DEPARTMENT OF COMMERCE AND FINANCIAL STUDIES
BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620024
MBA (Financial Management)

Course Code: FMCC8/24

Course Name :FOREIGN EXCHANGE MANAGEMENT

Unit – II / Topic : EXCHANGE TRADED CURRENCY FUTURES

Course Teacher: Dr. J.GAYATHRI

Email ID: gayajayapal@gmail.com

Scheme of Presentation

- Currency futures
- Spot price
- Futures price
- Contract cycle
- value date/Final settlement date
- Expiry date
- Contract size
- Initial margin
- Marking-to-market
- Rationale Behind currency futures
- Standard items in a futures contract
- Introduction of currency futures in India
- Futures and forward contracts
- Advantages of futures contracts
- Limitations of futures contracts
- Interest rate parity and pricing of currency futures

Currency Futures - Definition

- 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”.
- Both parties of the futures contract must fulfill their obligations on the settlement date.
- Currency futures are a linear product, and calculating profits or losses on these instruments is similar to calculating profits or losses on Index futures.
- In determining profits and losses in futures trading, it is essential to know both the contract size (the number of currency units being traded) and also the “tick” value.
- A tick is the minimum size of price change.
- The market price will change only in multiples of the tick.
- Tick values differ for different currency pairs and different underlyings.

Futures Terminology

- **Spot price:**

The price at which the underlying asset trades in the spot market.

- **Futures price:**

The current price of the specified futures contract

- **Contract cycle:**

The period over which a contract trades. The currency futures contracts can be for one-month, two-month, and three-month up to twelve-month expiry cycles.

- **Value Date/Final Settlement Date:**

The last business day of the month will be 30 termed as the Value date / Final Settlement date of each contract.

- **Expiry date:**

Also called Last Trading Day, it is the day on which trading ceases in the contract and is two working days prior to the final settlement date.

- **Contract size:**

The amount of asset that has to be delivered under one contract. Also called as lot size. In the case of USDINR it is USD 1000; EURINR it is EUR 1000; GBPINR it is GBP 1000 and in case of JPYINR it is JPY 100,000.

- **Initial margin:**

The amount that must be deposited in the margin account at the time a futures contract is first entered into is known as initial margin.

- **Marking-to-market:**

In the futures market, at the end of each trading day, the margin account is adjusted to reflect the investor's gain or loss depending upon the futures closing price. This is called marking-to-market

Rationale Behind Currency Futures

- The rationale for introducing currency futures in the Indian context has been outlined in the Report of the Internal Working Group on Currency Futures (Reserve Bank of India, April 2008) as follows:
- The rationale for establishing the currency futures market is manifold.
- Both residents and non-residents purchase domestic currency assets.
- If the exchange rate remains unchanged from the time of purchase of the asset to its sale, no gains and losses are made out of currency exposures.
- But if domestic currency depreciates (appreciates) against the foreign currency, the exposure would result in gain (loss) for residents purchasing foreign assets and loss (gain) for non residents purchasing domestic assets.
- In this backdrop, unpredicted movements in exchange rates expose investors to currency risks.

Rationale Behind Currency Futures

- Currency futures enable them to hedge these risks.
- Empirically, changes in exchange rate are found to have very low correlations with foreign equity and bond returns.
- This in theory should lower portfolio risk.
- Currency risks could be hedged mainly through forwards, futures, swaps and options.
- Each of these instruments has its role in managing the currency risk.
- From an economy-wide perspective, currency futures contribute to hedging of risks and help traders and investors in undertaking their economic activity.
- There is a large body of empirical evidence which suggests that exchange rate volatility has an adverse impact on foreign trade.

Distinction between Futures and Forward Contracts

- Forward contracts are often confused with futures contracts.
- The confusion is primarily because both serve essentially the same economic functions of allocating risk in the probability of future price uncertainty.
- However, futures have some distinct advantages over forward contracts as they eliminate counterparty risk and offer more liquidity and price transparency.

Advantages Of Futures:

- Price transparency.
- Elimination of Counterparty credit risk.
- Access to all types of market participants.
- Generally speaking, futures offer low cost of trading as compared to OTC market.

Limitations of Futures:

- The benefit of standardization, though improves liquidity in futures, leads to imperfect hedge since the amount and settlement dates cannot be customized.
- While margining and daily settlement is a prudent risk management policy, some clients may prefer not to incur this cost in favor of OTC forwards, where collateral is usually not demanded.

Interest Rate Parity and Pricing of Currency Futures

Let us assume that risk free interest rate for one year deposit in India is 7% and in USA it is 3%.

You as smart trader/ investor will raise money from USA and deploy it in India and try to capture the arbitrage of 4%.

You could continue to do so and make this transaction as a non ending money making machine.

Life is not that simple! And such arbitrages do not exist for very long.

Let us carry out the above transaction through an example to explain the concept of interest rate parity and derivation of future prices which ensure that arbitrage does not exist.

Assumptions:

- Spot exchange rate of USDINR is 50 (S)
- One year future rate for USDINR is F
- Risk free interest rate for one year in USA is 3% (R)USD
- Risk free interest rate for one year in India is 7% (R) INR
- Money can be transferred easily from one country into another without any restriction of amount, without any taxes etc
- You decide to borrow one USD from USA for one year, bring it to India, convert it in INR and deposit for one year in India. After one year, you return the money back to USA.
- On start of this transaction, you borrow 1 USD in US at the rate of 3% and agree to return 1.03 USD after one year (including interest of 3 cents).
- This 1 USD is converted into INR at the prevailing spot rate of 50. You deposit the resulting INR 50 for one year at interest rate of 7%.
- At the end of one year, you receive INR 3.5 (7% of 50) as interest on your deposit and also get back your principal of INR 50 i.e., you receive a total of INR 53.5. You need to use these proceeds to repay the loan taken in USA.

Concept of Premium and Discount

- One year future price of USDINR pair is 51.94 when spot price is 50.
- It means that INR is at discount to USD and USD is at premium to INR
- Intuitively to understand why INR is called at discount to USD, think that to buy same 1 USD you had to pay INR 50 and you have to pay 51.94 after one year i.e., you have to pay more INR to buy same 1 USD.
- Future value of INR is at discount to USD.
- In any currency pair, future value of a currency with high interest rate is at a discount (in relation to spot price) to the currency with low interest rate.

References

1. NISM's Currency Derivatives, (2024). (n.p.): Taxmann Publications Private Limited.
2. KK & Mattoo VJ, **Foreign Exchange: Principles and Practice,** Sultan Chand & Sons, New Delhi.
3. Taxmann's(2019) ***Foreign Exchange Management 36th Edition,*** Taxmann Publication
4. William D. Gerdes, 2018, **The Basics of Foreign Exchange Market: A Monetary Systems Approach,** 2nd Edition, Business Expert Press.
5. Williams L. Richards, 2015, **Currency: Fundamentals and Functions,** (First Edition) Design Pub.
6. Esha Sharma(2015) , ***Foreign Exchange Management*** Laxmi Publication.
7. Jeevanandam. C(2020) ***Foreign Exchange&Risk Management*** Sultan Chand & Sons