

Growth and Development of Currency derivatives market In India

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ABSTRACT:

The growth of Indian Forex market owes to the tremendous growth of the Indian economy in the last few years. Today India holds a significant position in the Global economic scenario and it is considered to be one of the emerging economies in the world. The steady growth of the Indian economy and diversification of the industrial sectors in India has contributed significantly to the rapid growth of the Indian Forex Market .Extensive globalization and liberalization of Indian Economy has led to an increase in the quantum of transactions in the Foreign Exchange Market. This has led to a requirement of an active and liquid forex derivative market to provide a basket of hedging instruments for effective management of foreign exchange exposures. Since the inception of Currency Derivatives in 2008, the currency derivative market in India is gaining heft with daily volumes scaling new highs in respect to both volumes and value over the years across all the four currencies contract that were in operation i.e. US Dollar-Indian Rupee (USD-INR),Euro-Indian Rupee(EUR-INR),Japanese Yen-Indian Rupee (JPY-INR) and Pound Sterling-Indian Rupee (GBP-INR). This study mainly focus on the Growth and performance of Currency Derivatives in Indian Market since its introduction. Further it attempts to focus on the market share of currency traded contract in different exchanges in India. This study can serve as a helping tool or as a source of guide for the future study related to currency derivative.

KEYWORDS: *Currency Futures, Open Interest, Contract traded, Turnover & Forex*

HISTORY OF CURRENCY DERIVATIVES:

Currency futures were first created at the Chicago Mercantile Exchange (CME) in 1972. The contracts were created under the guidance and leadership of Leo Me lamed, CME Chairman Emeritus. The FX contract capitalized on the U.S. abandonment of the Bretton Woods agreement, which had fixed world exchange rates to a gold standard after World War II. The abandonment of the Bretton Woods agreement resulted in currency values being allowed to float, increasing the risk of doing business. By creating another type of market in which futures could be traded, CME currency futures extended the reach of risk management beyond commodities, which were the

main derivative contracts traded at CME until then. The concept of currency futures at CME was revolutionary, and gained credibility through endorsement of Nobel prize-winning economist Milton Friedman.

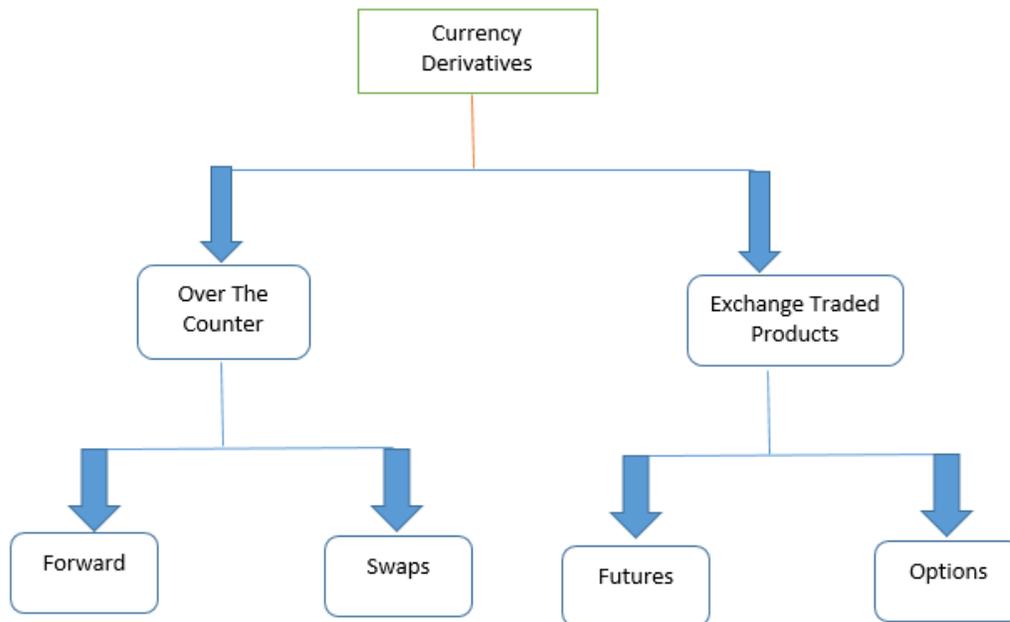
Today, CME offers 41 individual FX futures and 31 options contracts on 19 currencies, all of which trade electronically on the exchange's CME Globex platform. It is the largest regulated marketplace for FX trading. Traders of CME FX futures are a diverse group that includes multinational corporations, hedge funds, commercial banks, investment banks, financial managers, commodity trading advisors (CTAs), proprietary trading firms; currency overlay managers and individual investors. They trade in order to transact business, hedge against unfavorable changes in currency rates, or to speculate on rate fluctuations.

