

## A New Era of Currency Derivatives Market in India

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**Abstract:** *The introduction of currency derivatives in India has passed a journey of almost eight years and many changes have been implemented in the trading system in this regard. The main theme of this paper is to assess the development of currency derivatives in India. In order to study the growth of the currency derivatives, the number of contracts traded, trading volume and open interest at NSE are studied. The currency derivatives have received a good response from the investors as well as the hedgers. Currently, only resident Indians (including individuals, companies and financial institutions) can trade in the four currency pairs available in the local market-dollar/rupee, pound/rupee, euro/rupee and yen/rupee. Average turnover of these instruments in the National Stock Exchange is eight times higher than a year earlier. The average daily turnover of currency futures and currency options is Rs 16,778.20 crore in 2015. The risk involved is comparatively low in this case and currency derivatives has proved to be a good tool for hedging the risk involved in the currency of a country (currency risk). It is hoped that the currency derivatives market will develop faster and it will be a good choice for all the market participants in the near future and it will find its way in the Indian economy.*

**Keywords:** *currency futures, currency options, open interest, volume traded.*

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### I. Introduction

Derivative is a risk-shifting agreement, the value of which is derived from the value of an underlying asset. The underlying asset could be a physical commodity, an interest rate, a company's stock, a stock index, a currency, or virtually any other tradable instrument upon which two parties can agree. Derivatives fall into two categories. One consists of customized, privately negotiated derivatives, which are known generally as over-the-counter (OTC) derivatives, or even more generally, as swaps. The other category consists of standardized, exchange-traded derivatives, known generally as futures

Each country has its own currency through which both national and international transactions are performed. All the international business transactions involve an exchange of one currency for another. The price of one currency in terms of other currency is known as exchange rate. The foreign exchange markets of a country provide the mechanism of exchanging different currencies with one and another, and thus, facilitating transfer of purchasing power from one country to another. With the multiple growths of international trade and finance all over the world, trading in foreign currencies has grown tremendously over the past several decades. Since the exchange rates are continuously changing, so the firms are exposed to the risk of exchange rate movements. As a result the assets or liability or cash flows of a firm which are denominated in foreign currencies undergo a change in value over a period of time due to variation in exchange rates. This volatility in the value of assets or liabilities or cash flows is referred to exchange rate risk. Since the fixed exchange rate system has been fallen in the early 1970s, specifically in developed countries, the currency risk has become substantial for many business firms. As a result, these firms are increasingly turning to various risk hedging products like forwards, futures, options and swaps.

### Concept Of Derivatives

The term 'derivatives, refers to a broad class of financial instruments which mainly include options and futures. These instruments derive their value from the price and other related variables of the underlying asset. They do not have worth of their own and derive their value from the claim they give to their owners to own some other financial assets or security. A simple example of derivative is butter, which is derivative of milk. The price of butter depends upon price of milk, which in turn depends upon the demand and supply of milk. The general definition of derivatives means to derive something from something else.

The asset underlying a derivative may be commodity or a financial asset. Derivatives are those financial instruments that derive their value from the other assets. For example, the price of gold to be delivered after two months will depend, among so many things, on the present and expected price of this commodity.

### **Meaning And Definition Of Financial Derivatives:**

Section 2(ac) of Securities Contract Regulation Act (SCRA) 1956 defines Derivative as:

- a) "A security derived from a debt instrument, share, loan whether secured or unsecured, risk Instrument or contract for differences or any other form of security;
  - b) "A contract which derives its value from the prices, or index of prices, of underlying securities".
- Underlying Asset in a Derivatives Contract

As defined above, the value of a derivative instrument depends upon the underlying asset. The underlying asset may assume many forms:

Commodities including grain, coffee beans, orange juice;

Precious metals like gold and silver;

Foreign exchange rates or currencies;

Bonds of different types, including medium to long term negotiable debt securities issued by governments, companies, etc.

Shares and share warrants of companies traded on recognized stock exchanges and Stock Index Short term securities such as T-bills; and Over- the Counter (OTC)

### **Classification Of Derivatives:**

On the basis of this classification the derivatives can be financial or non – financial derivatives:

**Financial derivatives:** Those derivatives which are of in financial nature are called financial derivatives. They are as follows:

- (i) Forwards
- (ii) Futures
- (iii) Options
- (iv) Swaps

The above financial derivatives may be in the form of credit derivatives, forex, currency fixed-income, interest, insider trading and exchange traded.

**Non-financial derivatives:** Those derivatives which are not of financial nature are called non-financial derivatives. They are as follows:

- (i) Commodities
- (ii) Metals
- (iii) Weather
- (iv) Others.

### **Currency Derivatives:**

Currency derivatives are complex financial instruments which are traded over – the – counter and this is a collective term used for futures, forwards and swaps. Currency derivatives are used for hedging. This hedging involves a future payment or receive in a foreign currency.

