NSE

www.nseindia.com

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Interest Rate Derivatives (IRD)

Short-Term Interest Rate Futures at NSE

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, it has played a pivotal role in the growth of the Indian economy.

Under the derivatives segment, NSE offers derivative contracts on equity, indices, currency, interest rates and commodities. Interest Rate Derivatives (IRD) is a financial derivatives contract whose value is derived from one or more interest rates, prices of interest rate instruments or interest rate indices.

Interest Rate Futures (IRF) are standardized interest rate derivative contracts traded on a recognized stock exchange to buy or sell a notional security or any other interest-bearing instrument or an index of such instruments or interest rates at a specified future date, at a price determined at the time of the contract. Interest Rate Futures include Money Market Futures. Currently, IRF contracts are available on Government of India securities, Treasury bills and MIBOR.

Interest Rate Option (IRO) is an option contract whose value is based on Rupee interest rates or interest rate instruments. Currently, IRO contracts are available on Government of India securities.

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Global Trends in Interest Rate Futures:

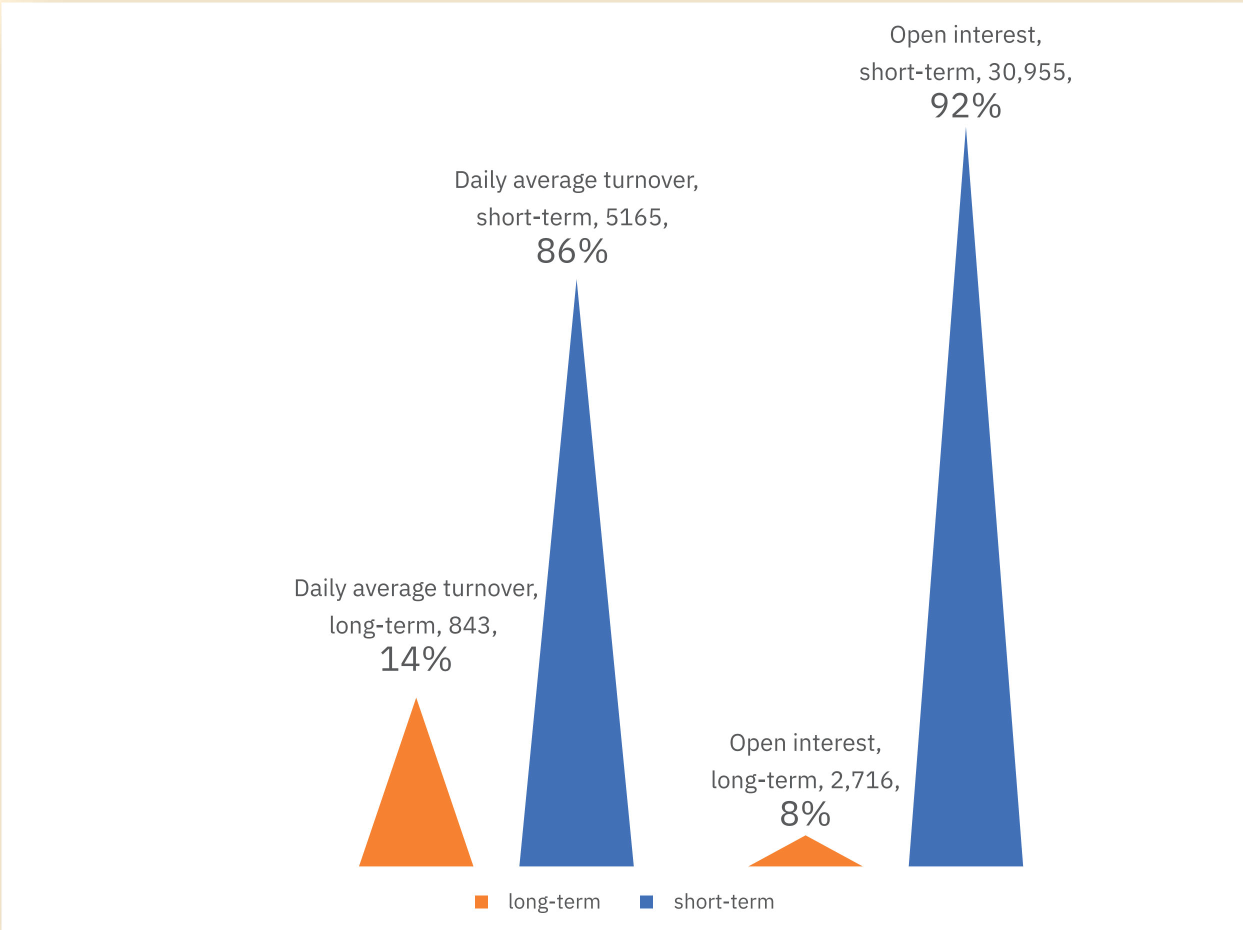
Global Trends in Interest Rate Futures (Notional principal, in billions of US dollars) :