INTRODUCTION:

Currency derivative is a contract between two traders agreeing to exchange currency at a fixed price and at a future date. In simple words, it is a contract between the buyer and the seller trading in currencies. According to this contract, both the parties decide to exchange one currency for another on a future date and at a price that is set at the beginning. Although foreign exchange market is quite old in India, the need of exchange traded currency derivative was long awaited. In 2008, the currency derivatives were allowed to be traded in the exchanges in India. On August 29, 2008 Union Finance Minister P Chidambaram launched the first currency Futures Trading in the country at the National Stock Exchange (NSE).

Besides NSE, country's largest commodity bourse the Multi Commodity Exchange of India (MCX) and Bombay Stock Exchange (BSE) has started trading the currency futures from October, 2008 respectively.

A currency derivative can be structured as a currency option, currency forward, currency future, currency swap or currency warrant.



Over the Counter Contracts: OTC market is usually a telephone and computer linked network of dealers and brokers. OTC Derivatives are private contracts negotiated between parties. Here, liquidity as well as counter party risk is lower.

- **Currency Forward:** It is an agreement between buyer and seller for the purchase and sale of a specific quantity of underlying at a particular price on a specified date.
- **Currency Swaps:** Swaps are private agreements between two parties to exchange cash flows in the future according to a pre-arranged formula. Currency swaps entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than those in the opposite direction.

Exchange Traded Contracts: Standardized derivative products traded on the official floor of the regulated exchanges with pre-defined maturities. It provides protection and ensures higher liquidity and no counter party risk.

- **Currency Futures:** It is the standardized contract between buyer and seller for the purchase and sale of a specific quantity of currency at a particular price on a specified date. The terms and conditions are specified by the exchange.
- **Currency Options:** Options are a derivative contract which gives the buyer or holder the right but not the obligation to buy or sell (settle the value for cash) a specified quantity of currency at fixed agreed price called strike or exercise price during a period or a particular date in exchange for a payment of premium.

