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EXPLORING CURRENCY DERIVATIVES: TYPES, APPLICATIONS, AND THEIR ROLE IN GLOBAL FINANCIAL MARKETS AT HDFC

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ABSTRACT

Currency derivatives are financial instruments whose value is derived from the exchange rates of underlying currencies. These instruments play a vital role in managing foreign exchange risk, facilitating international trade, and improving market efficiency in global financial markets. The increasing globalization of business operations has exposed companies, financial institutions, and investors to currency fluctuations, making currency derivatives an essential risk management tool. The major types of currency derivatives include currency forwards, futures, options, and swaps, each offering unique features and benefits for hedging and speculative purposes.

HDFC Bank, being one of India's leading private sector banks, actively participates in the currency derivatives market by providing various foreign exchange products and services to corporate clients, exporters, importers, and investors. Through these instruments, the bank helps its customers mitigate exchange rate risks and optimize their financial performance. Currency derivatives also contribute to market liquidity, price discovery, and efficient allocation of financial resources.

This study explores the various types of currency derivatives, their applications in risk management and investment strategies, and their significance in the functioning of global financial markets. It further examines the role of HDFC Bank in facilitating currency derivative transactions and supporting clients in managing foreign exchange exposure. The findings highlight that effective utilization of currency derivatives enhances financial stability, protects profitability, and promotes sustainable growth in an increasingly interconnected global economy.

I. INTRODUCTION

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 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 variability in 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 that was the reason behind development of currency derivatives.

The financial environment today has more risks than earlier. Successful business firms are those that are able to manage these risks effectively. Due to changes in the macroeconomic structures and increasing internationalization of businesses, there has been a dramatic increase in the volatility of economic variables such as interest rates, exchange rates, commodity prices etc. Firms that monitor their risks carefully and manage their risks with judicious policies enjoy a more stable

business than those who are unable to identify and manage their risks. There are many risks which are influenced by factors external to the business and therefore suitable mechanisms to manage and reduce such risks need to be adopted. One of the modern day solutions to manage financial risks is 'hedging'.

The project is all about what are the hedging instruments (Currency Derivatives) available in India and how the business corporations are using currency derivatives as a risk management tool.

SCOPE OF THE STUDY:-

- To know what is foreign exchange and what are the various foreign exchange services.
- To know how the transactions related to foreign exchange volatility carried out.
- To have a brief knowledge about various foreign currencies and their exchange rates compare to other nations currencies.

NEED AND IMPORTANCE OF THE STUDY

The world nations are increasingly becoming more interrelated global trade, and global investment. These international result in cross country flow of world nations. Countries hold currencies of other countries and that a market, dealing of foreign exchange results.

Foreign exchange means reserves of foreign currencies. More aptly, foreign exchange refers to claim to foreign money balances. Foreign exchange gives resident of one country a financial claim on other country or countries. All deposits, credits and balances payable in foreign currency and any drafts, travelers' cheques, letters of credit and bills of exchange payable in foreign currency constitute foreign exchange. Foreign exchange market is the market where money denominated in one currency is bought and sold with money denominated in another currency. Transactions in currencies of countries, parties to these transactions, rates at which one currency is exchanged for other or others, ramificataion in these rates, derivatives to the currencies and dealing in them and related aspects constitute the foreign exchange (in short, forex) market.

Foreign exchange transactions take place whenever a country imports goods and services, people of a country undertake visits to other counties, citizens of a country remit money abroad for whatever purpose, business units set up foreign subsidiaries and so on. In all these cases the nation concerned buys relevant and required foreign exchange, in exchange of its currency, or draws from foreign exchange reserves built. On the other hand, when a country exports goods and services to another country, when people of other countries visit the country, when citizens of the country settled abroad remit money homewards, when foreign citizens, firms and institutions invest in the country and when the country or its business community raises funds from abroad, the country's currency is bought by others, giving foreign exchange, in exchange. Multinational firms operate in more than one country and their operations involve multiple foreign currencies. Their operations are influenced by politics and the laws of the counties where they operate. Thus, they face higher degree of risk as compared to domestic firms. A matter of great concern for the international firms is to analyze the implications of the changes in interest rates, inflation rates and exchange rates on their decisions and minimize the foreign exchange risk. The importance of the study is to know the features of foreign exchange and the factors creating risk in foreign exchange transactions and the techniques used for managing that risk.

