

# CHARTING THE NEXT PHASE OF INDIA'S OTC DERIVATIVES MARKET

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Opportunities, Challenges and Recommendations  
to Accelerate the Development of India's OTC  
Derivatives Market

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March 2024

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## Table of Contents

<b>1. Executive Summary</b> .....	<b>4</b>
<b>2. Introduction</b> .....	<b>6</b>
2.1. Background and Objectives of this Whitepaper .....	6
2.2. Evolution of the Derivatives Market in India and Key Developmental Reforms .....	10
2.3. Growth in the Indian OTC Derivatives Market .....	16
2.4. Progress in India's Implementation of the G-20 OTC Derivatives Reforms .....	21
2.5. Feedback from Market Participants on India's Derivatives Market Developments and Infrastructure....	22
<b>3. Understanding the Microstructure of the Indian OTC Derivatives Market</b> .....	<b>25</b>
3.1 Overview of the Indian OTC Derivatives Market .....	25
3.2 Regulatory Authorities and Supervision.....	26
3.3 Market Segmentation: Onshore and Offshore Markets .....	28
3.4 Product Coverage and Depth .....	29
3.5 Major Market Participants .....	30
3.5.1 Banks .....	30
3.5.2 Primary Dealers .....	32
3.5.3 Insurance Companies .....	33
3.5.4 Asset Management Companies .....	35
3.5.5 Corporates .....	36
3.5.6 Non-bank Financial Companies .....	36
3.5.7 Pension Funds .....	36
3.6 Market Infrastructure .....	37
3.6.1 Clearing, Settlement and Trade Repositories .....	37
3.6.2 Trading Platforms.....	43
3.6.3 Market Data and Benchmark Administration .....	44
3.6.4 Exchanges .....	46
3.7 Operational Aspects of India's OTC Derivatives Market .....	47
3.7.1 Taxation and Statutory Levies .....	47
3.7.2 Accounting of Derivatives Transactions.....	48
3.7.3 Legal and Documentation .....	49
<b>4. The Need to Further Develop the OTC Derivatives Market in India</b> .....	<b>50</b>
4.1 Internationalization of the Indian Rupee .....	51
4.2 Increasing and Attracting Foreign Investments .....	54
4.3 Long-term Development and Deepening of India's Corporate Bond Market .....	56
4.4 Increased Robustness of the Risk Management Ecosystem .....	58
4.5 Increasing Skilled Employment Opportunities for India's Workforce.....	60
4.6 Accelerating the Net-zero Transition .....	61
<b>5. Recommendations to Further Develop India's OTC Derivatives Market</b> .....	<b>63</b>
5.1. Introduction .....	63
5.2. Broaden Product Development, Innovation and Diversification .....	65
5.2.1. Increase the Depth of Products that are Currently Available and Permissible in the Market (Category 1).....	66

5.2.2.	Allow New Product Offerings (Category 2) to Increase Market Depth .....	70
5.3.	Foster Adoption of Similar Market and Risk Principles Across Regulatory Regimes .....	75
5.4.	Enhance Market Access and Diversification of Participants in OTC Derivatives .....	81
5.5.	Ensure Growth of OTC Derivatives Market in a Safe and Efficient Manner.....	84
5.5.1.	Enhancement of Collateral and Margin Management Requirements for OTC Derivatives.....	84
5.5.2.	Expansion of the Scope of Products Centrally Cleared and Settled via CCIL .....	88
5.6.	Foster Greater Alignment with International Principles and Practices .....	89
5.6.1.	Alignment of Methodologies and Standards to Measure and Monitor Counterparty Credit Risk.....	89
<b>6.</b>	<b>Summary of Recommendations .....</b>	<b>91</b>
<b>7.</b>	<b>Annexes .....</b>	<b>93</b>
7.1.	Annex 1 .....	93
7.2.	Annex 2 .....	94
7.3.	Annex 3 .....	98
7.4.	Annex 4 .....	100
7.5.	Annex 5 .....	101
<b>8.</b>	<b>Glossary .....</b>	<b>102</b>

# 1. Executive Summary

This whitepaper presents a comprehensive review of the current state and future trajectory of India's over-the-counter (OTC) derivatives market. As the financial landscape evolves, it becomes imperative to assess the market's dynamics, challenges and opportunities to facilitate informed market developments and advances in regulation. ISDA commissioned Acies LLP to undertake an in-depth market study and develop this whitepaper based on its primary<sup>1</sup> and secondary<sup>2</sup> research and in consultation with ISDA and its members.

India has become a key driver of economic growth in the world, with GDP growth of 7.2% in the fiscal year 2022-2023, which is the second highest among the Group of 20 (G-20) countries and almost twice the average for emerging market economies<sup>3</sup>. India is expected to become the second largest economy in Asia and the third largest in the world by 2030<sup>4</sup>.

In the past few years, efforts led by Indian policymakers have driven significant expansion of the OTC derivatives market, with its notional value reaching around \$9.27 trillion in 2022<sup>7</sup>, making it the 20<sup>th</sup> largest OTC derivatives markets globally. Key factors include the enactment of the Bilateral Netting of Qualified Financial Contracts Act in 2020, the extension of market access to non-residents, the introduction of central clearing services for OTC derivatives to manage counterparty credit risk, and a regulatory shift towards principles-based regulation, facilitating ease of market access and encouraging innovation in new financial products.

This whitepaper shows that while India's economic growth is already at full force, its OTC derivatives market has considerable potential for further growth, commensurate with the size and growth trajectory of its economy. The whitepaper presents a roadmap for the next phase of India's OTC derivatives market. It includes recommendations to unlock opportunities for market development, such as the development of OTC derivatives products (eg, credit and commodity derivatives, standardized term benchmarks), and increase market participation, with greater harmonization of regulations on usage and permissibility of OTC interest rate, FX and credit derivatives for insurance companies, asset management companies and pension funds. The paper also recommends a greater cultivation of risk management culture and practices through the use of OTC derivatives by corporates, and further alignment with international principles and practices (eg, adoption of the standardized approach for counterparty credit risk (SA-CCR) or finalization of initial margin (IM) rules for non-centrally cleared derivatives. Taken together, these developments would support the growth of a more vibrant and safer derivatives market to support India's financial sector and economic growth.

ISDA encourages stakeholders, regulators and market participants to engage with the insights presented in this whitepaper, fostering greater market collaboration and driving further evolution of India's OTC derivatives market.

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<sup>1</sup> *Primary research:* Consulting via local industry associations and drafting questionnaires and gathering verbal and / or written responses from approximately 40 respondents (*comprising of 20 international and domestic banks, seven insurance companies, five corporates, four market infrastructure operators, three asset management companies and two law firms*)

<sup>2</sup> *Secondary research:* Accessing several sources that provided information on the OTC derivatives market such as relevant guidelines, directions, circulars, and notifications published by *Indian regulators*; statistics, data and publications released by *market infrastructure providers*; and relevant whitepapers, data and publications released by *supranational organizations*

<sup>3</sup> Source: [World Economic Forum](https://www.weforum.org/)

<sup>4</sup> Source: "Global Credit Outlook 2024" by S&P Global Ratings

A high-level summary of key opportunities and recommendations to further grow the OTC derivatives market in India is presented below.

	Category	Dimension	Recommendation
1	Broaden product development, innovation and diversification	Policies and regulations	Enable growth of OTC credit derivatives such as credit default swaps
			Regulatory allowance for offering OTC commodity derivatives in onshore market
			Develop OTC equity derivatives in the onshore market
			Develop environmental, social and governance (ESG) and climate derivatives
		Market infrastructure	Development of standardized term benchmarks to reduce basis risk
			Increase liquidity in longer tenors of the OIS curve for enabling price discovery
2	Foster adoption of similar market and risk principles across regulatory regimes	Policies and regulations	Harmonize regulations for usage and permissibility of OTC credit derivatives
			Harmonize regulations for usage and permissibility of OTC interest rate derivatives
			Harmonize regulations for usage and permissibility of OTC foreign exchange derivatives
			Align regulatory norms for application of credit conversion factors
3	Enhance market access and diversification of participants in OTC derivatives	Education and awareness	Increase education and awareness on OTC derivatives
4	Ensure growth of OTC derivatives market in a safe and efficient manner	Policies and regulations	Facilitate substituted compliance for Indian branches of foreign banks under the draft IM directions
			Expand the list of eligible collaterals allowed under the draft IM guidelines
			Establish eligibility requirements for third party custodians under the draft IM guidelines
			Relax stamp duty and filings levied on the collateral postings
		Market infrastructure	Expand the scope of products cleared and settled via the Clearing Corporation of India Ltd
5	Foster greater alignment with international principles and practices	Policies and regulations	Adopt SA-CCR methodology to measure and monitor counterparty credit risk

## 2. Introduction

### 2.1. Background and Objectives of this Whitepaper

The Indian economy will be a bright spot in leading the Asian emerging markets and global economic growth over the next few years. Being one of the most populous nation globally<sup>5</sup>, combined with a growing GDP, at approximately \$3.73 trillion<sup>6</sup> in 2023 (*fifth largest in current prices terms, and third largest in purchasing power parity (PPP) terms*), India is well positioned to becoming the third largest economy in the world by 2030 as India's nominal GDP forecast to rise to \$7.3 trillion by 2030<sup>7</sup>.

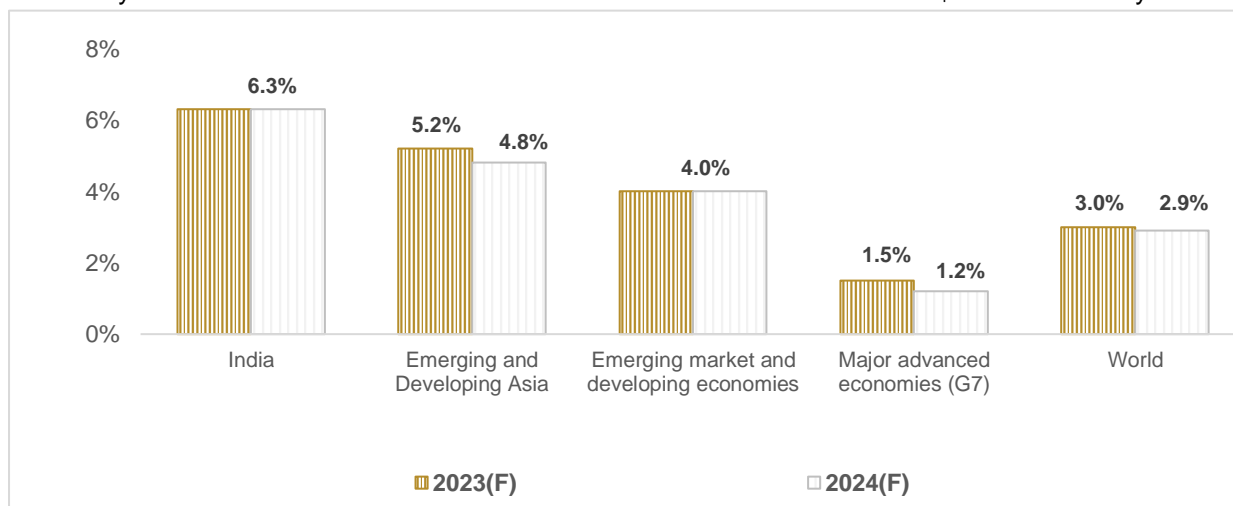


Figure 1 - Real GDP Growth forecast for 2023 and 2024  
(Source: IMF World Economic Outlook – October 2023)

India's real GDP growth estimates in 2023 and 2024 have been raised from 6.1% to 6.3% as per the IMF's World Economic Outlook October 2023 report<sup>8</sup>. These estimates were further raised to 6.7% and 6.5% for the years 2023 and 2024 respectively, as per the IMF's World Economic Outlook January 2024 report<sup>9</sup>. In October 2023, the RBI had increased its baseline projections<sup>10</sup> of GDP growth from 6.4% to 6.5% (for the same period) on account of the domestic economy activity holding up well at times of heightened volatility in the global economy. In December 2023<sup>11</sup>, these projections were further increased to 7%. Globally, India will be among the fastest growing large economies, outpacing emerging Asian and emerging/developing global economies, which were estimated to grow at 4.8% and 4% respectively in 2024.

