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Interest Rate Options at NSE



NSE Mobile App



@NSEIndia

www.nseindia.com



About NSE:

The National Stock Exchange of India was envisaged by the Government of India as an exchange that would help democratise, expand and nurture a strong capital market in India. The NSE was recognised as a stock exchange in June 1994 and this year we celebrate its Silver Jubilee. Since it became operational, the NSE has played a pivotal role in the growth of the Indian economy.

NSE played a catalytic role in transforming the Indian capital market. NSE introduced electronic trading through VSAT technology covering a large geography, making the market accessible to all.

NSE today accounts for over 85% of the total number of contracts traded on the Indian market and more than 80% of international inflows into the Indian capital markets pass through NSE. NSE is therefore truly the gateway to India for international investors. NSE is also proud to have emerged as a global leader having achieved an important global No 1 ranking. As per the World Federation of Exchanges, NSE is ranked No 1 on Index Options contracts, No 2 on Currency derivatives contracts and overall ranks as the 5th largest exchange in the world in terms of sheer volume of trade. A significant achievement for an exchange which is only 25 years old.

IRD - One of the most widely traded derivative instrument globally



Interest Rate Derivative

- Interest Rate Derivative (IRD) is a financial contract whose value is based on one or more interest rates, prices of interest rate instruments, or interest rate indices.
- IRD is one of the largest derivative market in the world and includes interest rate futures (NSE Bond Futures), Interest Rate Options (IROs), Interest Rate Swaps (IRS), Swaptions, and Forward Rate Agreements (FRA).
- IRD are traded both on OTC and Exchange traded markets in India, with both IRF and IRO widely traded on the NSE
- IRDs are often used to hedge against changes in interest rates or for trading based on interest rate movements.
- Includes-IRF, IRO, IRS and FRAa; IRFs and IROs permitted to be traded on the Exchanges in India while others are available in the OTC segment

Features of Interest Rate Derivative of NSE

- Cash settled Interest Rate Futures & Options available for trading on NSE
- Contracts based on single benchmark government security, MIBOR and 91 Day T-Bills as underlying
- Centralized clearing supported by guaranteed settlement
- Easier and cheaper access to rates trading
- No transactions costs levied by exchange
- STT not applicable
- SEBI Turnover Fees as applicable
- Useful to all types of investors across hedgers, traders and investors
- Uniform risk management and margining framework across the segment

Below products all provide ways to hedge interest rate risk, with different products being appropriate for different scenarios:

Interest Rate Options	It is a financial derivative that allows the holder to benefit from changes in interest rates
Interest rate futures	it is similar to a forward contract however more standardized and less risky due to the presence of an intermediary.
Forward Rate Agreement	It is a cash-settled OTC contract between lender and borrower who lock in an interest rate for a stated period of time at an agreed date in the future.
Interest rate swaps	Restricted to the bank and institutional segment. Dominated by foreign and private sector banks
Floating rate bonds	Lesser supply and not easily accessible to the non-institutional segment

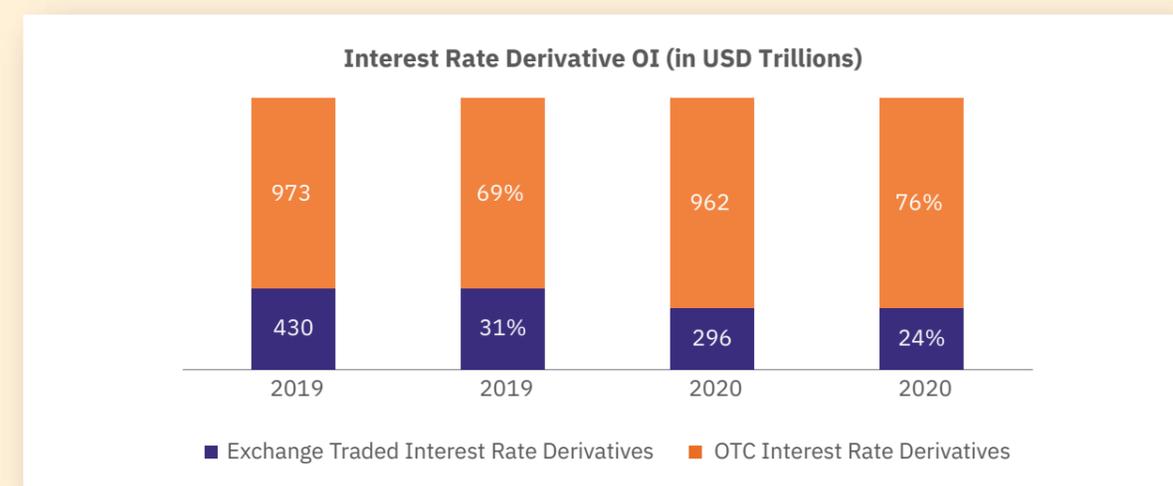
Global Dynamics in Interest Rate Derivatives