### **Historical Back Ground Of Currency Derivatives:**

Currency derivative are introduced in The Chicago Mercantile Exchange (CME) in the year of 1972. 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 increases the risk of doing a business, by creating another market. The concept of Currency at CME was revolutionary, & gained credibility through endorsement of Nobel-prize-winning economist Milton Friedman. Today, CME offers 41 individual FX futures & 31, options contracts on 19 currencies. It is a 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 and individual investors. They trade in order to transact business hedge against unfavorable changes in currency rates or to speculate on exchange rate fluctuations

### **Types Of Currency Derivatives:**

**Currency forwards:** A currency forward is an agreement between two parties where both the parties agreed to buy/sell an underlying asset at a predetermined price in future. This involves future payment or receivable an unknown foreign exchange rate.

**Currency futures:** A futures contract is a standardized contract, traded on an exchange, to buy or sell a certain underlying asset or an instrument at a certain date in the future, at a specified price. When the underlying is an exchange rate, the contract is termed a “currency futures contract”.

**Currency options:** A currency option is a contract giving the option purchaser (the buyer) the right, but not the obligation, to buy or sell a fixed amount of foreign exchange at a fixed price per unit for a specified time period.

**Currency swaps:** A currency swap is an agreement between two parties to exchange cash flows in two different currencies. The swap consists of interest rate differentials between currencies.

## II. Review Of Literature

Nath and Lingareddy (2008) observed that with increased depth of Indian currency trading, which has reached to a daily volume of around Rs. 2000-3000 crore, despite small contract size and low daily limits for individuals and trading partners. Within a year of its inception, MCX-SX has achieved stupendous growth in average daily turnover and open interest. The average daily turnover increased from Rs. 355.66 crore during the first month of operations to Rs. 16,980 crore for the month of February 2010.

Guru (2009) indicated that the global markets (mainly USA) become active only after Indian markets close at 5.00 pm and as a result there is an evident fear about the risks associated with overnight fluctuations in the currency pair. Once the Indian markets close, the positions cannot be reversed by the traders till the next day. Dharen Kumar Pandey (2011) stated that The Indian currency futures market has experienced an impressive growth since its introduction. The upward trend of the volumes and open interest for currency futures in both NSE and MCX explains the whole story in detail. The growth was only the reason for the introduction of three other currency futures in January this year. In the coming future it is expected that the market participants will find some more currency futures introduced into the market. Currently on 26th March, 2010 the SEBI allowed the United Stock Exchange of India to launch currency futures.

**Research Objective:** The main objective is to know the development patterns of currency derivatives in India with respect to National Stock Exchange (NSE).

### Development Of Currency Derivatives Market In India:

NSE is one of the major stock exchanges in India. The Indian markets have shown a remarkable growth both in terms of volumes and numbers of contracts. Introduction of derivatives trading in 2000, in Indian markets was the starting of equity derivative market which has registered on explosive growth and is expected to continue the same in the years to come. NSE alone accounts 99% of the derivatives trading in Indian markets. Introduction of derivatives has been well received by stock market players. Derivatives trading gained popularity after its introduction in very short time. The Currency Derivatives segment at NSE commenced operations on August 29, 2008 with the launch of currency futures trading in US Dollar-India Rupee (USD-INR). Trading in other currency pairs like Euro-INR, Pound Sterling-INR and Japanese Yen-INR was further made available for trading in March 2010. On the same segment, interest rate futures were introduced for trading on August 31, 2009.

The trading activity in currency futures has been witnessing a rapid growth. The total traded volume from August 2008 was 1,62,272.43 crore and increased by 998.53% to 5,36,902.44 crore in 2014-15. Total number of contracts traded during 2008 -09 were 3, 26,72,768. The average traded volumes during the same period were 7,428 crore (US \$ 1,645 million). The business growth of Currency Futures Segment is shown in Table -1.

**Table 1: Business Growth of Currency Derivatives Segment at NSE**

Year	Total Number of Contracts	Total Turnover (Rs in Crs)	Average Daily Turnover (Rs in Crs)
2015-2016	8,31,60,350	5,36,902.44	16,778.20
2014-2015	48,06,64,694	30,23,907.67	12,705.49
2013-2014	66,01,92,530	40,12,513.45	16,444.73
2012-2013	95,92,43,448	52,74,464.65	21,705.62
2011-2012	97,33,44,132	46,74,989.91	19,479.12
2010-2011	74,96,02,075	34,49,787.72	13,854.57
2009-2010	37,86,06,983	17,82,608.04	7,427.53
2008 - 2009	3,26,72,768	1,62,272.43	1,167.4

(Source: Compiled from NSE)