The Indian financial services sector plays an integral role in the growth and development of the Indian economy – contributing to approximately 6% of India's gross value add (GVA)<sup>12</sup>. The top 20 Indian origin banks cumulatively have an asset size of over \$3 trillion<sup>13</sup>, with the State Bank of India (SBI) being the

<sup>5</sup> Source: [UN Department of Economic and Social Affairs – Policy Brief 153 \(April 24, 2023\)](#)

<sup>6</sup> Source: IMF Data mapper and World Economic Outlook Report 2023

<sup>7</sup> Source: S&P Global Ratings 'Global Credit Outlook 2024: New Risks, New Playbook'

<sup>8</sup> Source: [IMF World Economic Outlook \(October 2023\)](#)

<sup>9</sup> Source: [IMF World Economic Outlook \(January 2024\)](#)

<sup>10</sup> Source: [RBI Monetary Policy Report \(October 2023\)](#)

<sup>11</sup> Source: [RBI Monetary Policy Statement \(December 2023\)](#)

<sup>12</sup> Source: MOSPI – [National Account Statistics 2023 Note](#) - According to the RBI, the GVA of a sector is defined as the value of output minus the value of its intermediary inputs. This "value added" is shared among the primary factors of production, labour, and capital.

<sup>13</sup> Source: S&P Global - <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/state-bank-of-india-hdfc-bank-keep-top-slots-in-ranking-as-total-assets-grow-76132188>

largest among them (ranked 48th in the world<sup>14</sup>) having an asset size of approximately \$725 billion, followed by HDFC Bank (\$441 billion) and ICICI Bank (\$239 billion).

The derivatives markets in India have grown significantly in the past few years largely due to an increase in domestic and overseas market participation, integration of onshore and offshore markets and market access, greater and more robust market transparency, and other development measures. Participation in derivatives in the onshore Indian financial market can be segmented into the over-the-counter (OTC) and exchange-traded derivatives (ETD) markets.

### ***OTC and ETD Derivatives Markets – Key Differences***

Derivatives markets can be broadly categorized based on how they are negotiated and traded by market participants.

OTC derivatives are negotiated bilaterally or electronically (via platforms). OTC derivative contracts can be tailor-made bilateral arrangements in the form of derivative contracts between two counterparties (ie, a buy-side and a sell-side participant). They can also be executed on an electronic trading platform for OTC derivatives, such as organized trading facilities (OTFs) in the EU or swap execution facilities (SEFs) in the US. Certain OTC derivatives can be eligible for central clearing by a clearing house / central clearing counterparty (CCP), depending on how standardized these OTC contracts are and whether the clearing houses offer them for clearing.

Exchange-traded derivatives (ETD) are executed on regulated exchanges. ETDs are fully standardized i.e., having the same trading specification catering to a specific pricing benchmark and listed with different settlement periods. All executed ETD trades are cleared and settled by a clearing house – thereby reducing settlement and counterparty risk. Buy-side and sell-participants in the ETD markets do not know each other as the clearing house acts the counterparty to them.

End-users / clients will use ETDs for hedging and managing risk exposures of standardized nature. Clients will then benefit from ease of access, and regulatory oversight.

Meanwhile, OTC derivatives thrive in handling complex and unique risk scenarios, providing participants with the flexibility to customize agreements that may not be readily available in the standardized ETD space.

The co-existence of ETDs and OTC derivatives markets is not a competition but a harmonious collaboration. Unlike in the cash equity markets, there is no fragmentation of markets or of liquidity caused by the co-existence of ETDs and OTC derivatives. Recognizing and understanding the distinct strengths of each market allows participants to navigate the financial landscape with precision, benefiting from the diverse options available for risk management, investment, and hedging strategies. This synergy contributes to the overall stability and adaptability of the global financial system, ensuring that market participants can find the most suitable avenues to meet their evolving needs.

For more information on ETDs and OTC derivatives, see Annex 1 (Section 7.1) of this whitepaper.

Presently, India's derivatives market is dominated by equity ETDs on account of significant participation from retail and HNI<sup>15</sup> investors since 2019-20. This has elevated India's National Stock Exchange (NSE) to

<sup>14</sup> Source: S&P Global - <https://www.spglobal.com/marketintelligence/en/news-insights/research/the-world-s-100-largest-banks-2023>

<sup>15</sup> HNI (High Net Worth Individuals) investors is a financial industry classification denoting individuals with a value greater than US\$1 million in liquid financial assets.

be regarded as the world's largest derivatives exchange by volume (*four years in a row as of 2023*<sup>16</sup>), surpassing the CME Group (US), and has positioned India to be among the largest ETD markets in the world. In addition to the equity ETD market, India has a well-established foreign exchange (FX), interest rate (IR) and commodity ETD market. The overall ETD market volume stood at approximately \$403 trillion<sup>17</sup> (*by gross notional value*) in 2022, of which approximately \$5.29 trillion is contributed by the FX and IR ETD markets.

On the other hand, India's OTC derivatives market is dominated by FX and IR asset classes. In 2022, the OTC derivatives market stood at approximately \$9.27 trillion<sup>18</sup> (*by net gross notional value*) – ranking India as the 20<sup>th</sup> largest OTC derivatives market in the world<sup>19</sup>. Additionally, the Indian rupee (INR) ranked among the 15<sup>th</sup> most traded currency<sup>20</sup> in the world.

Presently, India does not have an established onshore domestic OTC equity and commodity derivatives market as these are not covered in the list of permitted derivatives in the RBI (Market Makers in OTC Derivatives) Directions.

By FX and IR derivatives market segment comparison, the Indian OTC derivatives market is larger than the ETD market (as seen in Figure 2). In 2022, the overall FX and IR derivatives market in India was approximately \$14.5 trillion<sup>21</sup> (*by notional value*) – of which over 60% (\$9.27 trillion) was attributed to OTC derivatives. This is similar with respect to the European derivatives market.

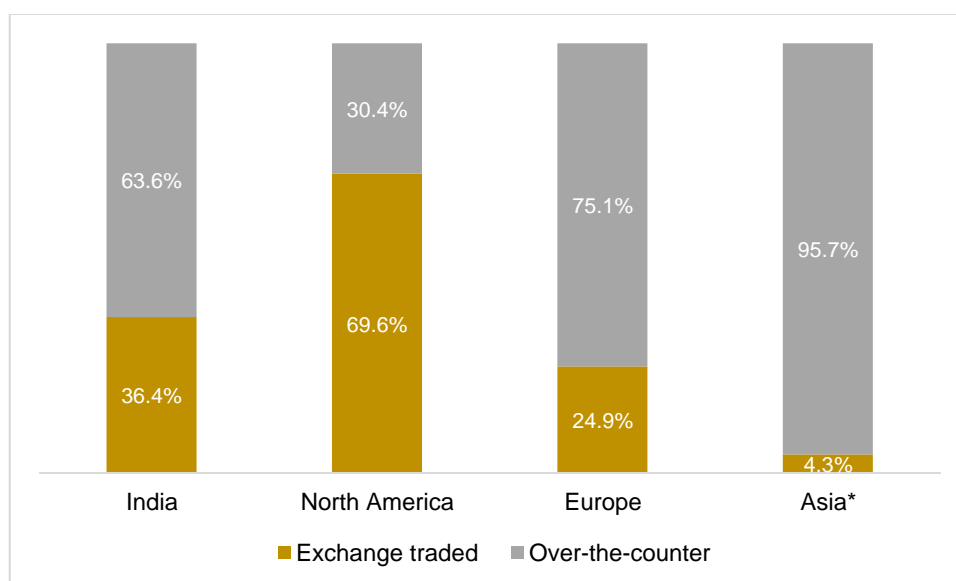


Figure 2 - OTC v/s ETD derivative volume contribution in FX and IR derivatives market in 2022<sup>22</sup>

(\*Note: India is included in Asia in the figure above)

<sup>16</sup> Source: [Economic Times article](#)

<sup>17</sup> Source: SEBI Monthly Bulletin for ETD, with Acies analysis

<sup>18</sup> Source: BIS Triennial Survey (2022)

<sup>19</sup> Source: BIS Triennial Survey (2022)

<sup>20</sup> Source: BIS Triennial Survey (2022)

<sup>21</sup> Source: [BIS Triennial Survey \(2022\)](#), and [SEBI Monthly Bulletin](#) for India ETD, with Acies analysis.

<sup>22</sup> Source: [BIS Data Portal](#) (for global ETD volumes), BIS Triennial Survey (for OTC volumes) and [SEBI Monthly Bulletin](#) with Acies analysis.

Please note that ETD notional volumes as reported by BIS is on a net-net basis and OTC notional volumes on a net-gross basis



The potential for growth in and development of India's OTC derivatives market remains substantial, driven by several key factors. Rapidly expanding economy and growing financial sector are key drivers, making it an attractive destination for both domestic and international investors. Here are some considerations:

- **Economic Growth:** India is one of the world's largest and fastest-growing economies. Its size and population provide a vast and diverse customer base for financial products, including OTC derivatives. As the economy continues to grow, so does the demand for hedging and risk management tools, making OTC derivatives increasingly relevant.
- **Financial Sector Growth:** India's financial sector has seen remarkable growth in recent years. Reforms in banking, insurance, and capital markets have created a robust ecosystem for financial innovation and investment and access to banking for the broader population. This growth is conducive to the development of derivative markets, which play a crucial role in managing risk and attracting institutional and retail participants.
- **Diverse Industry Landscape:** India is home to a wide range of industries, from IT and manufacturing to agriculture and pharmaceuticals. Each of these sectors has distinct risk exposures, which can be more effectively managed through OTC derivatives. As more industries recognize the benefits of derivatives, the market is likely to expand.
- **Foreign Investment and Internationalization of the INR:** The Indian government has been actively promoting foreign investment in the country's financial markets and internationalizing the INR. As OTC derivatives provide opportunities for international investors to access Indian markets, this can lead to greater market liquidity and growth.
- **Financial Needs:** The need for risk management tools is growing as businesses and investors seek to protect themselves against market volatility and economic uncertainties. OTC derivatives offer customized solutions for these financial needs, enabling participants to tailor their risk exposure precisely.
- **Regulatory Framework:** Regulatory authorities in India have been proactive in ensuring that the OTC derivatives market operates efficiently and transparently. They have introduced reforms and regulations which can attract more participants.

With the prominence of India's economic and capital markets growth, ISDA's members have expressed a strong interest in contributing to the further development of the OTC derivatives market and market participation in India.

This whitepaper will aim to provide an in-depth analysis of the current state of the market microstructure and look at the next steps to further develop the OTC derivatives market to support India's economic growth and promote safe and efficient markets. ISDA has worked with Acies LLP to undertake an in-depth study and market research and develop this whitepaper to provide a deeper view of the Indian OTC derivatives market with respect to:

- Key policy and regulatory reforms by the Ministry of Finance and Indian regulators, that have boosted the growth of the derivatives market so far in India across all asset classes;
- Extent of participation and challenges faced by market participants today in the Indian derivatives market across equity, FX, interest rate, commodity, and other derivative asset classes; and
- Opportunities and recommendations from market participants that can be implemented to further develop and boost the liquidity of the Indian derivatives market – specifically on the OTC side – covering policy, infrastructure, instruments, operations, accounting treatment and other areas within the OTC derivatives market landscape.