With expansionary monetary policy becoming the de jure for central banks across the world, interest rates were at their lowest across countries through 2020 and 2021. The relatively stable interest rates outlook had led to a fall in trading activity in interest rate derivatives, with volume of interest rate options and futures falling globally; Exchange traded IRFs and IROs at NSE experienced similar global trends.

Interest rate derivatives markets have undergone significant structural shifts over the last few years with turnover for exchange-traded interest rate derivatives exhibiting strong growth increase from 2016 to 2019. The attribution of Exchange-traded IRD accounted for ~30 per cent of the total IRD trading in 2019 and ~ 24 per cent in 2020 with open interest in IRD at was USD 1257 trillion in CY20. The share of Interest Rate Options in Exchange-traded IRD increased from 41 per cent in 2019 to 58 per cent in 2020 with the open interest in 2020 at USD 174 trillion.

Global Aggregate Open Interest in Interest Rate Derivatives



Source: BIS

Over the counter Interest rate Derivatives Contribute majority of Open interest.

Open Interest in Exchange Traded Interest Rate Derivative



Source: BIS

In Exchange Traded Interest rate Derivatives, options Contribute majority of Open interest.

Interest Rate Options in India



- NSE first and only Exchange with active G-Sec Options market as a part of the IRD segment; NSE IRO launched in December 2019
- NSE IRO contracts are available on underlying G-Sec 10-year bonds - the 7.26% 2029 bond, 6.45% 2029 bond and 5.79 % 2030 bond.
- Members registered by SEBI for trading in Currency Derivatives Segment are eligible for trading in IRD segment.
- IRO provides institutional investors the ability to manage risk through a non-linear product which is otherwise not available to them.
- Market participants use options to trade and hedge interest rate risk on a transparent platform; retail participation allowed in IROs
- Currently Interest rate options are available only on NSE platform.

Trading Statistics in Interest Rate Derivatives Segment

Period	NSE					
	Interest Rate Futures		Interest Rate Options		Open Interest at the end of	
	No. of Contracts	Traded Value (₹ crore)	No. of Contracts	Traded Value (₹ crore)	No. of Contracts	Traded Value (₹ crore)
2019-20	17,217,124	351,818	444,761	8,993	77,036	1,577
2020-21\$	3,979,309	81,318	41,368	854	37,374	760

Usage by different Category & Market Participants:

	FIIS	BANKS	PRIMARY DEALER	MUTUAL FUNDS	INSURANCE COMPANIES	NBFC	CORPORATES	TRADING MEMBER	INDIVIDUALS
Hedging	✓	✓	✓	✓	✓	✓	✓		✓
Managing Duration of Portfolio	✓	✓	✓	✓	✓	✓			
For Locking Yield	✓	✓	✓		✓	✓		✓	✓
Calendar Spread	✓	✓	✓			✓		✓	
Arbitrage	✓	✓	✓			✓	✓		
Direction Trading	✓	✓	✓			✓		✓	✓

