NSE NBF II

Contact

NSE - Corporate Office

National Stock Exchange of India Limited
Exchange Plaza, C-1, Block G, Bandra Kurla Complex, Bandra (E), Mumbai – 400 051.
Tel No: (022) 26598100 - 8114. Fax No: (022) 26598120.

Branch Offices

MUMBAI
Western Regional Office:
National Stock Exchange of India Ltd.,
6th floor, Kohinoor City,
Tower – 1, Commercial – II,
Kirol Road, Off. L. B. S. Marg, Kurla (W),
Mumbai – 400 070.
Tel. No: (022) 25045300. Fax No: (022) 25045299.

CHENNAI
National Stock Exchange of India Ltd.,
8th Floor, Arihant Nitco Park,
No 90, Dr Radhakrishnan Salai,
Mylapore, Chennai 600 004.
Tel No : (044) 28479900 / 28479902-05.
Fax No : (044) 28479926/27.

HYDERABAD
National Stock Exchange of India Ltd.,
8-2-594/A/1, Third Floor, Urmila Heights,
Opp Rainbow Hospital,
Road No 10, Banjara Hills,
Hyderabad – 500034.
Tel No : (040) 23357082 / 7083.
Fax No : (040) 23357084.

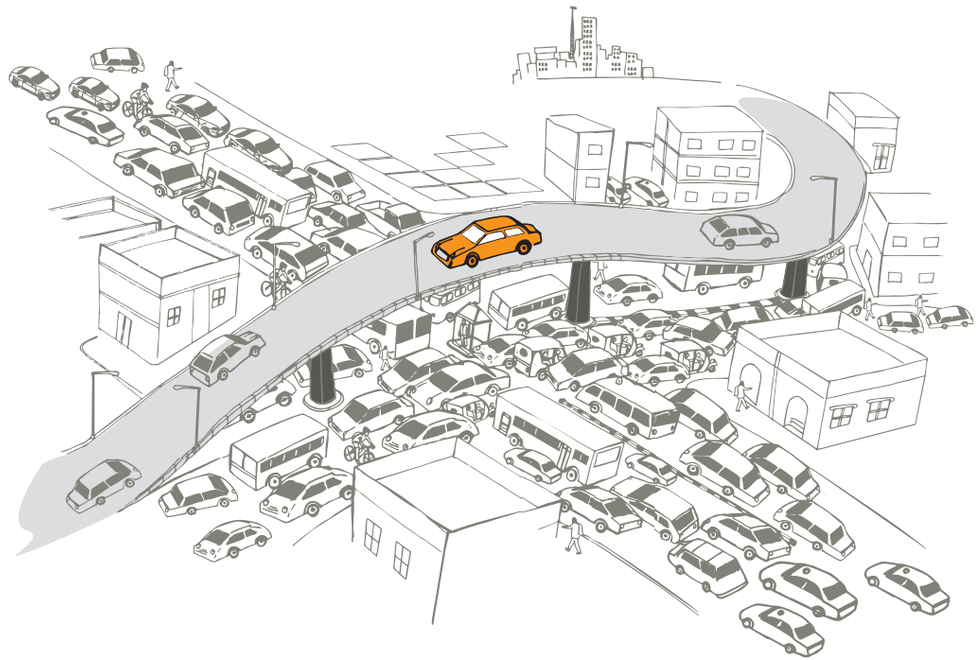
AHMEDABAD
National Stock Exchange of India Ltd.,
Office No. 304/305,
GCP Business Centre,
Opposite Memnagar Fire Station,
Navrangpura,
Ahmedabad - 380009.
Tel No : (079) 49008610 / 49008611.
Fax No : (079) 49008660.

DELHI
National Stock Exchange of India Ltd.,
4th Floor, Jeevan Vihar Building,
Parliament Street,
New Delhi-110 001.
Tel No : (011) 23459133 / 49393033.
Fax No : (011) 23459291.

KOLKATA
National Stock Exchange of India Ltd.,
1st Floor, Park View Apartments,
99, Rash Behari Avenue,
Kolkata - 700 029.
Tel No : (033) 40400400.
Fax No : (033) 40400440.