Additionally, this whitepaper aims to:

- Provide a detailed view of the derivatives market structure, including regulatory oversight, infrastructure, market participants, trading and settlement platforms and onshore/offshore participation with a specific focus on the Indian OTC derivatives market; and
- Highlight challenges and constraints observed in the derivatives market due to current reforms and other aspects, and recommend policy and other measures and actions to support in boosting the growth of the Indian OTC derivatives market covering the following areas: government and regulatory policies, introduction and access to additional derivatives instruments for market participants, derivatives trading and settlement infrastructure, risk management practices and governance, and overall market participation.

## 2.2. Evolution of the Derivatives Market in India and Key Developmental Reforms

Derivatives market in India has existed for almost as long as in the US and UK. It is widely known that the first organized derivatives markets<sup>23</sup> in India started in 1875 with the trading of commodity futures. It is also understood that some form of OTC derivatives trading existed for equities as underliers in the pre-independence days which spanned from 1857 to 1947. After India's independence in 1947, in the early 1950s, the Forwards Markets Commission (FMC) was established under the provisions of the Forward Contracts (Regulation) Act, of 1952. This was followed by the Securities Contracts (Regulation) Act in 1956. Until 1990, the Indian economic policies were characterized by a strong focus on protectionism and import substitution industrialization under the central and state government oversight.

The liberalization of the Indian economic policies in 1991 marked a turning point for India, fostered by a series of government policies focused on making the economy more market-oriented and consumption driven, with the objective of achieving economic growth and development. In early 1993, the system of market-determined or floating exchange rates was adopted followed by INR being transitioned to be fully convertible on the current account.

At that time, OTC FX forward contracts were already in use<sup>24</sup> (as were FX spot and swap trades). This period also witnessed the introduction of additional OTC FX derivatives products by banks to market participants such as cross-currency options and swaps. Additionally, the deregulation of interest rates as part of the liberalization reforms also fostered the need for interest rate derivatives. This led to the introduction of interest rate swaps (IRS) and forward rate agreements (FRA) in 1999 for hedging and market-making purposes. Corporates and mutual funds were allowed to undertake these derivative transactions to hedge their balance sheet exposures. Towards the end of the 1990s, the RBI granted permission to Indian corporates to hedge their price risk in overseas OTC commodity and exchange-traded markets.<sup>25</sup>

From 2000 to 2007, several policy, regulatory and developmental efforts (refer to Annex 2 for a detailed list of regulations) were focused on addressing legal and infrastructural necessities, increasing market liquidity and participation in the Indian OTC and exchange-traded derivative markets with appropriate safeguards and regulatory supervision – some of the most notable policies and reforms included:

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<sup>23</sup> Source: Ministry of Consumer Affairs publication – [Press release](#) (2004)

<sup>24</sup> Source: RBI – [Report of The Expert Group on Foreign Exchange Market in India \(1995\)](#)

<sup>25</sup> Source: RBI – [Annual report \(July 1999-June 2000\)](#) – Chapter I: Policy Environment

- Access to onshore OTC FX derivatives by non-residents outside India was permitted in 2000 through resident authorized dealers (AD)<sup>26</sup>, while resident Indians were permitted to hedge their price risk (except gold) in overseas commodity derivatives markets subject to obtaining specific approvals from the RBI.
- India's first clearing house, Clearing Corporation of India Limited (CCIL)<sup>27</sup>, was set up in 2001 for the settlement of market trades of inter-bank foreign exchange transactions as well as providing a dealing platform for interbank FX trades, followed by trade repository services for OTC derivatives in 2007.
- Issues related to legality of the OTC derivatives market was addressed in The Reserve Bank of India Act, 1934 vide The Reserve Bank of India (Amendment) Act, 2006<sup>28</sup>, which also covers the transacting of derivatives in the onshore OTC market with scheduled banks and agencies under the purview of the RBI.
- Exchange-traded derivatives (ETD) market activity began in the early 2000s in the Indian capital markets post its approval by SEBI (capital markets regulator) in 1998<sup>29</sup> with the introduction of equity ETDs.
- Market participation was enhanced with SEBI permitting mutual funds to participate in the derivatives market in 2003<sup>30</sup> and IRDAI (insurance industry regulator) permitting insurance companies to participate in the derivatives market in 2004.
- Introduction of the 'Comprehensive guidelines on derivatives' by the RBI in 2007<sup>31</sup>, comprising permissible derivatives products, documentation requirements, norms for risk management and corporate governance for end users, requirements for undertaking 'suitability and appropriateness' by market makers before offering derivative products to customers and other operational controls.
- Introduction of credit derivatives with draft guidelines for credit default swaps (CDS) by the RBI in 2007<sup>32</sup> – which was subsequently deferred on account of the onset of the global financial crisis.

With the global economy adversely affected by the global financial crisis in 2007-08, the Indian economy was not spared as well. This global financial crisis affected India in the financial markets, trade flows, and exchange rates<sup>33</sup>. However, the Indian banking sector remained largely insulated on account of limited operations outside India or exposure to sub-prime lending products by foreign, especially US investment banks – largely driven by proactive regulatory oversight by the RBI.

Prior to the global financial crisis, derivatives were viewed as important instruments for price discovery and risk hedging. However, post the global financial crisis, they were viewed as a potential source of risk to systemic stability. This sentiment was shared globally and not specific to India. This explains why the G-20 leaders' commitment agreed in September 2009 in Pittsburgh were predominantly focused on regulation of derivatives markets. Risk management, improved oversight and prudent governance were of high importance to the Indian regulators during the period – which slowed down the momentum of the Indian derivatives market growth as a result. Some of the notable measures adopted by the RBI included:

- Specific banks at the top end of the system-level exposures in the FX derivatives market were required to provide additional information to the RBI in a structured format given certain concerns on risks associated with the FX derivatives market.

<sup>26</sup> Source: RBI – [Foreign Exchange Management \(Foreign Exchange Derivatives Contracts\) Regulations, 2000](#)

<sup>27</sup> Source: CCIL - [Company Profile](#)

<sup>28</sup> Source: [RBI \(Amendment\) Act, 2006](#)

<sup>29</sup> Source: SEBI – Circular: [Derivatives trading in India \(June 16, 1998\)](#) (as per recommendations of the Dr. L.C. Gupta Committee)

<sup>30</sup> Source: SEBI – [Master circular for mutual funds](#)

<sup>31</sup> Source: RBI – [Comprehensive guidelines on derivatives \(April 20, 2007\)](#)

<sup>32</sup> Source: RBI – [Draft guidelines on credit default swaps \(October 24, 2007\)](#)

<sup>33</sup> Source: Asian Development Bank – [The Global Economic Crisis: Impact on India and Policy \(2009\)](#)

- Banks were mandated to implement a suitability and appropriateness framework ie, a risk-based assessment, as part of their derivative offerings to market participants. As a result, banks primarily only offered plain vanilla derivatives.

As the world began to recover from the global financial crisis in 2009-10, in India, given the recovery of the economy, there was a cautious approach over the next few years by the Indian government; the central bank and regulators wanted to further develop the OTC and exchange-traded derivatives markets - however, was met with challenges. For example, in the case of the IR derivatives market, interest rate futures (IRFs) were launched in 2009 but due to physical settlement and liquidity issues, IRFs did not gain much market attraction. Similarly, in the OTC derivatives market, the absence of a liquid three-month and six-month funds market led to the absence of a term benchmark curve – which then led to a slowdown in the participation of FRA and INR IRS respectively.

In 2013<sup>34</sup>, the RBI set an agenda to transform the financial sector to make it a stronger, deeper, and more efficient and inclusive system. One of the ways to achieve this goal was to broaden the array of financial instruments and deepen and enhance the liquidity in financial markets. Hence, from 2014 to 2019, there was a slew of measures focused on deepening the liquidity of the derivatives market with the introduction/ re-introduction of derivatives, liberalization in regulatory guidelines/ permissibility, and opening access to OTC and exchange traded derivatives for both onshore and overseas parties. Notable policy and development norms included:

- Access to exchange traded FX and interest rate derivatives market was permitted for foreign investors and primary dealers<sup>35</sup>. Banks were permitted to undertake proprietary trading in exchange traded FX derivatives.
- Documentation requirements for end users were relaxed gradually to ease the burden when transacting in OTC derivative products. The RBI further also opened access to resident corporates that were subsidiaries of multinational companies to hedge their FX exposure using permissible derivatives with AD Category-I banks in India.
- Guidelines for permissible commodities and approvals for hedging commodity price risk in the overseas commodity derivatives market were relaxed in 2018. Banks were also permitted to participate as professional clearing members and brokers (through a subsidiary) for exchange traded commodity derivatives in India as a move to further deepen market participation.
- With the establishment of India's first international financial services center (IFSC), banks in India began to set up IFSC banking units (IBUs) with the aim to undertake activities similar to those carried out by overseas branches of Indian banks. The RBI therefore in 2017 permitted IBUs to undertake derivative transactions for derivatives that were permissible to the banks operating in onshore India, subject to regulatory approval<sup>36</sup>.

Since 2020, there have been several policy, regulatory and infrastructural initiatives undertaken in India to support the development of the OTC derivatives market. The following are some of the key initiatives undertaken in India:

- Access to non-residents to INR interest rate derivatives: In June 2019<sup>37</sup>, the RBI permitted banks and primary dealers in India to offer INR interest rate derivatives such as overnight indexed swaps (OIS) to non-residents for the purpose of hedging or otherwise. In February 2022, it also permitted banks and

<sup>34</sup> Source: RBI - [Annual Report 2014](#)

<sup>35</sup>Source: RBI - [Risk Management and Inter-bank Dealings: Permitting Non Resident Indians \(NRIs\) access to Exchange Traded Currency Derivatives \(ETCD\) market](#) (February 2, 2017) and [Participation of Standalone Primary Dealers in Currency Futures Market](#) (March 17, 2016)

<sup>36</sup> Source: RBI – [Setting up IFSC Banking Units \(IBU\) \(updated as on January 7, 2016\)](#)

<sup>37</sup> Source: RBI – [Rupee Interest Rate Derivatives \(Reserve Bank\) Directions, 2019 \(Updated as on February 10, 2022\)](#)

primary dealers in India to offer foreign currency settled OIS (FCS-OIS) contracts to non-residents for the purpose of hedging or otherwise – with the objective of further deepening the liquidity of the Indian interest rate derivatives market. Banks in India have been permitted to conduct these FCS-OIS transactions through their branches in India, their IBUs or their foreign branches.