Key Stakeholder Benefits for Trading on Exchange Interest Rate Option

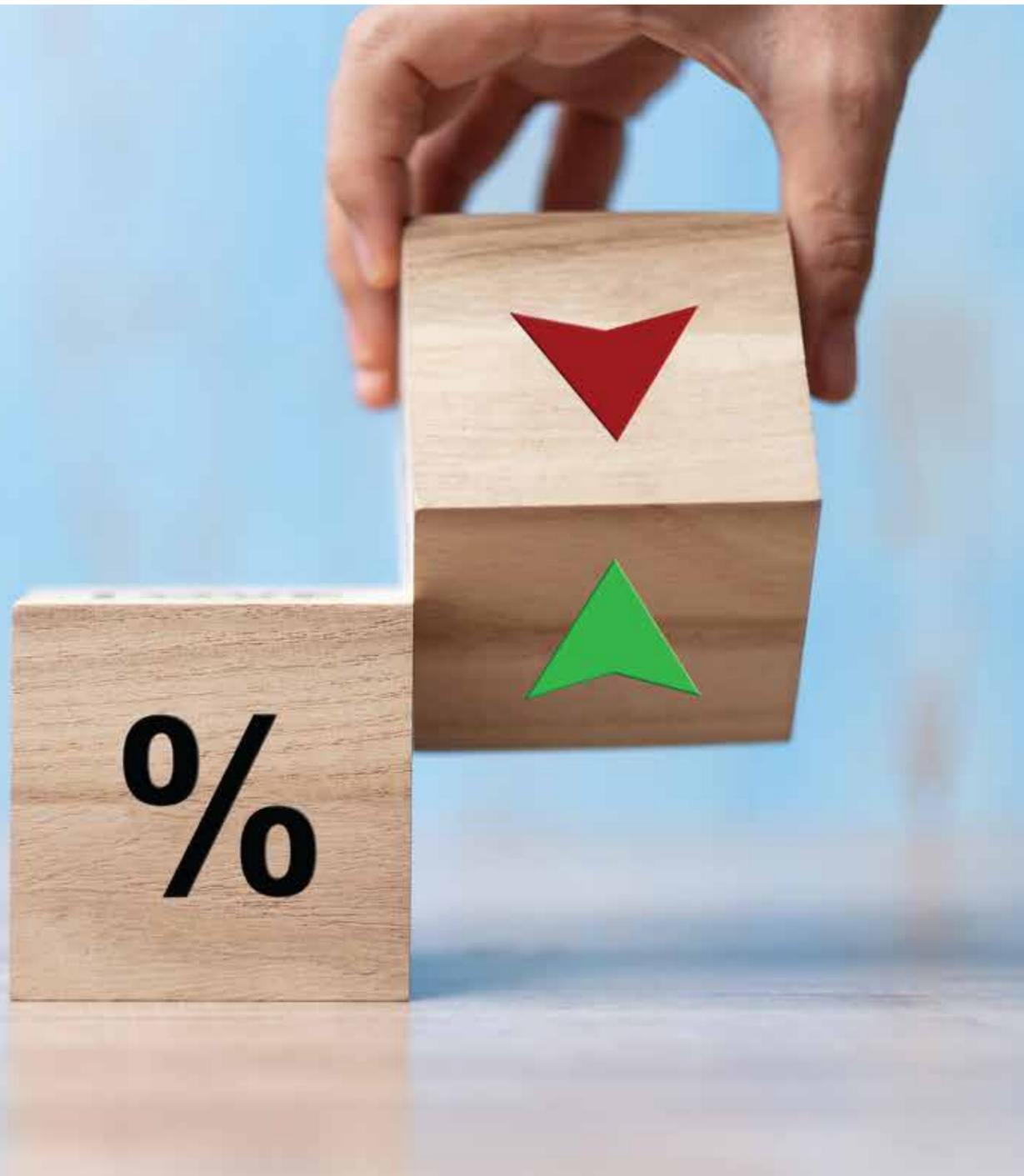


- **Standardization** - through standardization, the Exchanges offer market participants a mechanism for gauging the utility and effectiveness of different positions and strategies.
- **Transparency** - transparency, efficiency and accessibility enhanced through online real time dissemination of prices available across all products and daily mark-to-market.
- **No Counter-party Risk** - the credit guarantee of the Clearing Corporation eliminates counterparty risk thereby increasing the capital efficiency of the market participants.
- **Right but not obligation** - option contract provides the contract buyer the right, but not the obligation, to buy or sell an asset or financial instrument at a fixed price on or before a predetermined future month.
- **Capped loss with unlimited upside** - Maximum risk to the buyer of an option is limited to the premium paid. Usually a great avenue beyond hedging for trading and investing as well.
- **Directional View in Interest Rates** - As there is an inverse relationship between interest rate movement and underlying bond prices, the options prices also move in tandem with the underlying bond prices. Market participants with strong view of rising interest rates in near future and intending to benefit from these changes can take view on IRO contracts by entering into call option contracts. Conversely, an interest rate put option contract will protect and benefit in a falling interest rate scenario.
- **Hedging Mechanism:** IRO helps in hedging exposure due to interest rate risks and is commonly used across financial institutions including Insurance companies, mutual funds, banks and PDs for hedging or arbitrage purposes. Changes in interest rates affects the value of their interest bearing assets, such as bonds, securities or loans and IROs help in offsetting losses of holding such positions, by generating corresponding gains in futures position.
- **Minimal Transaction Costs:** The advantage that the IROs enjoy vis-à-vis equity derivatives is that there is no securities transaction tax (STT) for trading of det under the STT Act and hence the transaction costs are significantly lessened.