**Table 2: Number of Contracts traded in NSE at Currency Derivatives Segment**

Year	Currency Futures (No of Contracts)	Currency Options (No of Contracts)	Total Contracts
2015-2016	5,59,61,924	2,71,98,426	8,31,60,350
2014-2015	35,55,88,963	12,50,75,731	48,06,64,694
2013-2014	47,83,01,579	18,18,90,951	66,01,92,530
2012-2013	68,41,59,263	27,50,84,185	95,92,43,448
2011-2012	70,13,71,974	27,19,72,158	97,33,44,132
2010-2011	71,21,81,928	3,74,20,147	74,96,02,075
2009-2010	37,86,06,983	-	37,86,06,983
2008 - 2009	3,26,72,768	-	3,26,72,768

(Source: Compiled from NSE)

**Table 3: Total Turnover of Currency Derivatives Segment at NSE**

Year	Currency Futures (in Crs)	Currency Options (in Crs)	Total Turnover (in Crs)
2015-2016	3,63,394.61	1,73,507.83	5,36,902.44
2014-2015	22,47,992.34	7,75,915.32	30,23,907.67
2013-2014	29,40,885.92	10,71,627.54	40,12,513.45
2012-2013	37,65,105.33	15,09,359.32	52,74,464.65
2011-2012	33,78,488.92	12,96,500.98	46,74,989.91
2010-2011	32,79,002.13	1,70,785.59	34,49,787.72
2009-2010	17,82,608.04	-	17,82,608.04
2008 - 2009	1,62,272.43	-	1,62,272.43

(Source: compiled from NSE)

**Open Interest:**

Open Interest is the total number of outstanding contracts that are held by market participants at the end of the day. It can also be defined as the total number of futures contracts or option contracts that have not yet been exercised (squared off), expired, or fulfilled by delivery.

Open interest applies primarily to the Futures Market. Open interest, or the total number of open contracts on a security, is often used to confirm trends and trend reversals for Futures And Options contracts. Open interest measures the flow of money into the futures market. For each seller of a futures contract there must be a buyer of that contract. Thus a seller and a buyer combine to create only one contract. Therefore, to determine the total open interest for any given market we need only to know the totals from one side or the other, buyers or sellers, not the sum of both. The open interest position that is reported each day represents the increase or decrease in the number of contracts for that day, and it is shown as a positive or negative number.

**Table 4: Relationship between Price, trend and Open Interest**

Price	Open Interest	Interpretation
Rising	Rising	Market is Strong
Rising	Falling	Market is Weakening
Falling	Rising	Market is Weak
Falling	Falling	Market is Strengthening

**Table 5: Records achieved in the Currency Futures & Options Segment from the date of inception till 31 March 2014**

Currency Derivatives Segment	Date	Number/value
Record number of trades	20-Jun-13	390,049
Record number of contracts	20-Jun-13	11,534,563
Record Daily Notional Turnover ( Crores)	20-Jun-13	69,323.90

(Source: NSE fact book 2014)

It can be observed the records achieved in the currency futures & Options segment from the date of inception. As the currency futures trading started at NSE on August 29, 2009 and currency options trading started on October 29, 2010. Since its inception currency futures & options are showing tremendous performance in terms of trades, contracts and turnover. The total trades recorded under this segment were 3, 90,049 total contracts were 11,534,563. Further if we observe the daily notional turnover 69,323.90 crores on June 20, 2013. This shows the currency derivatives segment is showing explosive growth in future currency futures & options contracts on the basis of turnover it can be observed that Total Traded Value of Currency Futures & Options for FY 2013-14 is ` 4012513.45 Crores.

**Table 6: Top 5 Currency Futures & Options Contracts on the basis of turnover for the financial year 2013 - 14**

Rank	Contract name		Total Traded Quantity	Total traded value (in Crs)	Total Traded Value (%) to currency Futures & options Total value traded
	Instrument Type	contract symbol			
1	FUTCUR	USDINR	76,525,555	442,867.94	11.04
2	FUTCUR	USDINR	55,719,165	333,349.66	8.31
3	FUTCUR	USDINR	58,638,824	321,910.37	8.02
4	OPTCUR	USDINR	47,313,672	274,570.32	6.84
5	FUTCUR	USDINR	38,522,829	249,298.08	6.21

(Source: NSE fact book 2014)

### III. Conclusion

The Indian currency derivatives market has experienced an impressive growth since its introduction of currency futures and options. The upward trend of the volumes and open interest for currency futures and options in NSE explains the progress in detail. Currency futures has proved to be a good tool for hedging the risk involved in the currency of a country (currency risk). It is hoped that the currency futures market will develop faster and it will be a good choice for all the market participants in the near future and it will find its way in the Indian economy. Currency futures and options are traded under exchange traded and over – the – counter. The growth in terms of volumes and participants in the Exchange Traded Currency Derivative Segment would improve the process of assimilation various global and domestic economic information into the markets while it discovers its exchange rates. 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.

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