Global Trends in Interest Rate Futures :

Interest rate Futures	Open Interest			Daily average turnover					
	Dec 2020	Mar 2021	Jun 2021	2019		2020		Jun 2021	
Short-term	26,287	29,355	30,955	6,050	88%	4,507	82%	5165	86%
Long-term	2,381	2,669	2,716	853	12%	774	18%	843	14%

Source: BIS.org (Notional principal, in billions of US dollars)

Interest Rate Futures Global Breakup (June 2021)



Source: BIS.org (Notional principal, in billions of US dollars)

Globally, short-term interest rate futures market is ~10 times larger than the long-term interest rate futures, and a highly liquid marketplace. In India, the money-market (also known as short-term futures) were introduced on the NSE in 2018 and is an emerging asset class.

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Money Markets Futures Landscape in India and Case for Short Term Futures

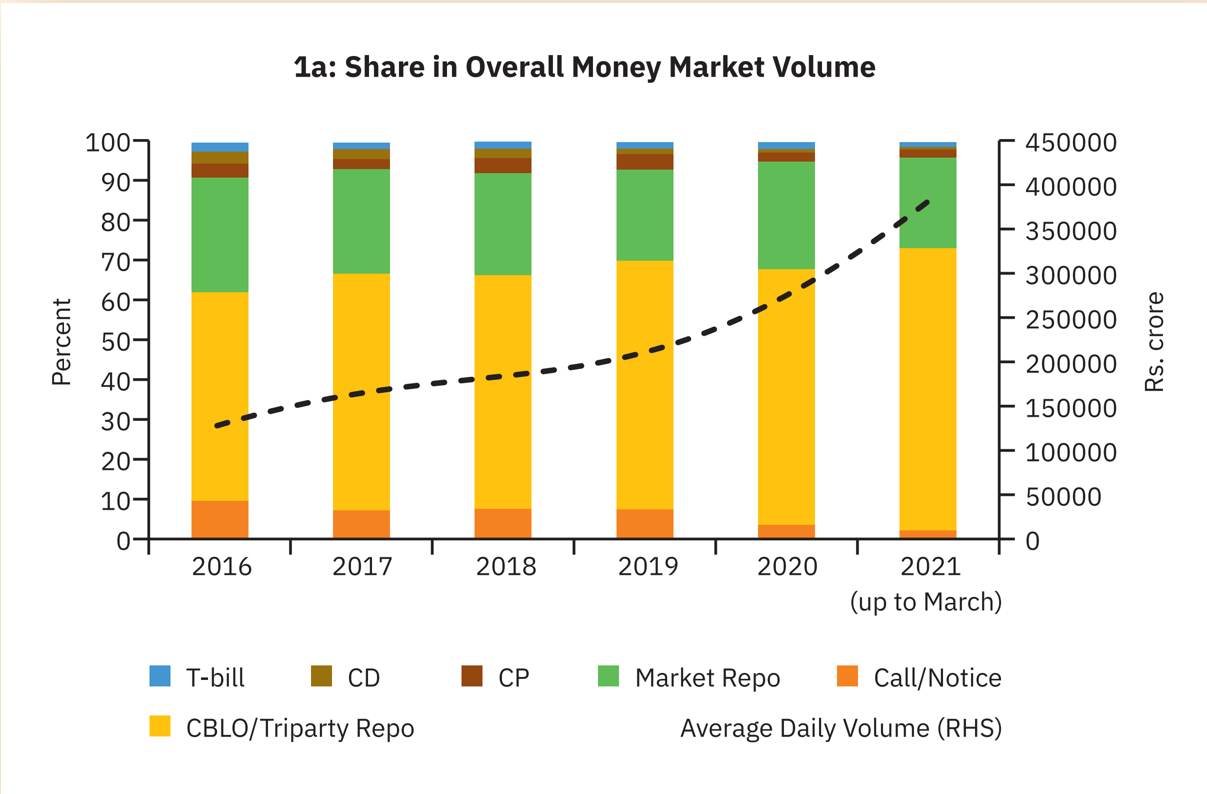
Money Markets Landscape in India and Case for Short Term Futures