Position Limits Applicable in the IRD Segment

CATEGORY	POSITION LIMITS FOR 8-11YEAR BUCKET
Trading members, institutions in Category I and II FPIs (i.e. other than individuals, family offices and companies), banks and Primary Dealers, Mutual Funds (at AMC level), Insurance Companies, Pension Funds and Housing Finance companies	10% of Open Interest or INR1,200 crore whichever is higher
Non-institutions in Category II FPIs (i.e. individuals, family offices and companies), Mutual Fund (Scheme level) and other clients	3% of Open Interest or INR 400 crore whichever is higher
Clearing Member Level Limits	No separate position limit is prescribed at the level of clearing member
Exchange Level Overall Position Limits	INR 25,000 crore or 25% of the outstanding of underlying security whichever is higher.

Interest Rate Option Contract Specifications

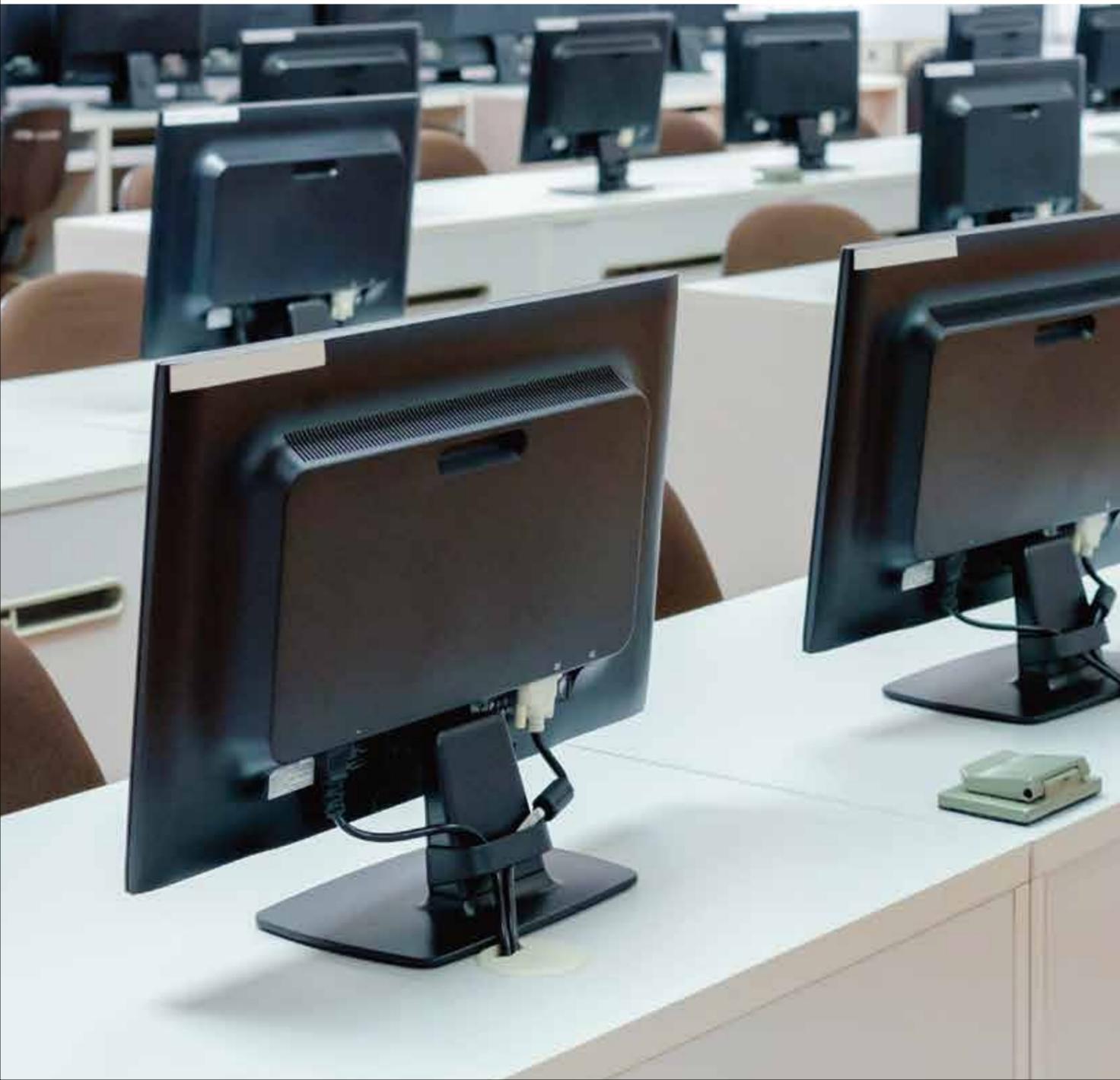


Currently, Interest rate Options are based on underlying G-Sec bonds 5.77% 2030 Bond, 5.79% 2030 Bond, 5.85 % 2030 Bond, 6.10 % 2031 Bond & 6.67 % 2035 Bond. The unit of trading is Rs 2 lakh face value of G-Sec, corresponding to 2,000 units. The order quotation is the premium quoted as the price of G-Sec and the tick size is Rs 0.0025.