- Access to non-residents to participate in onshore derivative markets: With a view to ease access to non-residents for hedging onshore, the RBI in 2020<sup>38</sup> allowed non-residents to use any of the permitted instruments to hedge their currency exposures, bringing them on par with residents.
- Permissibility to undertake user and interbank transactions beyond onshore market hours: In January 2020, the RBI permitted AD Category-I banks to voluntarily undertake customer and interbank transactions (as well as persons outside India through their foreign branch/ subsidiary) beyond onshore hours.<sup>39</sup>
- Bilateral netting of qualified financial contracts: The Bilateral Netting of Qualified Financial Contracts Act 2020<sup>40</sup> was introduced by the Indian government in September 2020. This act gave statutory recognition to close-out netting by expressly permitting the close-out netting of qualified financial contracts where one party is a regulated entity in India. ISDA had worked closely with the authorities in India over the course of several years to provide input and technical advice on the drafting of the legislation. The bill passed was based closely on the ISDA Model Netting Act, a template containing model provisions and guidance intended to help jurisdictions implement their own netting legislation. Subsequently, the RBI issued guidelines on qualified financial contracts and revisions to capital charge, provisioning and net stable funding ratio (NSFR) requirements. This was a landmark reform as it permitted banks to calculate their exposure relating to derivatives on a net basis which enabled banks to reduce counterparty credit risk and regulatory capital and helped in the reduction of hedging costs on derivatives (more details in the following section).
- Cross-border collateral: In February 2021, the RBI permitted Indian entities to post collateral in foreign currency when dealing with a non-resident. This increased the scope of counterparty universe that Indian banks could access for liquidity for derivatives<sup>41</sup>.
- LIBOR transition: On July 8, 2021, the RBI laid out the roadmap from transition from LIBOR to ARR. The RBI had requested banks to frame a board approved plan, outlining an assessment of exposures linked to LIBOR and the steps taken to be taken to address risks arising from the cessation of LIBOR and addressing the adoption of ARR. The transition from LIBOR to ARR was to happen by December 31, 2021, with the RBI allowing banks to trade in Mumbai Interbank Forward Outright Rate (MIFOR) after December 31, 2021, only for specific purposes such as risk management activities up until June 30, 2023. The LIBOR transition was completed by July 1, 2023 and MIFOR also ceased<sup>42</sup>.
- Creation of a Principle-based Regulatory Framework for OTC derivatives market<sup>43</sup>: In 2021, the RBI reviewed the 'Comprehensive Guidelines on Derivatives' with the objectives of addressing overlaps between the regulatory guidelines and other directions issued by the central bank and adding new provisions to cater to the increasing sophistication of derivative markets in line with international practices. After taking in feedback from market participants and other stakeholders, the RBI issued the Master Direction - Reserve Bank of India (Market-makers in OTC Derivatives) Directions, 2021<sup>44</sup>, which set out the requirements around governance, suitability and appropriateness and risk management for

<sup>38</sup> Source: RBI - [Risk Management and Inter-bank Dealings – Hedging of foreign exchange risk \(April 7, 2020\)](#)

<sup>39</sup> Source: RBI - [Risk Management and Inter-bank Dealings- Permitting AD Cat-I banks to voluntarily undertake user and Inter-Bank transactions beyond onshore market hours \(January 6, 2020\)](#)

<sup>40</sup> Source: Ministry of Law and Justice – [The Bilateral Netting of Qualified Financial Contracts Act, 2020](#)

<sup>41</sup> Source: [Margin for Derivative Contracts](#)

<sup>42</sup> Source: RBI – [LIBOR transition](#)

<sup>43</sup> Source: RBI - [Annual report – 2021-22](#)

<sup>44</sup> Source : RBI Master Direction - [Reserve Bank of India \(Market-makers in OTC Derivatives\) Directions, 2021 \(September 16, 2021\)](#)

the OTC derivatives business. This also included the requirement on issuance of product disclosure statements, containing standard information about the derivatives product for the user of such derivatives products to decide if the product will meet its needs and to facilitate comparison with other derivatives products. This approach thus moved from the prescriptive to the principles-based approach, allowing the board of each regulated entity to frame its own policies related to client, product suitability, finalizing the best suited risk mitigating derivatives tool and also ensuring transparency in pricing is shared with the client.

- Revisions to the earlier CDS guidelines<sup>45</sup>: In February 2022, the RBI revised the earlier CDS guidelines to permit non-retail users such as insurance companies and foreign portfolio investors (FPIs) to buy and sell CDS to manage their credit risk. Retail users are permitted to only buy protection using CDS for hedging purposes.
- Margining guidelines: In June 2022, the RBI published the directions regarding exchange of variation margin (VM) for non-centrally cleared derivatives, which have been implemented with effect from May 2023. Additionally, the RBI also issued draft IM directions in June 2022 for public comment. These initiatives, taken in line with the G-20 commitments, reduce systemic risk and promote financial stability in the derivatives market.
- Hedging of commodity price risk in IFSC by resident Indian entities: Entities resident in India were not permitted to hedge their gold price risk exposure in the overseas market, but in December 2022, the RBI permitted eligible entities to hedge their gold price risk (with settlement in non-INR currency) on exchanges in the IFSC GIFT City<sup>46</sup>.
- Permissibility of alternative investment funds (AIFs) to participate in CDS: In January 2023, SEBI permitted AIFs to participate in the CDS market as protection buyers and sellers to hedge their risk associated with the bond market. This paved the way for further deepening of the Indian corporate bond market. While specific categories of AIFs were permitted to participate in the CDS market, SEBI also mandated AIFs to align with Master Direction – Reserve Bank of India (Credit Derivatives) Directions, 2022.
- Tax exemption to non-resident in GIFT City: In 2023, Indian tax laws<sup>47</sup> exempted income earned by a non-resident investor on offshore derivatives instrument (ODI) transaction undertaken between a non-resident and offshore banking unit situated in IFSC. In the month of October 2023, Standard Chartered Bank<sup>48</sup>, undertook an ODI transaction – total return swap using the five-year benchmark government bond as pricing reference – worth \$5 million in offshore derivatives market in GIFT City in India. This transaction is the first of its kind and further speaks about the potential of the offshore derivatives market development in India.
- Permissibility of offering and use of non-deliverable derivatives contracts (NDDCs): With a view to developing the onshore INR NDDC market and providing residents with the flexibility to efficiently design their hedging programs, the RBI revised the regulatory framework for NDDCs in June 2023. Banks in India with an AD Category-1 license and operating IBUs are permitted to offer NDDCs (involving rupee or otherwise) to persons resident outside India through their IBUs, their branches in India or their foreign branches. These NDDCs may be offered for the purpose of hedging or otherwise and can be cash settled in either rupee or any foreign currency. These banks have also been permitted to offer INR

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<sup>45</sup> Source: RBI Master Direction - [Reserve Bank of India \(Credit Derivatives\) Directions, 2022 \(February 10, 2022\)](#)

<sup>46</sup> Source: [Master Direction – Foreign Exchange Management \(Hedging of Commodity Price Risk and Freight Risk in Overseas Markets\) Directions, 2022](#)

<sup>47</sup> Source: [Finance Act, 2023](#)

<sup>48</sup> Source: [Economic Times Article](#)

NDDCs to resident non-retail users from their branches in India for the purpose of hedging. These transactions must be cash settled in INR<sup>49</sup>.

- Draft Licensing Framework for Authorized Persons (APs) under FEMA<sup>50</sup> – on December 26, 2023, the RBI released the draft Licensing Framework for Authorized Persons with the objective of rationalizing and simplifying the licensing framework for APs. APs refer to the persons authorized under Section 10(1) of the Foreign Exchange Management Act, 1999 and permitted to deal in or transfer any FX or foreign security (including undertaking FX derivatives transactions with users and other APs). The draft norms were published keeping in view the increasing integration of the Indian economy with the global economy, digitization of payment systems and to achieve operational efficiency in the delivery of FX facilities while maintaining appropriate checks and balances.
- Draft guidelines on Bond Forwards<sup>51</sup> – on December 28, 2023, the RBI released the draft directions on bond forwards. The introduction of bond forwards in sovereign debt will cater to the demand for long term investment products thereby enabling market participants, such as insurance companies, to hedge their long-term book and to manage their cash flows and interest rate risk.
- Revised FX derivatives directions<sup>52</sup> – on January 5, 2024, the RBI released the revised directions on 'Risk Management and Inter-Bank Dealings – hedging of foreign exchange risk' wherein directions for FX derivatives, FX transactions (including cash, tom and spot), currency futures and exchange-traded currency options have been consolidated thus leading to unification. Additionally, the user classification framework has been revised, specific products that can be offered to users have been mentioned and permitted users for certain products have been expanded. The revised directions will be applicable with effect from April 5, 2024, which would in turn lead to a deeper FX derivatives market.

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<sup>49</sup> Source: RBI – Risk Management and Interbank Dealers – Non-deliverable derivatives contracts (NDDCs) (June 3, 2023)

<sup>50</sup> Source: [Draft Licensing Framework for Authorized Persons under FEMA](#)

<sup>51</sup> Source: [RBI \(Bond Forwards\) Directions, 2023 - Draft](#)

<sup>52</sup> Source: [RBI 'Risk Management and Inter-Bank Dealings – Hedging of foreign exchange risk' Directions \(January 5, 2024\)](#)

## 2.3. Growth in the Indian OTC Derivatives Market

*The Indian Derivatives Market Growth in Comparison with India's Economic Growth*

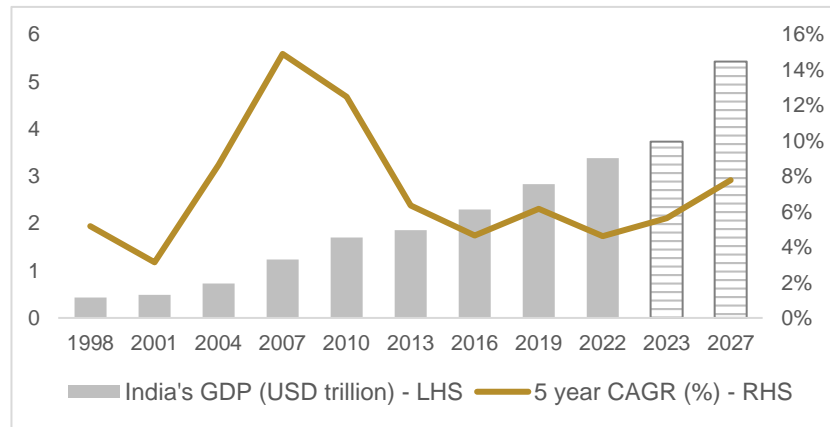


Figure 3 – GDP of India from 1998 to 2022 and forecasts for 2023 and 2027  
(Source: IMF World Economic Outlook)

As shown in Figure 3, India's GDP in 2022 was approximately \$3.39 trillion (global GDP at \$100 trillion) having grown at a 5-year CAGR of approximately 5%<sup>53</sup> (from the year 2017 to the year 2022) and is estimated in 2023 to be approximately \$3.73 trillion<sup>54</sup> with a 5-year CAGR estimated at 6.7% (from the year 2018 to the year 2023). India is forecasted to be amongst the global leaders in economic growth with its GDP expected to grow from 3.39 trillion during the year 2022 to approximately \$5.43 trillion by 2027 at a forward looking 5-year CAGR of 9.9% (global GDP estimated at \$127.5 trillion).

As India charts its path towards becoming an economic powerhouse, the importance of a thriving financial sector becomes increasingly evident. The need for a deep and liquid derivatives market is paramount, acting as the backbone to support the multifaceted demands of a rapidly expanding economy. A well-developed derivatives market not only provides risk mitigation tools for businesses but also serves as a catalyst for innovation, investment, and efficient capital allocation.

In this era of digital transformation, India's financial landscape is evolving to meet the demands of a dynamic market. The deepening of the derivatives market will enhance liquidity, facilitate price discovery, and attract both domestic and international investors seeking exposure to India's promising economic prospects.

The synergy between India's economic growth and a robust financial sector underscores the nation's commitment to fostering a conducive environment for sustainable development. As the wheels of progress turn, the financial markets are poised to play a pivotal role in steering India towards its envisioned future as a global economic powerhouse.