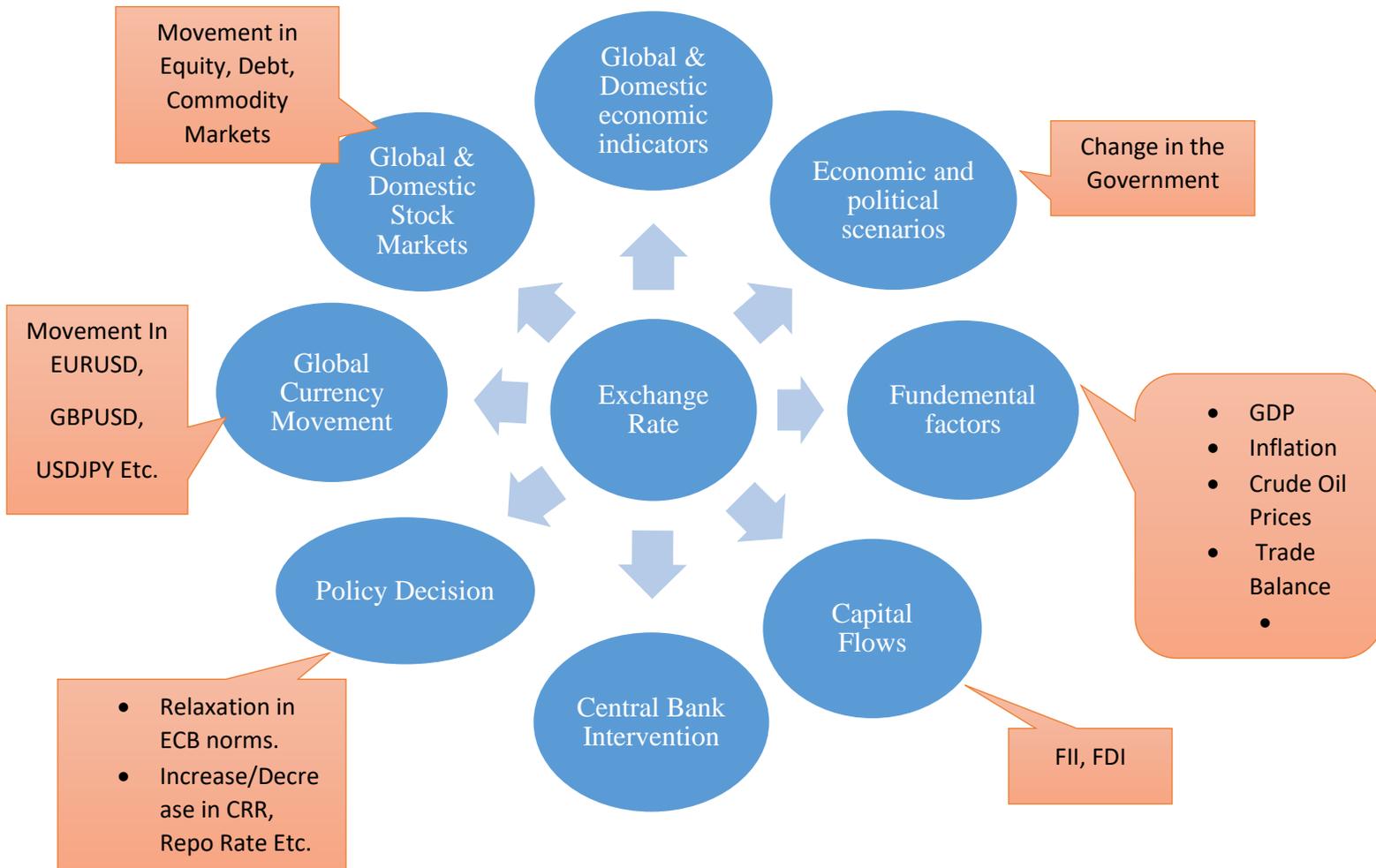
Currency Derivatives are very efficient risk management instruments and you can derive the below benefits:

1. **Hedging:** You can protect your foreign exchange exposure in business and hedge potential losses by taking appropriate positions in the same. For e.g. If you are an importer, and have USD payments to make at a future date, you can hedge your foreign exchange exposure by buying USDINR and fixing your pay out rate today. You would hedge if you were of the view that USDINR was going to depreciate. Similarly it would give hedging opportunities to Exporters to hedge their future receivables, Borrowers to hedge foreign currency (FCY) loans for interest and principal payments, Resident Indians, who can hedge their offshore investments.
2. **Speculation:** You can speculate on the short term movement of the markets by using Currency Futures. For e.g. If you expect oil prices to rise and impact India's import bill, you would buy USDINR in expectation that the INR would depreciate. Alternatively if you believed that strong exports from the IT sector, combined with strong FII flows will translate to INR appreciation you would sell USDINR.
3. **Arbitrage:** You can make profits by taking advantage of the exchange rates of the currency in different markets and different exchanges.
4. **Leverage:** You can trade in the currency derivatives by just paying a % value called the margin amount instead of the full traded value.