OBJECTIVES OF THE PROJECT

To understand the concept of currency derivatives and their importance in the foreign exchange market.

1. To study the different types of currency derivatives such as currency forwards, futures, options, and swaps.
2. To analyze the applications of currency derivatives in managing foreign exchange risk and currency exposure.
3. To examine the role of currency derivatives in global financial markets and their contribution to market efficiency and liquidity.
4. To evaluate the hedging strategies adopted by businesses and financial institutions using currency derivative instruments.

5. To assess the role of HDFC Bank in providing currency derivative products and services to its customers.
6. To study the benefits and challenges associated with currency derivative transactions for investors, exporters, importers, and multinational corporations.
7. To analyze the impact of currency fluctuations on international trade and investment decisions.
8. To understand the regulatory framework governing currency derivatives in India and its influence on market operations.
9. To provide suggestions for the effective use of currency derivatives in minimizing financial risks and enhancing financial performance.

II. METHODOLOGY

All the data and information is collected by me from different sources for the preparation of this report. To prepare this report, I have adopted following methodology.

Primary data:

- The primary data has been collected from experts, officials and employees working in HDFC LTD.

Secondary data:

- For secondary data, I have use internet. Links are given for the same.

LIMITATIONS

- The study is confined just to the foreign exchange risk but not the total risk.
- The analysis of this study is mainly done on the income statements.
- This study is limited for the year 2021-2024.
- It does not take into consideration all Indian companies foreign exchange risk.
- The hedging techniques are studied only which the company adopted to minimize foreign exchange risk.

III. LITERATURE RVIEW

WHAT IS DERIVATIVES

Derivative is a product whose value is derived from the value of one or more basic variables, called bases (underlying asset, index, or reference rate), in a contractual manner. The underlying asset can be equity, foreign exchange, commodity or any other asset.

For example, wheat farmers may wish to sell their harvest at a future date to eliminate the risk of a change in prices by that date. Such a transaction is an example of a derivative. The price of this derivative is driven by the spot price of wheat which is the "underlying".

In the Indian context the Securities Contracts (Regulation) Act, 1956 [SC(R)A] defines "Derivative" to include-

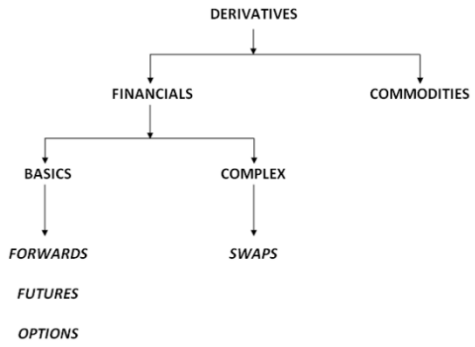
1. A security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security.

2. A contract which derives its value from the prices, or index of prices, of underlying securities.

- The Underlying Securities for Derivatives are :

1. Commodities: Castor seed, Grain, Pepper, Potatoes, etc.
2. Precious Metal: Gold, Silver
3. Short Term Debt Securities: Treasury Bills
4. Interest Rates
5. Common shares/stock
6. Currency derivatives

TYPES OF FINANCIAL DERIVATIVES



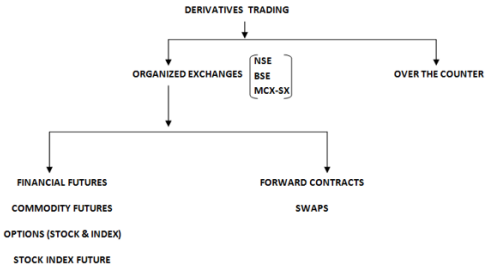
One form of classification of derivative instruments is between commodity derivatives and financial derivatives. The basic difference between these is the nature of the underlying instrument assets.

In commodity derivatives the underlying instrument is commodity which may be wheat, cotton, pepper, sugar, jute, turmeric, corn, crude oil natural gas, gold, silver, zinc and so on.

In financial derivatives the underlying instrument may be treasury bills, stocks, bonds,

foreign exchange, stock index etc. it is to be noted that financial derivative is fairly standard and there are no quality issues whereas in commodity derivative, the quality may be the underlying matters.

RADING OF FINANCIAL DERIVATIVES



Derivatives traded at exchanges are standardized contracts having standard delivery dates and trading units.

OTC derivatives are customized contracts that enable the parties to select the trading units and delivery dates to suit their requirements.