<sup>53</sup> Acies analysis based on GDP data as published in IMF's World Economic Outlook (October 2023)

<sup>54</sup> Source: IMF World Economic Outlook (October 2023)



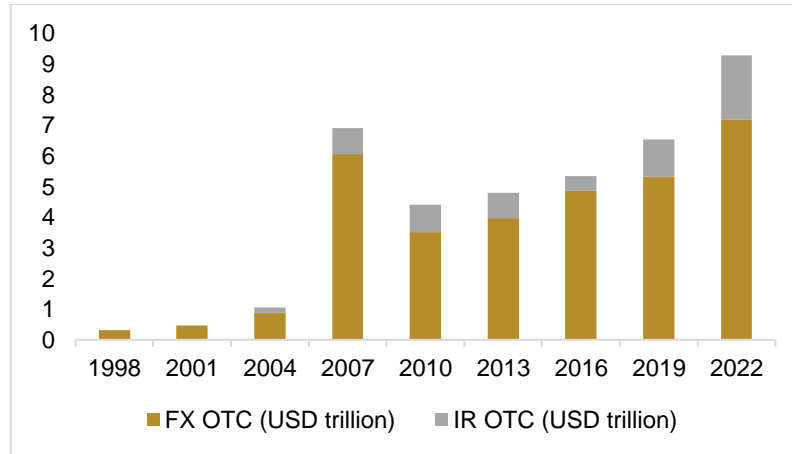


Figure 4 – India OTC derivative turnover (net gross basis)  
(Source: BIS Triennial Survey)

OTC derivatives had spearheaded the development of the Indian derivatives market from 1990-2000. While the impact of the regulatory tightening due to the global financial crisis (among other challenges) impacted the growth momentum of the Indian OTC derivatives market from 2007 to 2010 (as shown in Figure 4 above), India’s OTC derivatives market has since grown at a CAGR of 6.4% (2010 – 2022) to being a \$9.27<sup>55</sup> trillion market in 2022 exceeding India’s GDP CAGR for the same period (2010-2022) of 5.9%.

As can be seen from the figure below, growth rate of OTC derivatives market in India is correlated to the growth rate of India’s GDP. Thus, with India’s GDP estimated to grow at 9.9% per annum to 2027, it can therefore be estimated that India’s OTC derivatives market turnover is expected to grow to approximately \$14.8 trillion<sup>56</sup> by 2027 (on a net-gross notional value basis).

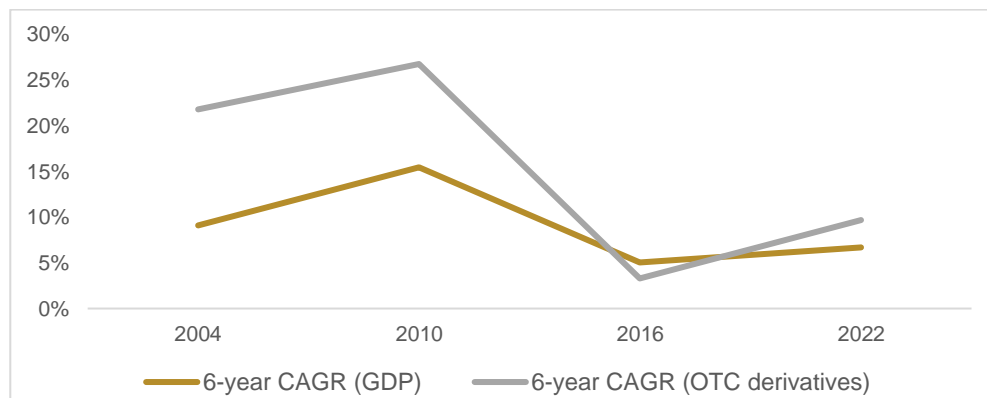


Figure 5 – Correlation between India’s GDP growth rate and growth rate for OTC derivatives market in India  
(Source: IMF, BIS Triennial Survey and Acies analysis)

In India’s OTC derivatives market, FX is the dominant asset class, followed by interest rates. At present, India does not have a domestic OTC equity and commodity derivatives market respectively as they are not covered in the list of permitted derivatives in the RBI (Market Makers in OTC Derivatives) Directions. OTC

<sup>55</sup> Source: BIS Triennial Survey and Acies analysis. Note: Turnover is defined as the gross value of all new deals entered during a given period and is measured in terms of the nominal or notional amount of the contracts. The BIS adjusts the turnover data for local interdealer double counting (net-gross basis) and for local and cross-border interdealer double counting (net-net basis). All data in this report is presented on a net-gross basis unless stated otherwise

<sup>56</sup> Source: Acies analysis

Commodity derivatives can be accessed by resident Indians only in overseas OTC and ETD commodity markets.

With respect to credit derivatives, the RBI published the guidelines on CDS for corporate bonds on May 23, 2011, and implemented these guidelines with effect from December 1, 2011. Thereafter, the RBI released the Master Directions on Credit Derivatives on February 10, 2022, which came into force on May 9, 2022, thereby expanding the number of eligible underlying debt instruments – however, the OTC credit derivatives market has not flourished in India since the underlying bond market itself remains under-developed in India. This can be depicted from the fact that the size of the corporate bond market in India as a percentage of the GDP is relatively small in comparison to the other countries (more details available in Section 4 of this report).

Year	Equity derivatives	FX derivatives	Interest rate derivatives	Commodity derivatives	Total (USD bn)
1998	-	-	-	-	-
2001	8.45	-	-	-	8.45
2004	575.00	-	-	-	575.00
2007	2,940.92	-	-	-	2,940.92
2010	5,517.88	17,629.66	-	-	23,147.54
2013	7,718.97	14,356.96	-	-	22,075.93
2016	12,718.65	1,296.66	66.50	1,006.41	15,088.22
2019	43,920.99	2,271.09	63.79	966.25	47,222.11
2022	396,332.09	5,289.89	8.09	1,745.69	403,375.76

Table 1 – Indian ETD derivatives volume (gross notional basis in USD billions)  
(Source: SEBI Monthly Bulletin)

On the other hand, India's ETD market was dominated by equity ETD. As of 2022<sup>57</sup>, the total ETD derivative volume was approximately \$403 billion, with significant contribution from the equities ETD segment. The equities ETD market grew almost 10 times from approximately \$43.9 trillion in 2019 to \$396 trillion in 2022, as can be seen from the table above, on account of significant participation in index options, primarily led by proprietary traders and individual (retail and HNI) investors<sup>58</sup>.

Trading volume of FX ETD had significantly fallen after the INR depreciation crisis in 2013 due to the rise in demand for US dollars for imports coupled with significant capital outflows by foreign investors in the debt market. Banks were required to cut their intraday net open position limits in the futures and forwards market<sup>59</sup>. This significantly affected FX ETD market liquidity. Since then, with regulatory relaxations for banks to re-participate in the FX ETD market, there has been a gradual increase in FX futures participation, especially from proprietary traders, banks, and corporates. In terms of currency pairs, USD/INR ETDs have been the preferred instruments of choice for market participants<sup>60</sup>.

The commodity ETD market segment has been witnessing a steady increase in market participation from 2019 to 2022, on account of the opening up of the market for FPIs to participate in the onshore commodity ETDs (presently on cash-settled contracts only), introduction of cash-settled contracts for commodities such as crude oil, and removal of the restriction for exchanges to launch multiple commodity ETD contracts on the same commodity – which led to the launch of mini base metal contracts by MCX, additional agri-

<sup>57</sup> Source: SEBI and exchange data with Acies analysis. Note: Turnover here is based on actual derivative transactions undertaken.

<sup>58</sup> Source: SEBI – [Annual report 2022-2023](#)

<sup>59</sup> Source: [Reuters](#)

<sup>60</sup> Source: SEBI – [Annual report 2022-2023](#)

commodity contracts by NCDEX and gold, crude oil and natural gas contracts by exchanges such as the NSE.

Interest rate ETD market participation has steadily declined due to changes in preference by market participants, especially in the insurance sector to alternatives in the OTC interest rate derivative market such as FRA and IRS – which saw an increase in participation.

### The Indian OTC FX Derivatives Market

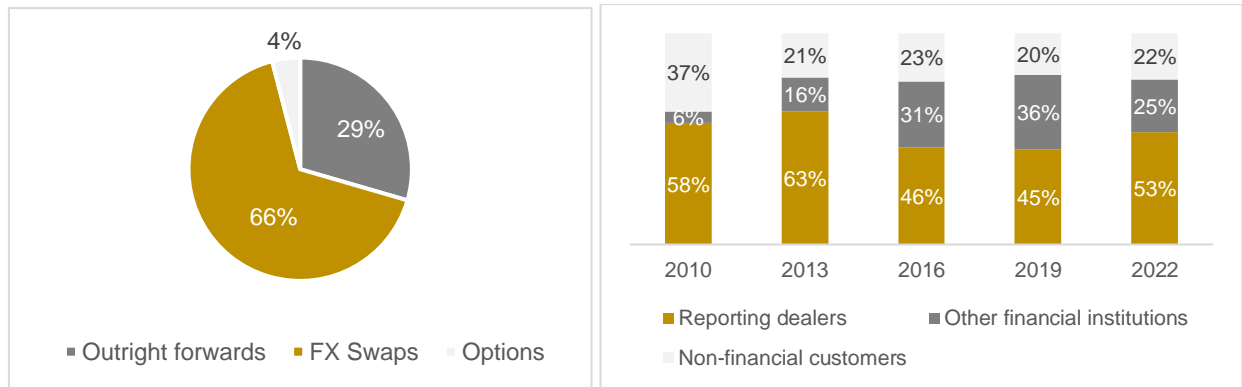


Figure 6 – Market concentration of OTC FX derivative products (April 2022) and participants (Average daily turnover in percentage) (2010-2022) on net-gross basis  
(Source: BIS Triennial Survey)

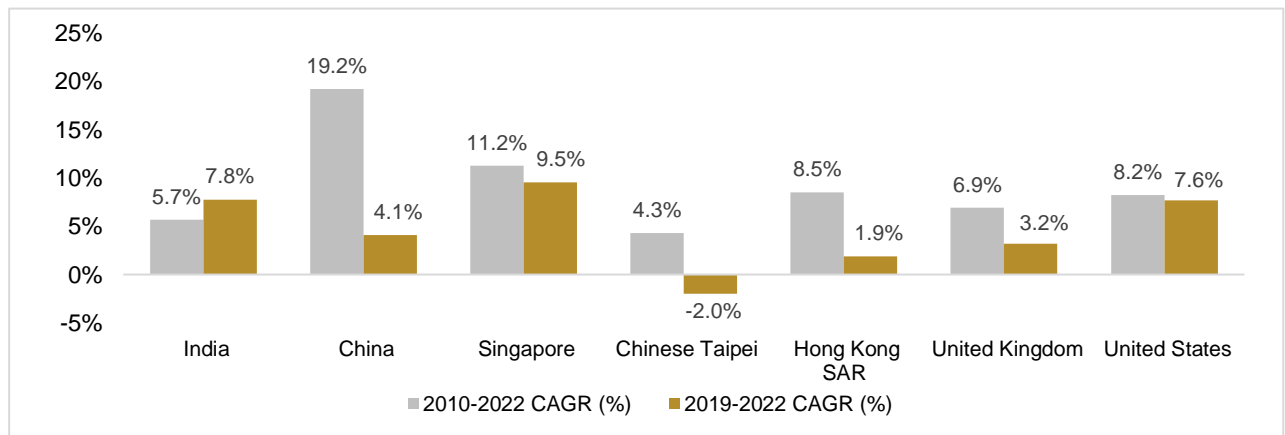


Figure 7 – OTC FX derivatives CAGR of India compared to specific countries for the period (2010-2022) and (2019-2022)  
(Source: BIS Triennial Survey)

FX is the dominant asset class in the OTC derivatives market in India and it is ranked the 19<sup>th</sup> largest FX derivatives market in the world by average daily trading volume<sup>61</sup>. The OTC FX market has grown at a CAGR of 5.6% from 2010-2022, close to the CAGR of India’s GDP for the same period. In contrast to the growth in other large OTC FX markets, India’s CAGR is lower – attributed due to the slow increase in traded volume from 2010 to 2019. Interestingly, India’s OTC FX market CAGR from 2019-2022 increased to 7.78% demonstrating higher momentum on account of significant reforms during the period (see Section 2.2) and was higher than that of markets such as China, Hong Kong, the US and the UK.