Exchange frequently reviews contracts available for trading & introduced most actively traded bonds, post requisite regulatory approval.

SYMBOL	8 - 11 Bucket - 577GS2030, 579GS2030, 585GS2030, 610GS2031 / 11 - 15 Bucket - 667GS2035
UNDERLYING	GOI Securities with 8- 15 Years of Residual maturity
INSTRUMENT TYPE	OPTIRC
UNIT OF TRADING	The symbol shall denote coupon, type of bond and Maturity Year. This will be same as the symbol used for the Interest rate futures contract on the respective Government of India securities. The list of symbols available at the time of launch will be communicated through separate circular
INSTRUMENT NAME	Interest Rate Options
MARKET TYPE	N
QUOTATION	The premium for options contract shall be quoted in Indian Rupees.
CONTRACT VALUE	Rs. 2 lakhs face value of GOI securities equivalent to 2000 units. Members shall place orders in terms of number of lots.
TICK SIZE	Rs. 0.0025
TRADING HOURS	9.00 am to 5.00 pm (Monday to Friday)
BASE PRICE	The trading hours shall be aligned with that of underlying market in case of change of trading hours of underlying NDS-OM platform.
CONTRACT TRADING CYCLE	Three Serial monthly contracts followed by three quarterly contracts of the cycle March/June/September/December.
OPTION TYPE	Premium style European Call & Put Options
LAST TRADING DAY	Last Thursday of the month. In case the last Thursday is a trading holiday, the previous trading day shall be the expiry/last trading day
QUANTITY FREEZE	1251 lots or greater i.e. orders having quantity up to 1250 lots shall be allowed.
BASE PRICE	Theoretical price on the 1st day of the contract. On all other days, DSP of the contract.
STRIKE PRICE INTERVALS	Rs. 0.25
NO. OF STRIKES	Minimum Eight in-the-money, Eight out-of-the-money and one near-the-money strikes shall be provided for all available contracts.
PRICE OPERATING RANGE	The price bands for options shall be based on the delta of the options contract and calculated using the previous close price of the underlying and volatility.
NO. OF STRIKES	Minimum Eight in-the-money, Eight out-of-the-money and one near-the-money strikes shall be provided for all available contracts.

Clearing & Settlement framework



Trading and Settlement Process in the IRD Segment

The Members registered by SEBI for trading in Currency Derivatives Segment are eligible for trading in NSE Bond Futures and NSE Bond Options. The clearing and settlement is to be done by NSE Clearing and all open positions are cash settled on the contract expiry day. The positions in the futures contracts for each member are marked to market to the daily settlement price of the futures contracts at the end of each trade day. On the expiry date of the futures contracts, NSE Clearing marks all positions to the final settlement price and the resulting profit / loss is settled in cash.

Associated Risks and Risk Management Framework

IRDs carry similar risks as derivatives or futures trading, that are inherently risky and require participants (especially brokers) to be familiar with these risks and also be skilled to manage these risks. One of the key risks associated with IRD trading comes from leverage, which is managed by the Exchange Clearing Corporation's margining framework which covers member capital requirements via initial margins, extreme loss margins, calendar spread margins and special margins in case of unusual positions. The Exchange's monitoring system generates alerts whenever Clearing/ Trading members reach the margin limits as may be set up by NSE Clearing from time to time, in accordance with SEBI guidelines.

The other key risk is liquidity risk, wherein the level of liquidity in an IRD contract can impact ability or costs associated with exiting illiquid contracts. NSE Clearing acts as legal counter-party to all deals on Interest Rate Futures contract and guarantees settlement.

In case of any dispute, NSE also provides investor grievance redressal and arbitration mechanism operative from its key offices across Delhi, Mumbai, Kolkata and Chennai.

For detail framework please refer to

<https://www.nseindia.com/products-services/interest-rate-derivatives-clearing-settlement>

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