A major difference between the two is that of counterparty risk – the risk of default by either party. With the exchange traded derivatives, the risk is controlled by exchanges through clearing house which act as a contractual intermediary and impose margin requirement. In contrast, OTC derivatives signify greater liability.

DEFINITIONS

Futures:

A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. Futures contracts are special types of forward contracts in the sense that they are standardized and are generally traded on an exchange. A currency futures contract provides a simultaneous right and obligation to buy and sell a particular currency at a specified future date, a specified price and a standard quantity.

Forwards:

A forward contract is a customized contract between two parties, where settlement takes place on a specific date in the future at today's pre-agreed price. The exchange rate is fixed at the time the contract is entered into. The basic objective of a forward market in any underlying asset is to fix a price for a contract to be carried through on the future agreed date and is intended to free both the purchaser and the seller from any risk of loss which might incur due to fluctuations in the price of underlying asset.

Swaps:

Swaps are agreements between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts. The currency swap entails 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. There are a various types of currency swaps like as fixed-to-fixed currency swap, floating to floating swap, fixed to floating currency swap.

In a swap normally three basic steps are involve___

1. Initial exchange of principal amount
2. Ongoing exchange of interest
3. Re - exchange of principal amount on maturity.

Options:

Options are of two types - calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

In other words, a foreign currency option is a contract for future delivery of a specified currency in exchange for another in which buyer of the option has to right to buy (call) or sell (put) a particular currency at an agreed price for or within specified period.

In India only currency forwards and currency futures are only allowed. Currency swaps and currency option is yet not allowed in India.

Recently MCX-SX has started to offer currency futures contracts in **US Dollar-Indian Rupee (USD-INR,) Euro-Indian Rupee (EUR-INR), Pound Sterling-Indian Rupee (GBP-INR) and Japanese Yen-Indian Rupee (JPY-INR)**. Clearing and Settlement is conducted through the MCX Stock Exchange Clearing Corporation Ltd (MCX-SX CCL).

This year SEBI is also thinking about launching Currency Options for facilitating all the investors, exporters, importers and MNCs.

IV. DATA ANALYSIS AND INTERPRETATION

DETAILS OF CONTRACT SPECIFICATION OF USD/INR FUTURES

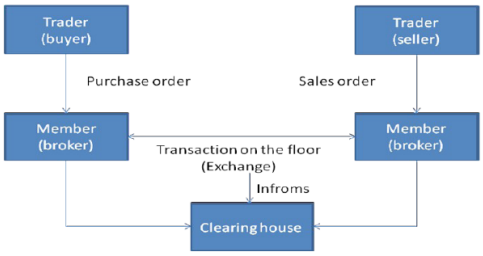
Symbol	USDINR
Instrument Type	FUTCUR
Unit of trading	1 (1 unit denotes 1000 USD)
Underlying	The exchange rate in Indian Rupees for a US Dollar
Tick size	Rs.0.25 paise or INR 0.0025
Trading hours	Monday to Friday **9:00 a.m. to 5:00 p.m**
Contract trading cycle	12 month trading cycle.
Last trading day	Two working days prior to the last business day of the expiry month at 12 noon.
Final settlement day	Last working day (excluding Saturdays) of the expiry month. The last working day will be the same as that for Interbank Settlements in Mumbai.
Quantity Freeze	Above 10,000
Base price	Theoretical price on the 1st day of the contract. On all other days, DSP of the contract
Price operating range	**Tenure up to 6 months** +\- 3% of base price **Tenure more than 6 months** +\- 5% of base price
Position limits	**Clients** Higher of 6% of total open interest **or** USD 10 million **Trading members** Higher of 15% of the total open interest **or** USD 50 million **Banks** Higher of 15% of total open interest **or** USD 100 Million
Minimum initial margin	1.75% on day 1, 1% thereafter
Extreme loss margin	1% of MTM value of open position.
Calendar spreads	Minimum Rs. 250/- per contract for all months of spread
Settlement	**Daily settlement :** T + 1 **Final settlement :** T + 2
Mode of settlement	Cash settled in Indian Rupees
Daily settlement price (DSP)	Calculated on the basis of the last half an hour weighted average price
Final settlement price (FSP)	RBI reference rate

NSE trades Currency Derivatives contracts having near 12 calendar month expiry cycles. All contracts expire two working days prior to the last working day of every calendar month (subject to holiday calendars). This is also the last trading day for the expiring contract. The contract would cease to trade at 12:00 noon on the last trading day. A new contract with 12th month expiry would be introduced immediately ensuring availability of 12 monthly contracts for trading at any point.