<sup>61</sup> Source: BIS Triennial Survey (2022) with Acies analysis

FX forwards and swaps are the most traded product class in India – making up over 95% of the market volume as shown above. Banks comprising both private (including foreign banks) and public sector banks continue to be the primary contributors towards the growth of the OTC FX derivatives market, attributing to over 60% of the trade volumes<sup>62</sup>.

*The Indian OTC IR Derivatives Market*

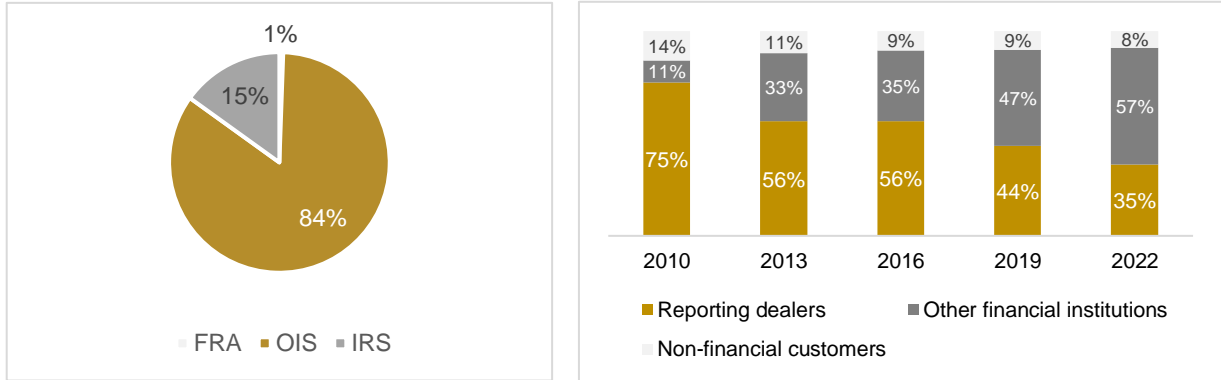


Figure 8 – Market concentration of OTC IR derivative products (April 2022) and participants (Avg daily turnover in percentage) (2010-2022) on net-gross basis  
(Source: BIS Triennial Survey)

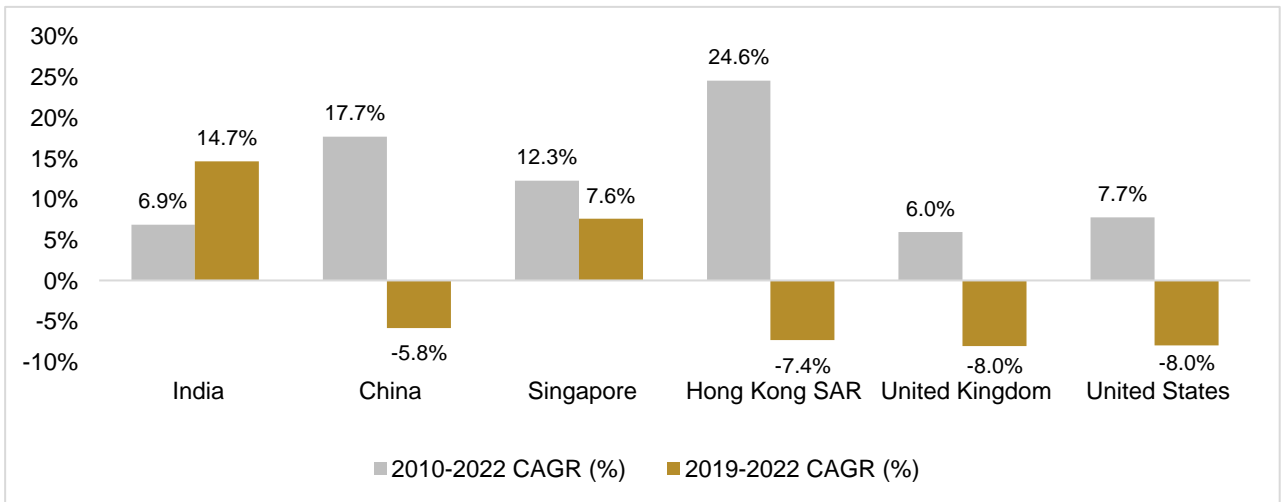


Figure 9 – OTC IR derivatives CAGR of India compared to specific countries for the period (2010-2022) and (2019-2022)  
(Source: BIS Triennial Survey)

Interest rate is the second largest asset class in India’s OTC derivatives market, and similar to the FX derivatives market, it is ranked the 19<sup>th</sup> largest market globally by average daily trading volume<sup>63</sup>. The OTC IR market grew at a CAGR of 6.9% from 2010-2022. In contrast to other large Asian OTC IR markets, India’s market growth was lower. Interestingly, the CAGR of India’s OTC IR derivatives market trading volume from 2019-2022 increased to 14.7% demonstrating higher momentum on account of increased market participation, especially by insurance companies during the period (see Section 2.2), and was higher than

<sup>62</sup> Source: [CCIL Rakshitra](#)

<sup>63</sup> Source: BIS Triennial Survey (2022) with Acies analysis

that of major Asian markets, the UK, and the US – most of which showed a fall in trading volume over the same period.

Interest rate swaps, specifically OIS, are the most traded product class – attributing over 80% of the market volume as shown in Figure 7. Banks and insurance companies are the primary participants in the OTC IR derivatives market, with participation by corporates as well, who prefer to use swaps to hedge their non-INR floating rate borrowings.

## 2.4. Progress in India's Implementation of the G-20 OTC Derivatives Reforms

As the global financial crisis in 2008 exposed weaknesses in the OTC derivatives market, especially around the build-up of large exposures which were not monitored and managed effectively from a risk management perspective, large counterparty credit exposures that were not appropriately settled, and operational challenges, there was a need for further standardization, automation and risk management.

As a result, in 2009, the G-20 leaders committed to reforms in the OTC derivatives market, namely reporting of OTC derivatives transactions to trade repositories, central clearing of standardized OTC derivatives transactions, on-exchange or electronic trading of standardized OTC derivatives, where appropriate, and higher capital and margin requirements for non-centrally cleared OTC derivative transactions.

The Financial Stability Board (FSB) has been entrusted<sup>64</sup> with the role of coordinating the changes undertaken by each G-20 nation and evaluating their execution. Being a member of the G-20 nations, India is committed to implementing these OTC derivatives market reforms while taking into consideration the domestic market conditions and characteristics:

- *Trade reporting* – CCIL<sup>65</sup> hosts trade repository services for the reporting of OTC interest rate, credit and FX derivatives trades. Since 2007, (ie, well before the G-20 reforms), the RBI mandated the reporting requirements along with the details required to be reported under guidelines issued by the RBI. Currently, the CCIL members can report the trades via the CCIL Online Reporting Engine (CORE) or File Routing System (FRS) utility, depending on the nature of the derivative instrument.
- *Central clearing* – CCIL<sup>66</sup> offers central clearing counterparty (CCP) services for INR IRS, FRAs and interbank USD/INR FX forwards. Interbank FX forwards trades with residual maturity of up to 13 months and FRAs with a maximum maturity of 10 years are eligible for guaranteed settlement. INR denominated IRS referenced to the MIBOR and MIOIS with original maturities ranging from one month to 10 years are eligible for guaranteed settlement. Additionally, trades referenced to the MIFOR<sup>67</sup> and modified MIFOR (MMFOR) Benchmark with residual maturity of less than equal to 5 years are eligible for guaranteed settlement.
- *Final higher capital requirements for NCCDs* – in line with the G-20 reforms, the RBI issued the final standards on 'Capital requirements for Bank's exposure to CCPs' in the Basel III capital regulations<sup>68</sup> as amended on July 1, 2014. These guidelines have thereafter been reviewed and amended by RBI with the latest issued on May 1, 2023<sup>69</sup>. Similarly, RBI had published the final guidelines for the computation of default risk capital charge using SA-CCR on November 10, 2016. However, these guidelines have not yet

<sup>64</sup> FSB – [Monitoring implementation of reforms](#)

<sup>65</sup> CCIL – [2023 PFMI qualitative disclosure](#) – Section 1.3

<sup>66</sup> CCIL – [2023 PFMI qualitative disclosure](#) – Section 1.5

<sup>67</sup> MIFOR was discontinued following the LIBOR transition, which was completed by July 1, 2023

<sup>68</sup> RBI – Master Circular – [Basel III Capital Regulations](#) (July 1, 2014)

<sup>69</sup> RBI – Master Circular – [Basel III Capital Regulations](#) (May 12, 2023)

been adopted in India, and the current exposure method (CEM) is being used for computation of the default risk capital charge arising from counterparty credit risk.

- *Margin requirements for NCCDs* – against the backdrop of the G-20 recommendations on OTC derivatives, the RBI issued the Master Direction – Reserve Bank of India (Variation Margin) Directions, 2022 on June 1, 2022, which mandates the exchange of VM between counterparties for NCCDs covering foreign exchange, interest rate and credit derivative transactions from May 1, 2023<sup>70</sup>. Similar draft directions were subsequently issued for initial margin in 2021 for public consultation<sup>71</sup>.
- *Exchange or electronic platform trading* – while there is no trading mandate in India, the RBI issued the Electronic Trading Platforms (Reserve Bank) Directions, 2018 on October 5, 2018, to regulate the financial system of the country. As per these directions, no entity shall operate an electronic trading platform (ETP) for transactions in eligible instruments without obtaining prior authorization from the Reserve Bank. In accordance with these directions, a few ETP operators have obtained authorization from the RBI to operate an electronic trading platform under the ETP directions.

## 2.5. Feedback from Market Participants on India's Derivatives Market Developments and Infrastructure

For the purpose of gathering feedback from market participants on India's derivatives market developments and infrastructure for this whitepaper, ISDA and Acies conducted a detailed survey spanning a wide range of market participants from buy-side to sell-side, and domestic and foreign financial institutions. Many of these recent reforms have been appreciated by the market. These include the following:

- ***Bilateral Netting***

The Indian parliament passed the Bilateral Netting of Qualified Financial Contracts Bill, 2020<sup>72</sup> and this independent legislation in 2020 was a very important step in the reform of India's financial sector.

Prior to the implementation of the Bilateral Netting of Qualified Financial Contracts Act, 2020 (Netting Act), bilateral netting was not permitted by the regulator as the legal validity of bilateral netting was not unambiguously clear. Hence, banks in India had to compute the value of OTC derivative contracts on a gross basis for the purposes of calculating exposures and capital adequacy regulations<sup>73</sup>. This placed banks in India at a considerable disadvantage compared to their international counterparts as well as increased costs for end-users and hindered strong development of OTC derivatives market in India.

As such, the most significant change resulting from the netting legislation is that banks are no longer required to mark exposure for OTC derivatives contracts on a gross basis and can calculate their exposure on a net basis. Most market participants cited that this will therefore benefit banks operating in India by way of (a) regulatory capital savings, (b) increase in capabilities in dealing with derivatives due to decrease in net exposure and (c) ability to deal with more counterparties and diversify the risk (*banks can also net both derivatives receivable and payable for a single NPA counterparty, where provisioning is only required on the net receivable – which reduces credit risk for them*).

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<sup>70</sup> Source: [Implementation date for Master Direction on Variation Margin](#)

<sup>71</sup> Source: [Master Direction – Reserve Bank of India \(Margining for Non-Centrally Cleared OTC Derivatives\) Directions, 2022 – Draft](#)

<sup>72</sup> Source: [Bilateral Netting of Qualified Financial Contracts Bill, 2020](#)

<sup>73</sup> Source: [Prudential Norms for Off-Balance Sheet Exposures of Banks – Bilateral netting of counterparty credit exposures](#)

From a risk-based capital perspective, this netting legislation leads to banks having lower credit RWA and CVA RWA which will benefit their CRAR ratio. Reduction in derivatives exposure further benefits a bank's leverage ratio and large exposure (or single or group borrower limits), as derivatives have been included in large exposures from October 2021.