Factors Affecting Currency Markets

1. **Inflation** – Changes in market inflation cause changes in currency exchange rates. For instance, a country with a lower inflation rate than another will see an appreciation in the value of its currency while a country with higher inflation typically sees depreciation in its currency and is usually accompanied by higher interest rates.
2. **Interest rates** – An increase in interest rate will cause the currency value to appreciate because higher interest provides higher interest rate to lenders, thereby attracting more foreign capital which causes a rise in currency rates.
3. **Recession** - When a country experiences a recession, its interest rates are likely to fall, decreasing its chances to acquire foreign capital. As a result, its currency weakens in comparison to that of other countries, therefore lowering the exchange rate.
4. **Trade terms** – The trade terms shows the ratio of export and import prices. For instance, a country's terms of trade improves if its exports prices rise at a greater rate than its imports prices. This results in higher revenue, which causes a higher demand for the country's currency and an increase in its currency's value. This results in an appreciation of exchange rate.
5. **Government debt** – A country with government debt is likely to acquire foreign capital, leading to inflation. In such case, the foreign investors will sell their bonds in the open

market if the market predicts government debt within a certain country. As a result, a decrease in the value of its exchange rate will follow.



RISK INVOLVED IN CURRENCY DERIVATIVE MARKET AND HOW IT IS MANAGED:

Risk in currency derivative pertain to movements in the currency exchange rates. There is no rule of thumb to determine whether a currency rate will rise or fall or remain unchanged. A judgement on this will depend on the knowledge and understanding of the variables that affect currency rates. Whether you are an individual looking to travel abroad or planning to send money to your loved ones overseas, you will be affected by currency movement. Similarly, if you are into the business

of import-export of goods and services, you will either receive or transfer money that will be affected by currency fluctuations. Large movements in a currency can often result in big losses for companies that have not considered hedging of their foreign currency risk exposure. Technically, currency risk is the variability in the value of an exposure caused by uncertainty in movements of exchange rates. Currency risk essentially comes from the movements in the exchange rates between two currencies. The price at which you will be able to buy or sell currencies will be affected by the currency movement. Hedging is the tool that can be used by businesses and individuals to mitigate their foreign currency risks.

LITERATURE REVIEW:

Tom Jacob, Thomas Paul Kattookaran, Sreejith VJ (2015) did a study mainly focusing on the market share of currency traded contract in different exchanges in India. In which they concluded that there is big significance and contribution of currency derivatives to financial system. They also stated that derivatives are standard risk management tool that enables risk sharing and facilitates the efficient allocation of capital to productive investment activities.

DR. DEVAJIT MAHANTA (2005) in his paper he tried to assess the growth of the currency futures by measuring the growth in open interest and contract traded and after his study he concluded that in the coming future the currency futures will be getting more success and the economy as well as the risk hedgers will definitely get benefit from the trade. He also said that there will be greater price transparency in currency futures market for the end user.

Dr.S.Rajamohan and C.Vijayakumar (2015) based on the importance of currency market, the researcher has adopted to study the currency trades in NSE. The researcher has used descriptive tools such as mean, standard deviation and co-variance to analyse the market data. After their study, they concluded that the currency market is mainly based on the global market. External factors like high current account deficit, low capital inflow, devaluation pressure and so on has a major role in influencing the currency market. He also added that the market will be revived soon and the exchanges must take actions to make importance to the rest of currency pairs.

Dr. E.V.P.A.S.Pallavi (2015) did a study on growth of the currency derivatives in India, by choosing three variables i.e. the number of contracts traded, trading volume and open interest at NSE. In her paper she proved that Currency futures is a good tool for hedging the risk involved in the currency of a country. She also concluded that an extension of trading hours would also help participation in the exchange traded currency derivatives markets to mature in terms of reflecting information into markets and thereby become efficient in their price discovery process, besides remaining as the cost effective market for participants.

Nath and Lingareddy (2008) observed that with extended significance of Indian currency trading, which has gone to an everyday volume of around Rs. 2000-3000 crore, regardless of small contract size and low daily limits for investors and trading partners. Within a year of its commencement, MCX-SX has accomplished stupendous development in the average daily turnover and the open interest. The average daily turnover extended had from Rs. 355.66 crore amid the principal month of operations to Rs. 16,980 crore for the month of February 2010.