The Instrument type: FUTCUR refers to 'Futures contract on currency' and Contract symbol: USDINR denotes a currency pair of 'US Dollars – Indian Rupee'. Each futures contract has a separate limit

order book. All passive orders are stacked in the system in terms of price-time priority and trades take place at the passive order price (order which has come earlier and residing in the system). The best buy order for a given futures contract will be the order to buy at the highest price whereas the best sell order will be the order to sell at the lowest price.

TRANSACTION OF A CONTRACT

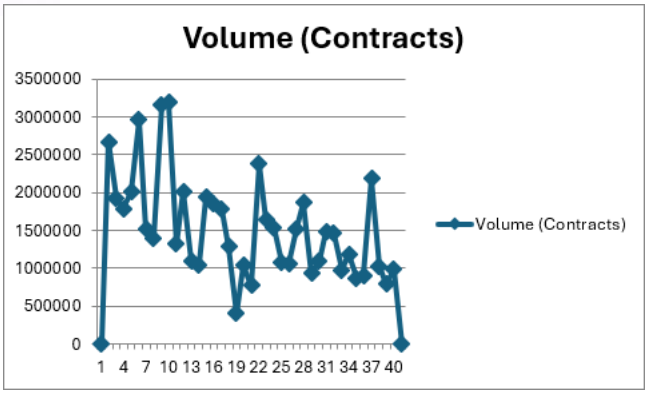


Futures derivatives
USDINR(Future currency(FUTCUR))

USDINR				
Trade Date	**Instrument**	**Volume (Contracts)**	**Turnover * (₹ crs)**	**OI**
25-Jan-2025	FUTCUR	2672379	18,232.16	46,26,217
24-Jan-2025	FUTCUR	1925725	13,063.89	44,01,673
23-Jan-2025	FUTCUR	1789586	12,137.97	43,15,357
20-Jan-2025	FUTCUR	2011536	13,692.80	42,28,319
19-Jan-2025	FUTCUR	2958843	20,154.22	40,03,430
18-Jan-2025	FUTCUR	1511303	10,238.67	36,38,711
17-Jan-2025	FUTCUR	1403684	9,510.17	36,00,208
16-Jan-2025	FUTCUR	3156324	21,348.07	36,53,965
13-Jan-2025	FUTCUR	3199627	21,538.55	31,39,495
12-Jan-2025	FUTCUR	1322451	8,863.87	27,13,409
11-Jan-2025	FUTCUR	2018690	13,523.44	25,97,208
10-Jan-2025	FUTCUR	1102841	7,387.41	25,10,646
09-Jan-2025	FUTCUR	1047409	7,005.80	25,17,066
06-Jan-2025	FUTCUR	1934974	12,974.19	26,17,620
05-Jan-2025	FUTCUR	1857351	12,444.82	24,89,848
04-Jan-2025	FUTCUR	1783381	11,915.80	24,80,436

03-Jan-2025	FUTCUR	1282113	8,558.22	22,48,879
02-Jan-2025	FUTCUR	405115	2,692.30	20,49,512
28-Dec-2024	FUTCUR	1042031	6,928.96	21,21,387
27-Dec-2024	FUTCUR	776815	5,180.58	21,63,626
26-Dec-2024	FUTCUR	2378993	15,829.15	38,38,081
23-Dec-2024	FUTCUR	1640470	10,874.74	33,91,662
22-Dec-2024	FUTCUR	1544143	10,240.36	33,38,246
21-Dec-2024	FUTCUR	1076168	7,148.55	31,35,348
20-Dec-2024	FUTCUR	1054736	7,012.39	30,63,989
19-Dec-2024	FUTCUR	1522979	10,140.08	29,04,118
16-Dec-2024	FUTCUR	1871015	12,486.72	26,88,320
15-Dec-2024	FUTCUR	935438	6,268.16	24,70,278
14-Dec-2024	FUTCUR	1096075	7,367.03	24,42,483
13-Dec-2024	FUTCUR	1491951	10,030.79	24,44,686
12-Dec-2024	FUTCUR	1465741	9,824.98	21,47,211
12-Dec-2024	FUTCUR	979527	6,562.97	18,78,134
09-Dec-2024	FUTCUR	1191382	7,989.53	19,28,504
08-Dec-2024	FUTCUR	873514	5,855.43	17,80,440
07-Dec-2024	FUTCUR	907443	6,071.44	17,91,652
06-Dec-2024	FUTCUR	2186715	14,681.22	18,10,060
05-Dec-2024	FUTCUR	1025868	6,871.25	17,35,678
02-Dec-2024	FUTCUR	791244	5,294.51	15,51,125
01-Dec-2024	FUTCUR	985631	6,589.90	14,94,893

