over the world through their branches and correspondents. These financial institutions discount and sell foreign bills of exchange, issue bank draughts, conduct telegraphic transfers and other credit transactions, and discount and collect payments based on such papers.

It assists the government in meeting its foreign exchange needs as well as its external debt obligations.

- 1) Flexibility
- 2) Transparency
- 3) Options trading.

- 1) Flexibility

The foreign exchange market offers traders a great deal of freedom. Due to the facts that the quantity of money that may be traded is unlimited. Market regulation is essentially non-existent.

- 2) Transparency

The foreign exchange market is enormous in size and spans many time zones. Still the information about the foreign exchange market is available freely. Neither the government nor the central bank has the authority to corner the market or set prices for an extended period of time. Because of the temporal lag in transferring information some entities may get short-term benefits. The magnitude of the foreign exchange market makes it fair and efficient.

- 3) Options trading

Traders can choose from a wide range of trading alternatives on the foreign exchange markets. Traders have lots of different currency pairs to select from. Investors can also choose between spot trading and signing a long term contract. As a consequence, the foreign exchange market has a remedy for any budgetary and investor's risk appetite.

2.2.2 Functions of Foreign Exchange Market in India

The Foreign Exchange Market is the mechanism by which a person or firm transfers purchasing power from one country to another, obtains or provides credit for international trade transactions, and minimizes exposure to foreign exchange risk.

1) The function of transfer:

The primary purpose of the foreign exchange market is to make it easier to convert one currency into another or to make buying power transfers between nations. A number of credit instruments, such as telegraphic transfers, bank drafts, and foreign bills, are used to transmit purchasing power. The foreign exchange market performs the transfer function by making payments by clearing debts in both directions in the same time, similar to domestic clearings.

For example, if an Indian exporter imports products from the United States and the payment is to be paid in dollars, FOREX will simplify the conversion of the rupee to the dollar. Credit instruments such as bank drafts, foreign exchange bills, and telephone transfers are used to carry out the transfer function.

2) The function of credit.

Another important role of the foreign exchange market is to facilitate international trade by providing credit, both domestic and international. When foreign bills of exchange are used in overseas payments, a credit of around three months is necessary before they mature. The FOREX provides importers with short-term loans in order to promote the flow of goods and services between countries. The importer can fund international imports with his own credit.

3) Hedging Function:

Hedging foreign exchange risks is a third function of the foreign exchange market. Hedging is the process of avoiding foreign currency risk. When the exchange rate, or the price of one currency, changes in a free exchange market, the party involved may earn or lose money. If there are large amounts of net claims or net liabilities that must be satisfied in foreign currency, a person or a company takes

on a significant exchange risks.

As a whole, exchange risk should be avoided or minimized. For this, the exchange market offers forward contracts in exchange as a means of hedging potential or presents claims or liabilities. A three-month forwarded contract is a contract to purchase or sell foreign exchange against another currency at a price agreed upon today for a defined period in the future. At the moment of the deal, no money in the currency rate. As a result of the presence of a forward market, an exchange can be hedge.

4) Foreign Exchange Dealer

Foreign exchange dealers, deal with both interbank and client market. The profit of the dealers is buying at a bid price and sells it a high price. Worldwide competitions among dealers narrows the spread between and ask and so contributes to making the foreign exchange market efficient in the same sense as securities markets. Dealers in the foreign exchange departments of large international banks often functions as market makers. They stand willing to buy and sell those currencies in which they specialize by maintaining an inventory position in those currencies.

5) Minimizing foreign exchange risk.

The foreign exchange market provides hedging facilities to for transferring foreign exchange risk to someone else.

3.1 FINDINGS

- 1) The study has conclude that Indian Foreign exchange market does not exhibit weak form of market efficiency.
- 2) The study has also proved that the growth and development symbolizing the best 'Made in India' and 'Make in India' has a tremendous profit for the Indian foreign exchange market.
- 3) Banks, dealers, commercial companies, investment management firms, and hedge funds make up the foreign exchange market in India.
- 4) The evolution of India's foreign exchange market can be connected to the country's exchange rate regulations, which have shifted from a par value system to a basket-peg and then to a managed float exchange system over the last few decades..

Liberalization has transformed India's external sector and a direct beneficiary of this has been the foreign exchange market in India. From a foreign exchange-starved, control-ridden economy, India has moved up to a position of \$150 billion plus in international reserves with a confident rupee and drastically reduced foreign exchange control. As foreign trade and cross-border capital flows continue to grow , and the country moves towards capital account convertibility, the foreign exchange market is poised to play an even greater role in the economy, but is unlikely to be free from RBI intervention any time soon.

The foreign exchange market transfer purchasing power between the countries involved in the transaction through credit instruments like bank draft and telephonic transfer. It also provides credit for foreign trade. Bills of exchange with maturity period of three months, and are usually used

for international payments. The foreign exchange market also provide the hedging function which is to avoid losses that might be caused due to exchange rate variations in the future.

3.2 CONCLUSION

The study conclude that the Indian Foreign Exchange Market have various dealers, with banks being the most dominant. Foreign bank is facilitated by exchange banks, which have various branches in a variety of nations. The foreign exchange market is a worldwide market where different country's currencies are exchanged. The Indian Foreign Exchanged Market is not under - the jurisdiction of a single authority, such as an International agency or a government.

Governments (through their central banks) and commercial banks are the main players in this market. The Reserve Bank of India(RBI) has intervened in the Indian Foreign Exchange Market to maintain liquidity in case of an economic crises., Indirect intervention using interest rates has also played an

increasingly important role in the RBIs Foreign Exchange Policy. The Foreign exchange market has no physical address. It is an electronically linked network. The 'exchange market' are available all over the world through their branches and correspondents.

The Foreign Exchange Market is not restricted to any given country or a geographical area. Thus, the foreign exchange market is the market for a national currency (foreign money) anywhere in the world, as the financial centre's of the world are united in a single market.

BIBLIOGRAPHY

Sarkar, Apu. (2006), “Scaling analysis on Indian Foreign Exchange Market”, *Statistical Mechanics and its Applications*, 364, 362-368

Patnaik, Lla. Pauly, Peter (2001). “Real exchange rate of the rupee”, *Global Business Review*, 2(2), 195-212

Prakash, Anand. (2012), “Volatility in the Indian Foreign Exchange Market”. *Reserve Bank of India Occasional Papers*, 33(1,2), 162-199

Sasikumar, Anoop. (2011), “Testing for weak form market efficiency in Indian Foreign Exchange Market” , The IUP Journal of Monetary Economics, University of Hyderabad, 20 May 2012, <https://mpra.ub.uni-muenchen.de/37071/>

NK, Bhanamurthy. (2000), ”Exchange rate determination”, Development Planning Centre, Institute of Economic Growth, 30 June 2015 bhanu@ieg.emet.in