NSE **Mobile App** | @NSEIndia | www.nseindia.com

NSE INTEREST RATE FUTURES



Cash settled

Linked to the 6,10,13 year G-Sec

Designed specially for India

NSE NBF II

BOND FUTURES

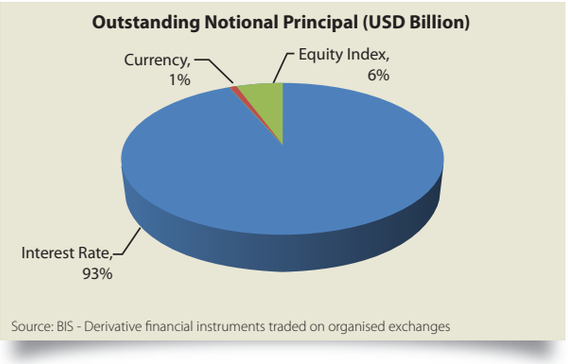
Interest Rate Futures

An Interest Rate Futures contract is "an agreement to buy or sell the value of an underlying debt instrument at a specified future date at a price that is fixed today." Exchange Traded Interest Rate Futures are standardized contracts based on a GOI security. The contract is cash settled.

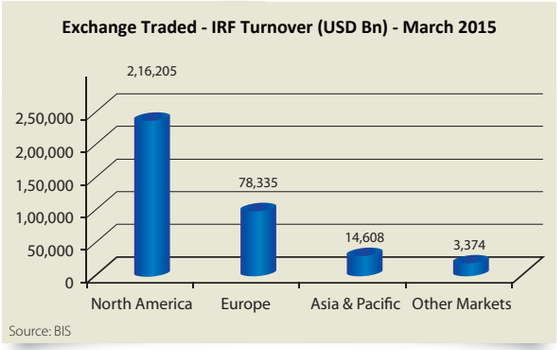
–A Global Perspective

Interest Rate Futures contracts were first traded in the United States on October 29, 1975. And since then, they have become a fundamental risk management tool for financial markets worldwide. They are the most widely traded derivatives instrument in the world. The total turnover during Jan-Mar 2015 for Interest Rate Futures was around USD 3,21,617 billion, which is more than 9 times higher than equity index futures.

Exchange Traded - Notional Amount Outstanding (USD Bn) - March 2015



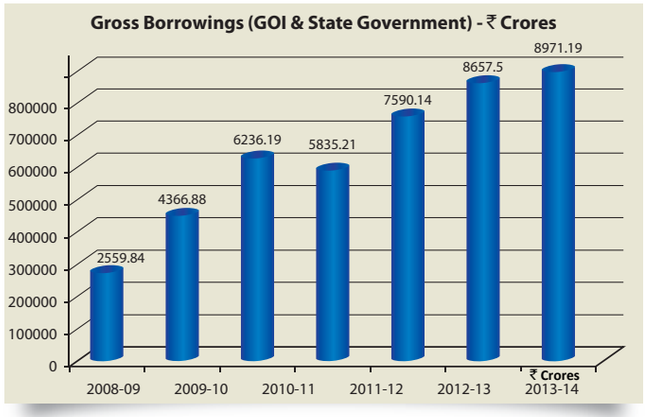
Source: BIS - Derivative financial instruments traded on organised exchanges



Source: BIS

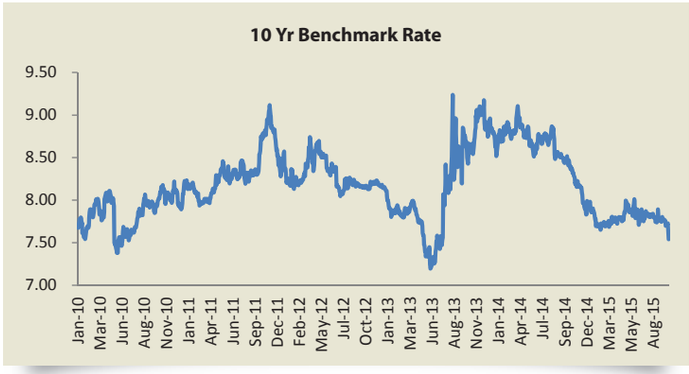
Interest Rate Futures in India – New Prospects

Interest rates are linked to a variety of economic conditions. They can change rapidly, influencing investments and debt obligations. In a market environment, where long term debt issuance by the government is increasing and the demand for it is growing, there is a strong need for a cost efficient hedging instrument against interest rate risk.



Source: RBI

Interest rate risk is caused by fluctuations in interest rates. Such uncertainty accompanied by volatility increases risk and requires tools to manage risks. The volatility of interest rates has increased manifold in the last couple of years.