For the NSFR requirements, banks can therefore report the net mark-to-market (MTM) for required stable funding (RSF) and available stable funding (ASF). From a margin and collateral perspective, market participants believe this legislation will aid in collateral margining provisioning as margin can now be maintained only on net amounts.

Non-financial institutions, especially corporates, have appreciated this legislation as it aids in reducing pressures on liquidity and limit utilization from their derivative trades (both from an MTM and settlement perspective).

Market participants also believe that this will also help to reduce the overall systemic risk and contribute to the financial stability of the Indian economy.

In conclusion, most market participants firmly believe this legislation to be one of the key steps in the overall regulatory reform journey of developing and expanding the OTC derivatives market in India – and most importantly, boosting market confidence.

- ***Principles-based Regulatory Framework***

The move towards a principles-based regulatory framework for OTC derivatives by the RBI since 2021-22 was well received by financial institutions as they believe this will aid in fostering broader and deeper market participation, while ensuring effective risk management and consumer protection.

For example, market participants cited that in the case of interest rate derivatives, onshore interest rate markets have been opened to non-residents (eg, permitting non-residents to access onshore OIS for purposes other than hedging). Thus, regulatory ambit for onshore derivatives market has been brought at par for residents and non-residents, and as a result, residents and non-residents are able to access similar products and markets.

Another example, in the case of FX derivatives, is that a principles-based approach has resulted in uniformity of regulations with respect to transacting onshore derivatives in India (for residents and non-residents), enhanced/eased access for non-residents to access onshore markets and simplified the framework for underlying exposures.

- ***Market Access and Integration***

Market participants appreciated the efforts of the RBI in addressing the operational challenges for market makers, such as the extension of market hours to have a 24x5 USD/INR market.

This allowed non-residents to access the onshore FX market, which in turn will help in expanding the OTC derivatives market.

Recent reforms (as detailed in Section 2.2) have also aided in harmonizing the onshore and offshore markets, thereby reducing arbitrage opportunities. Similarly, access to NDF markets has enabled offshore market liquidity to increase.

With the consideration towards integrating Indian payment systems with other countries for cross-border transactions, these will help in establishing India as the hub for INR transactions and price discovery.

- ***CCIL's Market Infrastructure Services and Capabilities***

Market participants also commented that CCIL has maintained well-developed OTC clearing and settlement services capabilities, trading platforms and trade reporting mechanisms – and can be looked upon as the benchmark for other emerging Asian markets when it comes to having a well-established market infrastructure setup for OTC derivatives.

Appreciation specifically highlighted CCIL's MIFOR<sup>74</sup> margining methodology and process efficiency (including volatility margin top-ups) and advanced capabilities.

Market participants also mentioned their frequent engagement with CCIL to discuss their requirements or resolve their queries around their processes and systems. Market participants now feel that the while systems and processes are well-established for the buy-side, it is time to extend such facilities for the sell-side participants (not including interbank transactions) to progress further towards a standardized and automated OTC derivative ecosystem in India.

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<sup>74</sup> MIFOR was discontinued following the LIBOR transition, which was completed by July 1, 2023



# 3. Understanding the Microstructure of the Indian OTC Derivatives Market

## 3.1 Overview of the Indian OTC Derivatives Market

The OTC derivatives market in India comprises various dimensions and sub-components within each dimension. Key dimensions that describe the micro-structure of the market in India are regulatory bodies, market segmentation (onshore vs offshore markets), product coverage, market participants, infrastructure providers and other operational aspects such as legal, accounting and taxation.

This section intends to explain the current micro-structure of the OTC derivatives market in India by elaborating upon each of the above-mentioned dimensions and corresponding sub-components. The figure below provides a high-level overview of the Indian OTC derivative market. Detailed coverage of each dimension highlighted in the figure below is covered in subsequent sub-sections.

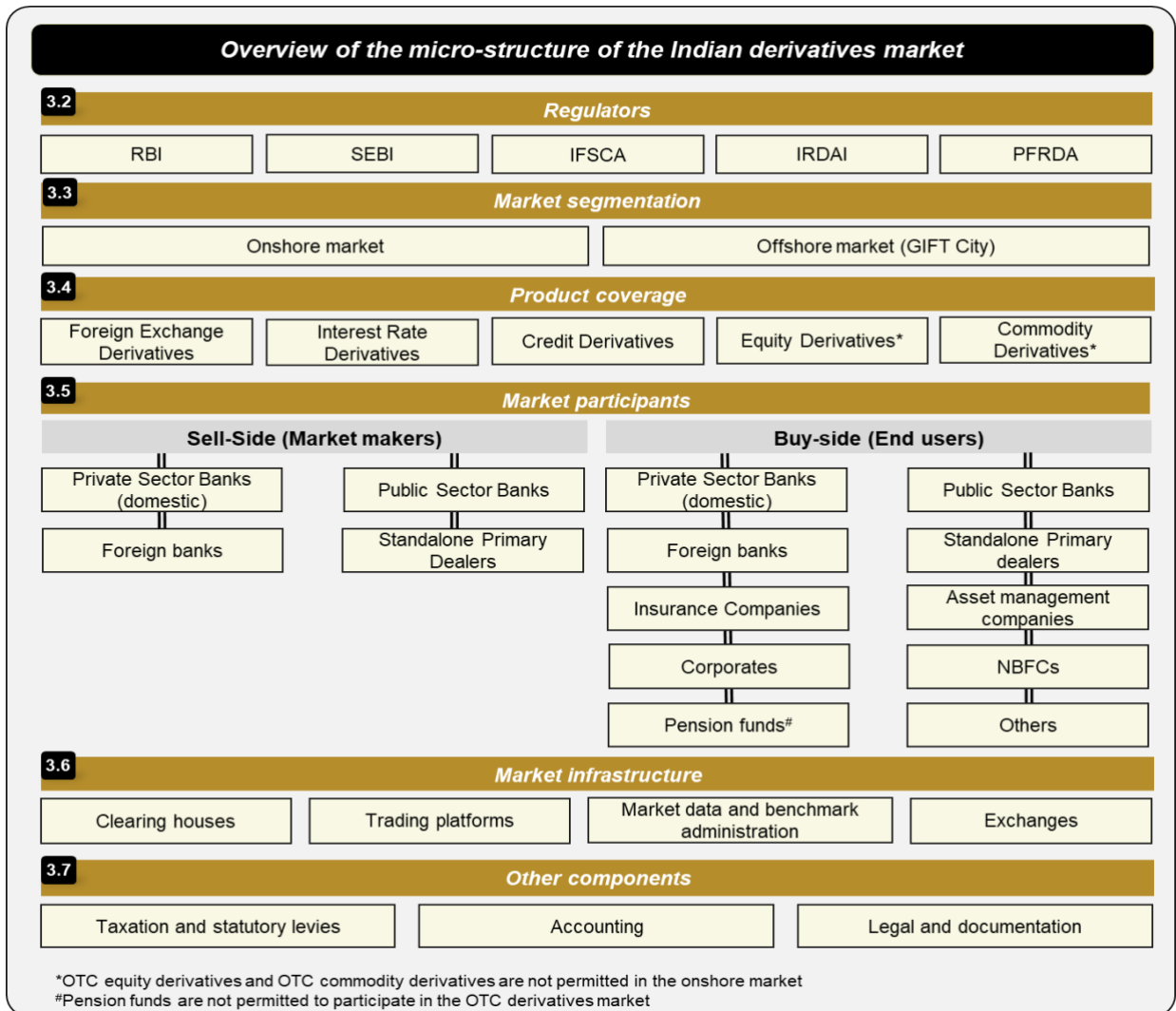


Figure 10 – Overview of the Indian OTC derivatives market

## 3.2 Regulatory Authorities and Supervision

India follows a multi-regulatory framework for supervision of the Indian financial system and specifically the OTC derivatives market. The responsibility for regulatory supervision and oversight of the OTC derivatives market primarily resides with five regulators: the RBI, SEBI, the Insurance Regulatory and Development Authority (IRDAI), the Pension Fund Regulatory and Development Authority (PFRDA), and IFSCA.

The RBI is the central bank in India and is responsible for regulating the Indian banking and financial industry. SEBI plays an important role in the regulation of the exchange-traded and capital markets in India. IRDAI and PFRDA's mandates cover the regulation and supervision of insurance and pension companies in India respectively.

IFSCA's primary focus is supervision and oversight of the offshore markets in India (ie, GIFT City). With respect to derivatives trading in IFSCs, the IFSCA is responsible for the regulatory supervision and development of the derivatives markets. The regulatory powers of the RBI, SEBI, IRDAI, and PFRDA are vested in IFSCA for regulating financial institutions, products, and services in IFSC, ie, GIFT City. Each regulatory body is responsible for the regulatory supervision and oversight of a specific market segment and/or set of market participants in the OTC derivatives market of India. The table below summarizes the scope of regulatory coverage associated with each of the five regulators.

	Regulatory Body	Regulated Entities	Functions Pertaining to OTC Derivatives
1	RBI: Financial Markets Regulation Department	<ul style="list-style-type: none"> <li>▪ Public sector banks</li> <li>▪ Private sector banks</li> <li>▪ Small finance banks</li> <li>▪ Payments banks</li> <li>▪ Regional rural banks</li> <li>▪ Foreign banks</li> <li>▪ NBFCs</li> <li>▪ Primary Dealers</li> <li>▪ Other regulated financial institutions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall regulation of OTC derivatives in India</li> <li>▪ Permissibility of specific OTC derivative instruments that can be offered by market-makers and sell-side participants</li> <li>▪ Guidelines for entering into OTC or exchange-traded derivatives in international markets, specifically on commodity derivatives by Indian residents</li> <li>▪ Governance, operating and reporting guidelines for OTC derivatives trading in onshore Indian markets</li> </ul>
2	SEBI: Markets Intermediaries Regulation and Supervision Department, Market Regulation Department	<ul style="list-style-type: none"> <li>▪ Exchanges</li> <li>▪ Asset management companies</li> <li>▪ Alternative Investment Funds (AIFs)</li> <li>▪ Capital market intermediaries</li> <li>▪ Listed entities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall regulation of exchange-traded derivatives in India</li> <li>▪ Specific permissions/ allowance for use of OTC derivative products by capital market participants (ex. Asset management companies/ AIFs)</li> </ul>
3	IFSCA	<ul style="list-style-type: none"> <li>▪ IBUs of resident onshore banks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall regulation of derivatives trading by banking units and other market participants domiciled in an</li> </ul>

	Regulatory Body	Regulated Entities	Functions Pertaining to OTC Derivatives
		<ul style="list-style-type: none"> <li>▪ Financial institutions and corporates located in the IFSC region</li> </ul>	<p>Indian IFSC (at present only GIFT City)</p> <ul style="list-style-type: none"> <li>▪ Permissibility and guidelines for offering INR-denominated interest rate derivatives listed on a stock exchange in IFSC by banking units domiciled in an Indian IFSC to persons resident outside India with settlement in foreign currency.</li> <li>▪ Permissibility to undertake OTC derivatives by institution in IFSC for its own account or for its corporate or qualified individual clients</li> </ul>
4	IRDAI	<ul style="list-style-type: none"> <li>▪ Insurance companies</li> <li>▪ Insurance intermediaries</li> </ul>	<ul style="list-style-type: none"> <li>▪ Permissibility and guidelines for usage of derivatives by life, non-life and health insurance companies</li> </ul>
5	PFRDA	<ul style="list-style-type: none"> <li>▪ Pension/ retirement funds</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overall regulation on permissible derivative instruments and limits on investment in derivatives by pension funds under its supervision</li> </ul>

The multi-regulatory framework adopted by India can be viewed as seeking to ensure independence in the supervision and oversight of various market segments and participants and also harmony in the regulatory framework, by a grid of product and participant to ensure a better delivery system as well as a cohesive market activity. This in turn leads to improved investor protection and market stability. Such a framework also presents a set of challenges such as inconsistencies between different regulations applicable for similar business models. Adoption of similar market and risk practices across regulatory regimes is a possible solution to the aforementioned challenge and has been elaborated upon further in Section 5.