- Money market is an integral part of the financial system and includes instruments that provide short-term funds with maturity ranging from overnight to one year. As the short-term money market rates often serve as operational targets of central banks, the money market plays a key role in the transmission of monetary policy.
- Money market has emerged as the router for the transmission of policy impulses across the financial system and is essential for extracting important information related to the expectations of future movements in interest rates.
- As the money market rates serve as benchmarks for the pricing of credit, it plays an important role in determining the credit conditions in the economy and in turn the level of lending rates faced by firms and households.
- Money market generally includes short-term unsecured (uncollateralised) interbank loans, secured (collateralised) loans (including repurchase agreements), treasury bills (T-bills), commercial papers (CPs) and certificates of deposit (CDs).
- Participants in these markets typic ally include, banks, investment funds and non-financial corporations. A well-functioning interbank market (where banks borrow from and lend to each other) can ensure efficient liquidity transfer between surplus and needy banks
- In India, the overnight MIBOR rate market is quite active with the average daily turnover of around Rs. 16,000 crs for overnight transactions. The MIBOR overnight rate is extensively used as the overnight reference rate in Rupee Interest Rate Swap market. MIBOR based futures would enable entities in India to hedge their exposures to overnight rates.

Case for Short Term Futures

For effective asset liability management, there is need to manage the overnight interest rate risk of market market participants. Thus there is a need for more hedging products which shall enable market participants to efficiently manage their overnight interest rate risk.

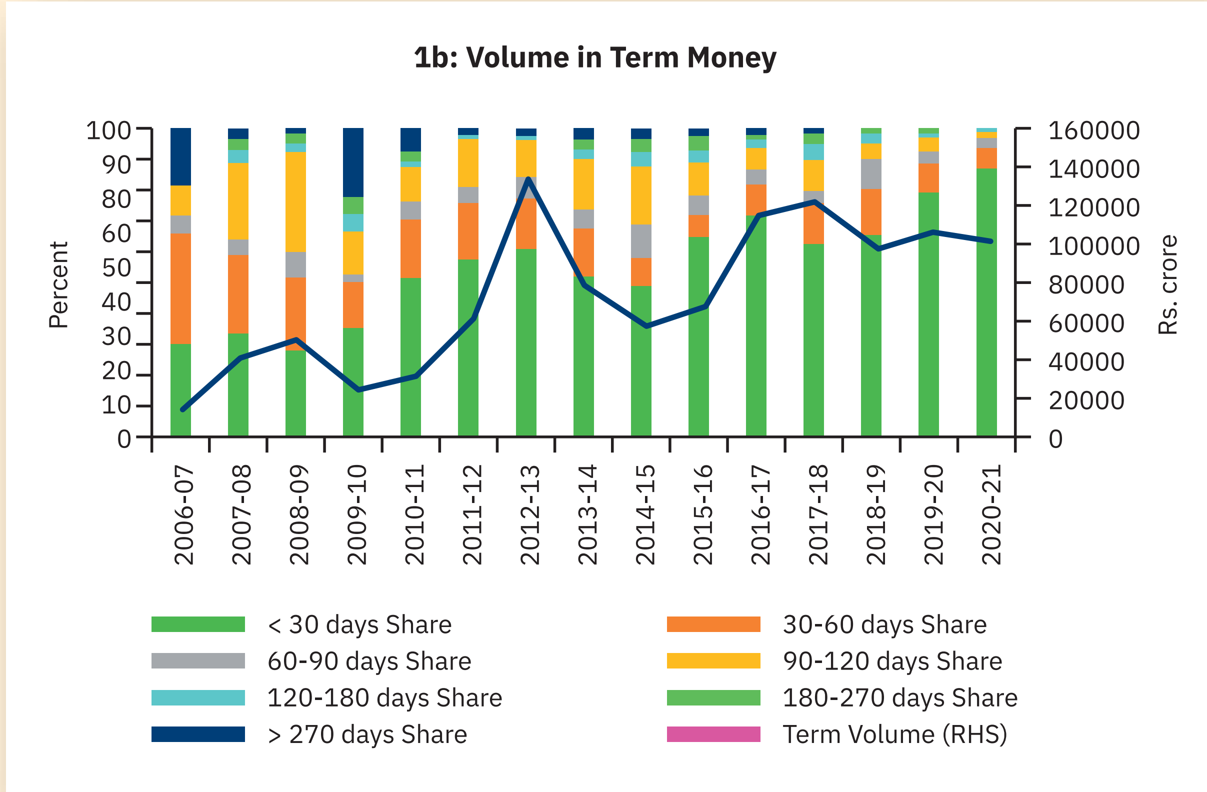
The share of each money market segment in the overall volume along with the trend in the average daily volume in the money markets is given in Chart 1a.



Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; and Author's calculations.

The average volume has increased, with the increase being steeper in the recent times. Further, CBLO/triparty repo dominate in terms of volume with a share of around 58 % (during the period from January 2016 to March 2021).

In the call money segment, the overnight segment dominates in terms of volume. The volume in the term money segment remains very low. However, the share of the term money in the total call money volume increased marginally in 2020-21 and stood at 3.6 per cent in comparison to 2.5 per cent in 2019-20. In the term money segment, trading is mainly concentrated in the tenor of 15-30 days (Chart 1b)



Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; and Author's calculations.

Need for derivatives on Overnight Interest Rate / Money Market Instrument

Money market instruments play a key role in liquidity management and the transmission of monetary policy. Introducing exchange traded futures on the money market instrument as underlying would significantly lead to standardization of the money market products besides offering greater flexibility in operations.

- MIBOR Futures derivatives can hedge against fluctuations in interest rates as well as credit worthiness. Specifically, derivative transactions involve transferring those risks from entities less willing or able to manage them to those more willing or able to do so. Derivatives transactions are now common among a wide range of entities, including commercial banks, investment banks, central banks, fund mangers, insurance companies and other non-financial corporations.
- Anyone trading in the interest rate futures market has an opinion on whether rates will rise of fall during the short-life of the futures contract. As with any futures contract, the buyer believes that they can purchase the contract now and profit from an increase in price of the underlying asset when the contract expires. These futures settle in cash so the profit is simply the difference between the settlement or delivery price and the purchase price.
- Trading in the most active Short Term Interest Rate Futures and Options provides high efficiency, liquidity and transparency for hedgers. This saves a company from having to create hedges from complicated strategies in the over-the-counter market and from taking on counterparty risk.
- The most important function of the money market is to bridge this liquidity gap. Thus, business and finance firms can tide over the mismatches of cash receipts and cash expenditures by purchasing (or selling) the shortfall (or surplus) of funds in the money market. In simple words, the money market is an avenue for borrowing and lending for the short-term. While on one hand the money market helps in shifting vast sums of money between banks, on the other hand, it provides a means by which the surplus of funds of the cash rich corporations and other institutions can be used (at a cost) by banks, corporations and other institutions which need short-term money.
- Money market is a market for short-term funds. Borrower that has borrowed funds can hedge against rising interest rates by selling a bond futures contract. Then, if interest rates do in fact rise, the resulting gain on the contract will offset the higher interest rate that the borrower is paying.

Short Term Interest Rate Futures offerings at NSE:

91 Day Treasury Bill:

Futures contract based on notional 91-day Government of India (GOI) Treasury Bill. Launched by NSE in July 2011, the contract tracks the government's short term borrowing markets.

MIBOR Futures:

Futures contract based on overnight call rate (MIBOR). Launched by NSE in December 2018, the contract tracks the MIBOR (Mumbai Inter-Bank Offer Rate), the interest rate at which banks borrow from another for short term purposes

Features of Short Term Interest Rate Futures of NSE:

- Cash settled interest rate futures based on short term underlying or benchmarks
- Centralized clearing supported by guaranteed settlement
- Settlement at clean price
- Trading based on Exposure
- 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

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Product Specification 91 Day T-Bills:

Symbol	91DTB	
Market Type	N	
Instrument Type	FUTIRT	
Unit Of Trading	One contract denotes 2000 units (Face Value Rs.2 lacs)	
Underlying	91-day Government of India (GOI) Treasury Bill	
Tick Size	0.25 paise i.e. INR 0.0025	
Trading Hours	Monday to Friday	
	9:00 a.m. to 5:00 p.m.	
Contract Trading Cycle	Three Serial monthly contracts followed by one quarterly contract of the cycle March/June /September/December	
Last Trading Day	Last Wednesday of the expiry month at 1.00 pm and trade modification end time will be till 01:30 PM	
	In case last Wednesday of the month is a designated holiday, the expiry day would be the previous working day	
Price Quotation	100 minus futures discount yield	
	e.g. for a futures discount yield of 5% p.a. the quote shall be 100 - 5 = Rs 95	
Contract Value	Rs 2000 * (100 - 0.25 * y), where y is the futures discount yield	
	e.g. for a futures discount yield of 5% p.a. contract value shall be	
	2000 * (100 - 0.25 * 5)= Rs 197500	
Quantity Freeze	7,001 lots or greater	
Base Price	Theoretical price of the first day of the contract	
	On all other days, quote price corresponding to the daily settlement price of the contracts	
Price Operating Range	+/-1 % of the base price	
Position Limits	CLIENTS	TRADING MEMBERS
	6% of total open interest or Rs.300 crores whichever is higher	15% of the total open interest or Rs.1000 crores whichever is higher
Initial Margin	SPAN ® (Standard Portfolio Analysis of Risk) based subject to minimum of 0.1 % of the notional value of the contract on the first day and 0.05 % of the notional value of the contract thereafter	
Extreme Loss Margin	0.03 % of the notional value of the contract for all gross open positions	
Settlement	Daily settlement MTM: T + 1 in cash	
	Delivery settlement : Last business day of the expiry month.	
Daily Settlement	Mark to Mark (MTM) : T + 1 in cash	
Daily Settlement Price & Value	Rs (100 - 0.25 * yw) where yw is weighted average futures yield of trades during the time limit as prescribed by NSE Clearing. In the absence of trading in prescribed time limit, theoretical futures yield shall be considered	
Daily Contract Settlement Value	Rs 2000 * daily settlement price	
Final Contract Settlement Value	Rs 2000 * (100 - 0.25 * yf) where yf is weighted average discount yield obtained from weekly auction of 91-day T-Bill conducted by RBI on the day of expiry	
Mode Of Settlement	Settled in cash in Indian Rupees	

Product Specification MIBOR Futures:

Instrument name	Futures based on overnight call rate (MIBOR)
Underlying	Average daily FBIL overnight MIBOR for the contract month
Symbol	MIBOR
Market type	N
Instrument type	FUTIRC
Unit of trading	Interest on notional principal of rs. 5 crores for one month calculated on 30/365-day basis at a rate equal to average daily FBIL overnight MIBOR for the contract month. Members shall place orders in terms of number of contracts.
Quoting	Interest rate
Contract value	Quoted rate * 100 * 411 [value for 1 basis point : Rs. 411 = (Rs. 5 Crs * 0.01% * 30/365
Tick size	Quarter basis point (0.25 basis point i.e. 0.0025)
Tick value	Rs.102.75 = (rs.411/4)
Contract cycle	3 serial monthly contracts i.e., 1-month (near-month), 2-month (mid-month) and 3-month (far-month). And additionally, 3 quarterly contracts of the cycle march/June/September/December
Trading hours	9.00 am to 5.00 pm (Monday to Friday)
Price operating range	+/-5 % of the base rate. (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 5% in that direction after taking into account market trend or as may be decided by relevant authority)
Quantity freeze	Quantity freeze for FUTIRC contracts shall be 41 lots or greater i.e. Orders having quantity up to 40 lots shall be allowed.
Base rate	MIBOR OIS rate for the corresponding tenure will be considered to compute base rate on the first day of the contract. On all other days, daily settlement rate will be considered for base rate of the contract
Last trading day	Last working day of the month. In case the last working day is a trading holiday, the previous trading day shall be the last trading day. For expiring futures contract -
	the market timing on last trading day will be 9:00 am to 10:00 am and trade modification end time will be till 10:30 am
Daily settlement rate price	Volume weighted average rate of trades
	-in last 30 minutes of trading, subject to min 5 trades else
	-in last 60 minutes of trading, subject to min 5 trades else theoretical rate would be made applicable.
Final settlement rate	Average daily FBIL overnight MIBOR rate, up to 4 decimals, applicable for the contract month
Daily settlement	Daily MTM settlement on t+1 day in cash, based on daily settlement rate
Final settlement	Final settlement on t+1 day in cash, based on final settlement rate

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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. The clearing and settlement is 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 IRF 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 more details, please refer to link below:

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