Source: Reuters

NSE NBF II

NBF II (NSE Bond Futures) on Government of India Securities.

Product Specifications

Attributes	6 Year	10 Year	13 Year
Underlying	GOI Securities with 4-8 years of residual maturity	GOI Securities with 8-11 years of residual maturity	GOI Securities with 11-15 years of residual maturity
Symbol	The symbol shall denote coupon, type of bond and maturity year. Example – 7.72% Central Government Security maturing on May 25, 2025 shall be denoted as 772GS2025		
Instrument Type	FUTIRC		
Unit of Trading	1 Lot - (1 lot is equal to 2000 bonds with notional bonds of FV Rs.0.2 Million or 2 Lakhs)		
Quotation	Price based (derived from underlying Clean Price)		
Contract Value	1 Contract shall be equal to Quoted price * 2000		
Tick Size	Rs.0.0025		
Quantity Freeze	1251 lots		
Trading Hours	Monday to Friday: 9:00 a.m. to 5:00 p.m. *(The trading hours aligned with underlying market in case of market extension)*		
Trading Cycle	Three serial monthly contracts & three quarter end contracts (Mar, Jun, Sep & Dec)		
Expiry 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.		
Base Price	Theoretical price on the 1st day of the contract. On all other days, Daily Settlement Price of the contract		
Price operating range	+/- 3% of the base price. (Whenever a trade in any contract is executed at the highest/lowest price of the band, Exchange may expand the price band for that contract by 0.5% in that direction after 30 minutes after taking into account market trend. Price band may be relaxed only 2 times duringthe day)		
Exchange Level Overall Position Limit	Overall open interest in IRF contracts on each underlying shall not exceed 25% of the outstanding of underlying bond.		
Initial Margin	SPAN Based Margin (Min 1.5%)		
Extreme loss margin	0.5% of the value of the gross open positions		
Daily Settlement	Daily MTM settlement on T+1 in cash based on daily settlement price		
Daily Settlement Price	Volume Weighted Average Futures Price of last half an hour or Theoretical Price		
Final Settlement	Final settlement on T+1 day in cash based on final settlement price		
Final Settlement Price	Weighted average price of the underlying bond based on the prices during the last two hours of the trading on NDS-OM. If less than 5 trades are executed in the underlying bond during the last two hours of trading, then FIMMDA price shall be used for final settlement		
Spread Trading	Facility for spread trading. Margin Rs. 1500 for a one month spread, Rs.1800 for two months and Rs. 2100 for three months spread and Rs. 3000 for greater than 3 month spread.		

Position Limits

Following position limits shall be applicable for IRF contracts:

a) Client/ Category III FPI/ Scheme of Mutual Fund Level

The gross open positions across all contracts within the respective maturity bucket shall not exceed 3% of the total open interest in the respective maturity bucket or INR 200 crore, whichever is higher.

b) Trading Member/ Category I & II FPI/ Mutual Fund/ Insurance Companies /Housing Finance Companies/ Pension Funds Level

The gross open positions across all contracts within the respective maturity bucket shall not exceed 10% of the total open interest in the respective maturity bucket or INR 600 crore, whichever is higher.

c) Additional restriction for FPIs:

The total gross short (sold) position of each FPI in IRF shall not exceed its long position in the government securities and in Interest Rate Futures, at any point in time. The total gross long (bought) position in cash and IRF markets taken together all FPIs shall not exceed the aggregate permissible limit for investment in government securities for FPIs. FPIs shall ensure compliance with the above limits.

Eligibility for Trading

The Members registered by SEBI for trading in Currency Derivatives Segment shall be eligible to trade in NSE Bond Futures.

Clearing and Settlement

The clearing and settlement shall be done by National Securities Clearing Corporation Limited (NSCCL). The positions in the futures contracts for each member shall be marked to market to the daily settlement price of the futures contracts at the end of each trade day. Daily mark-to-market settlement in Interest rate futures contracts is cash settled.

On the expiry date of the futures contracts, NSCCL marks all positions to the final settlement price and the resulting profit / loss is settled in cash.