Guru (2009) demonstrated that the global markets (mainly USA) gets to be dynamic simply after Indian markets close at 5.00 pm and accordingly there is an apparent dread about the risks associated with overnight variances in the currency pair. Once the Indian markets close, the positions can't be pivoted by the traders till the next day.

Dharen Kumar Pandey (2011) stated that The Indian currency futures market has encountered an extraordinary growth since its inception. The upward trend of the volumes and the open interest for currency futures in both NSE and MCX illuminates the entire story in detail. The growth was the sole reason behind the introduction of three other currency futures in January this very year. In the coming days, it is normal that the market participants will find some more currency futures prospects introduced into the market. As of now on 26th March, 2010 the SEBI permitted the United Stock Exchange of India currency futures.

RESEARCH METHODOLOGY:

This study is totally based on the secondary data. Number of contracts traded, Turnover and the Open Interest Rate in India are collected from the Indian Securities Market Review (ISMR), Annual Report of SEBI and NSE Fact book 2016. Data related to product wise business growth had been assembled from the official websites of the respective exchanges. In order to understand the conceptual background and importance of the research objective, published books of eminent authors, journals, magazine articles and reports of various financial institutions have been reviewed. To analyze and interpret the data, statistical tools like analysis of change in percentage to find the growth between financial years, Compounded Annual Growth Rate (CAGR), coefficient of variance, standard deviation etc. are used.

Analysis and Insights on Performance of Currency Derivative market In India

Table 1 showcases the exchange wise performance of currency derivatives in Indian stock markets. There is a directly proportional relationship between Open Interest and Number of contracts. More is the open interest, number of contracts will certainly be on rise. This can be noticed below in Table 1. Open Interest in BSE has been low over the period 2013- 2016 and the number of contracts traded are also very low relative to MSEI and NSE. National stock Exchange has shown a considerable increase in number of contracts traded over the years and even the open interest in the currency derivatives segment has also been accelerating over the years. The Compounded Annual Growth rate (CAGR) hasn't be very promising for the time period 2008-2016, as can be noticed from Table 2. It is around 48.67% growth in the number of contracts traded and 35.61% for the annual turnover for the past 8 years.

Table 1: Exchange Wise Contribution towards Currency Derivatives in India Stock Exchanges

Year	MSEI			USE			BSE			NSE		
	No. of Contracts	Turnover (Rs. In Mn)	Open Interest	No. of Contracts	Turnover (Rs. In Mn)	Open Interest	No. of Contracts	Turnover (Rs. In Mn)	Open Interest	No. of Contracts	Turnover (Rs. In Mn)	Open Interest at the
2008-2009	29847569	1488260	990	0	0	0	0	0	0	32672768	1622724	1313
2009-2010	408166278	19446540	1951	0	0	0	0	0	0	378606983	17826080	1964
2010-2011	903185639	41940170	3706	167772367	7625010	109	0	0	0	749602075	34497877	13690
2011-2012	770325229	37324460	4494	315395543	14889780	125	0	0	0	973344132	46749898	15328
2012-2013	597310776	33031790	7389	23766846	1328610	292	0	0	0	959243448	52744647	20101
2013-2014	398584890	24224100	2156	47479296	3016200	217	39157195	2443120	253	660192530	40125134	6409
2014-2015	96478369	6499250	2292	8161866	521860	58	212434540	19085430	4161	480664694	30239080	20793
2015-2016	48858281	3245760	2162	0	0	0	280635711	18503590	5983	673583164	4501886	19523

Table 2: CAGR of Currency derivatives Segment in India

CAGR analysis of total exchange wise performance		
Year	No. of Contracts	Turnover (Rs. In Mn)
2008-2009	62520337	3110984
2015-2016	1003077156	26251236
CAGR	48.65775698	35.61936646

The decrease in the growth rate can be seen in Table 1, where the number of contracts traded were higher and in increasing trend upto 2013-14 relative to the year 2015-16. This increase in contacts traded upto 2013-14 and then a decreasing trend can be seen in MSEI & BSE but NSE though decreased in 2014-15, yet again accelerated in 2015-16.