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Interpretation:

The Volume of the currency future market was increasing every day and the market was depending on Indian trade and tariff and also depends on international trades because dollar was accepted globally for the trade in the world.

The forward exchange contract is similar to the spot exchange. However, the time period of the contract is significantly longer. These contracts use a forward exchange rate that differs from the spot rate. The difference between the forward rate and the spot rate reflects the difference in interest rates between the two currencies.

This prevents an opportunity for arbitrage. If the rates did not differ, there would be a profit difference in the currencies. That is, investing in one currency for a year and then selling it should be the same profit or loss as setting up a forward contract at the forward rate one year in the future. Investing in one currency would be more profitable than investing in the other. Thus there would exist an opportunity for arbitrage.

Forward exchange contracts are settled at a specified date in the future. The parties exchange funds at this date. Forward contracts are typically custom written between the party needing currency and the bank, or between banks.

The value of the Dollar in the present rate is 67.73 ₹ and the trade volume is 3536874.

V. FINDINGS

1. There is not much change in percentage of operating profit.
2. As currency of other country is increased or decreased there exists volatility in net operating income.
3. As foreign exchange rate is sensitive phenomena that affect the profitability of the company, the company should make study of the impact of exchange rate volatility on its profitability in different foreign markets.
4. To have expanded knowledge on impact on company's profitability when foreign exchange rates changes, various statements like cash flow, funds flow,etc need to be checked.

Total revenues are assumed as 80% domestic and 20% foreign and total expenses are assumed as 80% foreign and 20% domestic, thus this factor affects both incomes and expenses when exchange rate is increased or decreased.

VI. CONCLUSION

By far the most significant event in the finance during the past decade has been the extraordinary development and expansion of financial derivatives. These instruments enhance the ability to differentiate risk and allocate it to those investors most able and willing to take it a process that has undoubtedly improved national productivity growth and standards of livings.

The currency futures give the safe and standardized contract to its investors and individuals who are aware about the forex market or predict the movement of exchange rate so they will get the right platform for the trading in currency future. Because of exchange traded future contract and its standardized nature gives counter party risk minimization.

Initially only NSE had the permission but now BSE & MCX-SX has also started currency

future contracts. It shows that how currency future covers ground in the compare of the other available derivative instruments. Last month MCX-SX ranked top amongst all three with more than 50% trades of currency futures contracts in India in sense of volumes and number of contracts also.

Not only big business houses, exporters and importers use this but individuals who are interested and having knowledge about forex market they can also invest in currency future. At Marwadi Shares also many individual investors are investing in currency futures.

Exchange between USD-INR markets in India is very big and along with it other currency contracts of Euro, Pound and Japanese Yen are in the market and attracting the investors which is the reason behind higher growth rate of currency futures in India.

VII. SUGGESTIONS

Often, foreign ships travel through India and dock their vessels at various ports / harbors in the country. One of the major requirements during such temporary stays, is that of FCY Cash that has to be made available to the Captain of the Ship for covering Crew wages or for other expenses on board the ship.

These requirements are usually met through a facility called "Cash to Master". To collect this cash, the master of the ship has to approach the branch with his passport and a duly filled up application form. This product is available only in United States Dollars, Pounds Sterling and Euro Currencies.

Foreign exchange facilities can be availed by customers at any of our branches transacting in Foreign Exchange. You can buy FCY Cash, TC's and FCY DD's from any our branch and also encash your TC's and Cash at our branches.

Foreign Exchange can be availed against payments by Cash, Cheque or Pay Order/ Demand Draft. A maximum of Rs. 49,999/- (as per Indian Tax Laws) will be accepted in cash and any amount above Rs. 49,999/-, against a Pay Order or Cheque after clearance of the same. You need to carry the required Documentary Proof for issuance of Foreign Exchange.

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