NSE NBF II

Advantages of NBF-II

- Cash settled futures contract
- Contract based on a single GOI security
- Easier and cheaper access to rates trading
- Centralized clearing supported by guaranteed settlement
- Useful to all types of investors
- Low transaction cost

Usage by Different Category of Market Participants

Participant	Regulation	Possible Strategies
Banks	Hedging and Trading	Hedging, Arbitrage, View Based Trading, Changing duration of portfolio, Calendar Spread, Lock In of Yield
Primary Dealers	Hedging and Trading	Hedging, Arbitrage, View Based Trading, Changing duration of portfolio, Calendar Spread, Lock In of Yield
FPI's	Hedging . Restricted trading	Hedging, View Based Trading, Calendar Spread, Lock In of Yield, changing duration of portfolio
Mutual Funds	Hedging, Exposure	Hedging, View based trading
Insurance Companies	Hedging Future Cashflows	Long Hedge
Corporates	Hedging and Trading	Hedging, View Based Trading, lock in of yield etc.
NBFC's	Hedging	Hedging, Changing duration of portfolio
Individuals	Hedging and Trading	Hedging, View Based Trading, Lock In of Yield etc.
Trading Members	Hedging and Trading	Hedging, View Based Trading, Calendar Spread, etc.

Uses of NBF-II

Directional Trading

As there is an inverse relationship between interest rate movement and underlying bond prices, the futures price also moves in tandem with the underlying bond prices.

If one has a strong view that interest rates will rise in the near future and wants to benefit from rise in interest rates; one can do so by taking short position in IRF contracts on NSE and benefit from the falling futures prices.

A trader expects long term interest rates to rise. He decides to sell NBF II contracts as he shall benefit from falling future prices.

Expectation	Position
Interest Rate ↑	Short Futures
Interest Rate ↓	Long Futures

View Based Trading-Short Position

Example: An investor expects yields to rise or that bond price will fall. He will sell NBF II on the expectation of decline in prices.

Underlying Bond	8.40% GOI 2024
Futures Contract	25th June 2015
Trade Date	4th June 2015
Future Price (INR)	102.45
Yield	8.01%
Position	Sell Futures
No. of Lot	10
Total Value (INR)	20,49,000 (2000*10*102.45)
Margin (2.5% approx.) (INR)	51,225
Trade Date	12th June 2015
Future Price (INR)	101.90
Yield	8.10%
Position	Square off positions (Buy Futures)
Total Value (INR)	20,38,000 (2000*10*101.90)
Profit/Loss (INR)	11,000

NSE NBF II

Hedging

All types of investors are exposed to interest rate risk. Interest rate exposure can be hedged by taking an opposite position in NBF-II to offset a loss (gain) in underlying exposure with potential gain (loss) in the NBF-II.

Hedging Strategy – Asset

Investor holds debt oriented mutual fund. Expects yield will rise and NAV of MF will decrease. However, he does not want to redeem the MF units.

Strategy: Investor will hedge with short position in IRF

On Trade Date (29th April, 2015):	
Investment Holding	Assume Debt Oriented MF – 10,000 units @NAV Rs. 13.30
Strategy	Sell NBF-II 1 lot of 2,000 bonds
Future price of 8.40% GS 2024 (May contract)	Rs. 104.20
On Expiry Date (28th May, 2015):	
NAV of MF	Rs. 13.15
Final Settlement Price of 8.40% GS 2024 (May contract)	Rs. 103.50
Loss on underlying MF	10,000*(13.30-13.15) = (Rs. 1500)
Profit In NBF-II	2,000*(104.20-103.50) = Rs. 1400
Net Profit / (Loss)	**(Rs. 100)**

Note: Amount of hedge will depend upon duration of IRF and duration of MF units.

Calendar Spread

A Calendar Spread, also known as an Inter-delivery Spread, is the simultaneous purchase of one delivery month of a given futures contract and the sale of another delivery month of the same underlying on the same exchange.

	First Leg - 10th April 2015	Second Leg - 22nd April 2015
Security	8.40% GS 2024	8.40% GS 2024
Strategy	Sell Spread i.e. Buy near month and Sell mid month Buy April contract @104.00 Sell May Contract @104.10	Square off the position Sell April contract @10 3.20 Buy May contract @103.25
Profit/ Loss (INR)	0.10	(0.05)
Total Profit/ Loss (INR)	0.05 per bond. Rs. 100 per lot	

Long Hedge (Locking of Returns)

Sometimes, participants feel current yield is attractive and decides to lock it. However, it does not have sufficient funds to invest immediately. In such a case, participants can lock yield by going long on NBF-II & when funds are available for investment he can buy the bond & square off the future contract.