The performance of national stock exchange has been relatively better than other exchanges in India. The overall growth of Currency derivatives in terms of turnover has been around 47% in the past 8 years and Currency futures have grown at rate of 34% and Currency options are growing at the rate of 30% in turnover for the past 8 years. The Table 3 clearly indicates the CAGR of Currency futures and Currency Options at NSE for the past 8 years.

Table 3: CAGR Analysis of Currency Derivatives in National Stock Exchange in India

CAGR analysis of Currency Derivative in NSE						
Year	Currency Futures		Currency Options		Total	
	No. of contracts	Turnover	No. of contracts	Notional Turnover	No. of contracts	Turnover*
2008-2009/2010-2011	32672768	162,272.43	37420147	170,785.59	32672768	162,272.43
2016-2017	188942091	1,305,039.20	166417557	1,124,084.86	355359648	2,429,124.06
CAGR	28.49	34.69	23.76	30.89	40.63	47.19

Among the instruments under Currency derivatives, Currency futures have been performing better than currency Options. Table 4 gives the proportion of different products under Currency futures that have contributed towards better performance of NSE currency derivatives segment. It can be concluded from Table 4 that, Currency Futures in USD-INR have been the best product for NSE. The turnover from USD-INR futures is almost on average 95% annually in the total contribution of Currency futures in NSE for the past 8 years.

Table 4: Product wise proportion of Currency Futures in NSE

Proportion of product wise currency futures in total currency futures of NSE								
Year	USD-INR		EUR-INR		JPY-INR		GBP-INR	
	No. of Contracts	Turnover						
2008-2009	100	100						
2009-2010	98.39	97.85	1.51	2.01	0.05	0.06	0.05	0.08
2010-2011	97.12	96.20	2.15	2.81	0.39	0.46	0.34	0.53
2011-2012	96.42	95.09	2.23	3.01	0.64	0.79	0.71	1.11
2012-2013	97.53	96.78	1.26	1.63	0.69	0.79	0.51	0.80
2013-2014	92.35	89.79	3.38	4.49	1.76	1.71	2.51	4.01
2014-2015	91.37	88.89	3.77	4.59	1.55	1.35	3.31	5.17

The CAGR details of different products in Table 5, under currency futures in currency derivatives segment of NSE reflects that the growth of currency futures over past 8 years has been encouraging. USD-INR currency futures are growing at a rate of 51% and GBP-INR is growing at a rate of 100% in the past 8 years.

Table 5: Product wise CAGR of Currency Futures.

Product wise CAGR analysis of currency futures			
Particulars	Year		CAGR
	2008-09/2009-10	2014-2015	
USD-INR			
Number of Contracts t	32672768	324914009	46.64
TurnOver (in Mn)	1622724	19982050	51.96
EUR-INR			
Number of Contracts t	5709979	13398536	15.28
TurnOver (in Mn)	358783	1032606	19.27
JPY-INR			
Number of Contracts t	199419	5504289	73.84
TurnOver (in Mn)	9990	303278	76.62
GBP-INR			
Number of Contracts t	202005	11772129	96.90
TurnOver (in Mn)	14146	1161990	108.49

Conclusion

Volatility of asset prices has always been the central issue in Finance. Derivatives are the instruments that help investors hedge from volatility of underlying asset. If the underlying asset is foreign exchange rate that predicting the changes is near to impossible. In such cases derivatives in the form of Currency Derivatives are of immense use to investors. The significance and contribution of Currency derivatives as hedging and speculative instruments can be well understood by trading of contracts and open interest. National stock exchange has stood as a pioneer in currency futures among all other exchanges in India. Derivatives aid in risk management and also facilitate efficient allocation of capital to productive investment oppourtunities.

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