Locking the yield - Long Hedge

On 7th May 2015 an investor expects cash inflow worth "X" amount on 28th May 2015. He finds current yield attractive for investment.

Strategy: Buy IRF contracts and lock the current yield. When actual money is received, he squares off the IRF position and invest in underlying bond.

Trade Date	Underlying	NBF-II
	8.40% GS 2024	8.40% GS 2024 (May Contract)
7th May 2015		
Price	Rs. 102.60	Rs. 102.59
Traded Yield	7.99%	7.99%
Strategy	Buy future at Rs. 102.59 and lock yield	
28th May 2015		
Price	Rs. 103.50	Rs. 103.50
Traded Yield	7.85%	7.85%
Strategy	**Square off the position and buy underlying**	
Current Market	Price Rs. 103.50 / Yield 7.85%	
Effective price and Yield due to hedging	103.50 - (103.50-102.59) = 102.59 Yield 7.99%	

Bond Basics

Coupon

Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets. They are typically noted on an annual basis, known as the annual percentage rate (APR). E.g. 7.72 May 2025 security bears an interest rate of 7.72% annually which is also referred to as coupon.

Does the rate of return remain same throughout the tenure of the bond? No, to measure the rate of return on your investment let us first understand the concept of yield.

Yield

Yield is the income (return) on an investment. This refers to the income received from a security and is usually expressed as a percentage (annual return) based on the investment's cost, its current market value or its face value. Yield and price of a bond have an inverse relationship. As yield increases the price of the bond decreases and vice-versa.

Clean Price

Clean price is the price of a coupon bond not including any accrued interest. When bond prices are quoted in the underlying market (NDS-OM) they are quoted using the clean price.

Accrued interest

Accrued interest is the interest amount accrued from last coupon payment date / issue date up to the day prior to the settlement date. It is calculated using 30/360 day count convention which assumes each month has 30 days.

Dirty Price or Cash Price

The dirty price is the price of a bond including any interest that has accrued since issue of the most recent coupon payment.

Dirty price = Clean price + Accrued interest

Modified duration

Modified duration is a measure of the sensitivity of the price (the value of principal) of a fixed-income investment to a change in interest rates. Rising interest rates mean falling bond prices, while declining interest rates mean rising bond prices. The greater the duration number, the greater the interest-rate risk or reward for the bond.

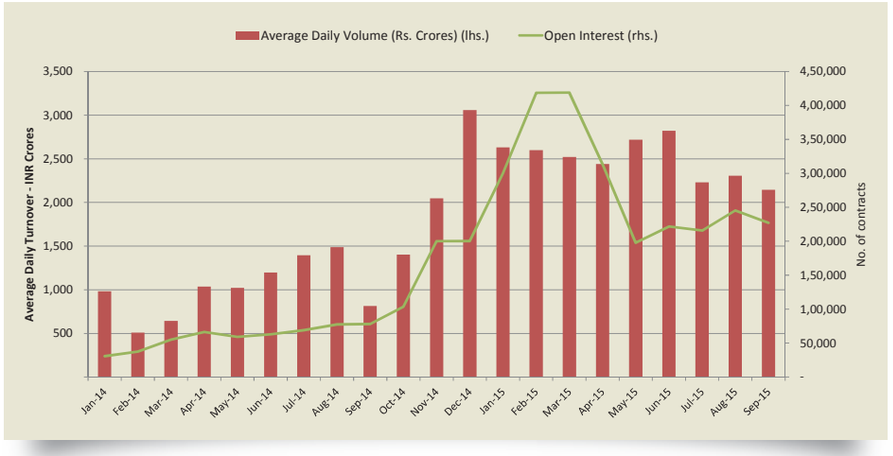
Theoretical Futures Price = Cash price + Financing cost - Income on cash position

Where,

- Cash price of the underlying = Clean price + Accrued interest
- Financing cost = Financing cost for the period on Cash price
- Income on cash position = Accrued interest expected to be received on expiry + Coupon payment + Interest on coupon payment
- The component of coupon payment and interest on coupon payment are applicable in case of any coupon payments falling during the holding period

Growth of NBFII

Introduction of Interest Rate Futures is an excellent example of collaborative efforts on the part of market participants, exchanges and regulators. It is a great addition to the existing portfolio of financial products in the Indian Financial Markets. Since its launch in January 2014, the Interest Rate Futures average daily volume has grown from Rs. 981 crores in January 2014 to Rs. 2306 crores in August 2015.



Source: NSE