While the Indian regulatory framework is unique, the regulatory authorities and supervision in different jurisdictions globally with respect to the OTC derivatives market are outlined in Annex 3 (Section 7.3).

### 3.3 Market Segmentation: Onshore and Offshore Markets

The onshore OTC derivatives market in India refers to OTC derivatives traded and settled within India's regulatory framework and subject to Indian financial regulations while offshore OTC derivatives market refers to trading conducted outside India's regulatory jurisdiction, often in IFSC or offshore financial hubs.

GIFT City was established as a special economic zone (SEZ) and an IFSC in Gujarat, India. Launched in 2007, this project aimed to create a global financial hub on Indian soil that could compete with the likes of London, New York, Singapore and Hong Kong. GIFT City offers a business-friendly environment with regulatory and tax concessions to attract international financial services companies. The city boasts state-of-the-art infrastructure, modern amenities and a regulatory framework aligned with global standards, positioning itself as a key destination for financial and fintech firms looking to operate in India.

GIFT City aims to facilitate ease of doing business, promote international financial transactions, and contribute to India's position in the global financial landscape. GIFT City supports a gamut of financial services inter alia, banking, insurance, asset management, and other financial market activities and offers incentives such as tax benefits, regulatory ease and world-class infrastructure to attract foreign investors and financial institutions. Both Indian and foreign banks are permitted to set up and operate IBUs in IFSC, subject to regulatory approvals. The IBUs have the advantage or the ability to transact in freely convertible foreign currencies in the offshore markets, while being situated within the territorial borders of India. Thus, GIFT City IFSC provides a strategic location to develop an efficient platform for all inbound and outbound foreign currency transactions and allows investors to conduct foreign currency transactions with ease.

Execution of OTC derivative transactions is undertaken by IBUs domiciled in IFSC. IBUs are also permitted to be an FX prime broker. Clients of the IBU are allowed to use the trading lines of the FX prime broker (the IBU) to execute foreign exchange transactions with an executing dealer (an IBU or bank outside the IFSC that is not the FX prime broker).

Permissibility to undertake derivatives transactions in the offshore market of India (ie, GIFT City, offers the following benefits to the market participants:

- Market participants have access to a broader range of counterparties and product offerings;
- Increased participation from foreign investors who have restricted access to the onshore market of India;
- Deeper liquidity, particularly for major currencies and global benchmarks.

As on March 31, 2023, 20 IBUs were operational in India. The volume of outstanding OTC derivative contracts was \$79 billion and \$111 billion as of March 31, 2022, and March 31, 2023, respectively, showing a growth rate of near 40%<sup>75</sup>.

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<sup>75</sup> Source: [IFSCA Annual Report 2022-23](#)

### 3.4 Product Coverage and Depth

The Indian OTC derivatives market offers a wide range of derivatives products to market participants. The permissibility of products differs across market participants, due to a multi-faceted regulatory framework.

A summary of OTC derivatives products used across market participants has been provided in the table below. The products used have been summarized based on the industry wide primary research conducted to draft this whitepaper.

Market Participant	FX Derivatives	IR Derivatives	Credit Derivatives*	Equity Derivatives	Commodity Derivatives
Banks	<ul style="list-style-type: none"> <li>▪ FX Forward</li> <li>▪ Vanilla FX options</li> <li>▪ FX Swaps</li> <li>▪ CCS</li> <li>▪ Barrier options</li> <li>▪ Digital options</li> <li>▪ Swaptions</li> </ul>	<ul style="list-style-type: none"> <li>▪ INR OIS</li> <li>▪ SOFR swaps</li> <li>▪ IR cap / floor / collar</li> <li>▪ Basis swaps</li> <li>▪ Other IRS</li> <li>▪ Swaptions</li> </ul>	N/A	Not permitted	Not permitted
Primary dealers	N/A**	<ul style="list-style-type: none"> <li>▪ INR OIS</li> <li>▪ FRA</li> <li>▪ Swaptions</li> </ul>	N/A	Not permitted	Not permitted
Insurance companies	Not permitted	<ul style="list-style-type: none"> <li>▪ FRA</li> <li>▪ INR OIS</li> </ul>	N/A	Not permitted	Not permitted
AMCs	Not permitted	<ul style="list-style-type: none"> <li>▪ INR OIS</li> <li>▪ FRA</li> </ul>	N/A	Not permitted	Not permitted
Corporates	<ul style="list-style-type: none"> <li>▪ FX Forward</li> <li>▪ Vanilla FX options</li> <li>▪ CCS</li> <li>▪ FX option strategies</li> <li>▪ Barrier options</li> <li>▪ Digital options</li> <li>▪ FX Swaps</li> </ul>	<ul style="list-style-type: none"> <li>▪ SOFR swaps</li> <li>▪ Basis swaps</li> <li>▪ Other IRS</li> <li>▪ Swaptions</li> </ul>	N/A	Not permitted	Not permitted (except in offshore markets wherein commodity forwards and commodity swaps are commonly used)
NBFCs	<ul style="list-style-type: none"> <li>▪ FX Forward</li> <li>▪ CCS</li> </ul>	<ul style="list-style-type: none"> <li>▪ IRS</li> </ul>	N/A	Not permitted	Not permitted
Pension funds	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted
Non-residents	<ul style="list-style-type: none"> <li>▪ Brought on par with resident corporates</li> </ul>	<ul style="list-style-type: none"> <li>▪ INR OIS</li> <li>▪ For hedging, all products as permitted for resident corporates</li> </ul>	N/A	Not permitted	Not permitted

\* The market for credit derivatives has not flourished in India (ie, CDS is not actively used) since the underlying corporate bond market in India is still developing. Hence, no products have been mentioned under credit derivatives in the table above.

\*\* No products have been mentioned since standalone primary dealers have been recently permitted (in 2022) access to the FX derivatives market and hence they are expected to enter the market segment soon<sup>76</sup>.

<sup>76</sup> Source: [Reserve Bank of India - Notifications \(rbi.org.in\)](https://www.rbi.org.in)

### 3.5 Major Market Participants

The OTC derivatives market in India has a diverse set of participants that play a pivotal role in driving the overall market. The market is divided into sell-side (market makers) and buy-side (end-users) participants. In the following sections, the roles of the major market participants in the OTC derivatives market in India are set out.

#### 3.5.1 Banks

Banks in India are permitted by the RBI, via relevant guidelines<sup>77</sup>, to undertake OTC derivatives transactions in the foreign exchange, interest rate and credit derivatives market, both as sell-side participants as a market-maker and as buy-side participants for hedging purposes. As of October 2023, there were 137 banks operating in India, which are divided into public sector, private sector, rural regional, payments, small finance and foreign banks as depicted in the chart below:

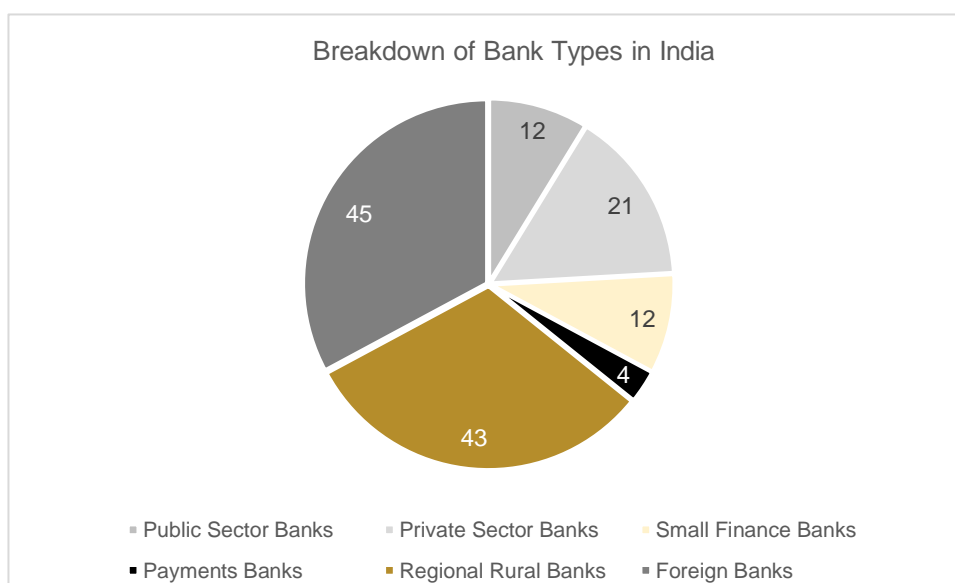


Figure 11 – Break down of bank types in India<sup>78</sup>

<sup>77</sup> Source: RBI ([Market Maker Directions](#), [Risk Management and Inter-Bank Dealing Directions](#), [Rupee Interest Rate Derivatives Directions](#), [Credit Derivatives Directions](#))

<sup>78</sup> Source: RBI [List of Banks](#)

Banks in India are active participants in the market for OTC FX and interest rate derivatives. An analysis of such participation from public-sector banks and private-sector banks in India is depicted below.

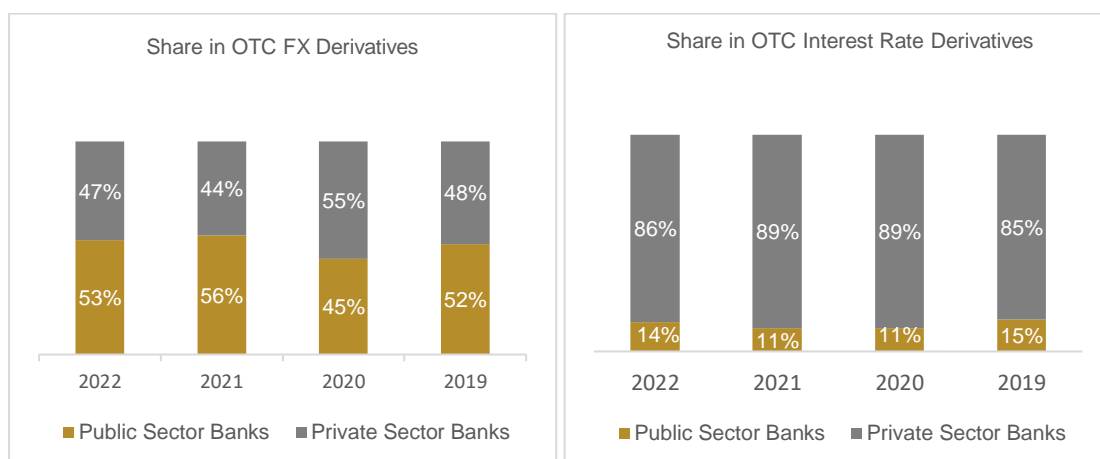


Figure 12 – Break-up of public and private bank participation in OTC derivatives markets<sup>79</sup>

As can be seen from the figure above, the participation of public sector banks and private sector banks varies depending upon the derivatives asset classes. As shown in Figure 12, the market shares of public and private sector banks are roughly equal in OTC FX derivatives. However, in the interest rate derivatives market, participation is primarily dominated by private sector banks.

#### Banks in India as Market Makers (Sell-side Participants)

Banks in India provide a ready source of liquidity and facilitate dealing in derivative products for buy-side participants.

Banks authorized by the RBI are permitted to act as market makers for different OTC derivatives asset classes, based on the relevant regulatory guidelines mentioned above<sup>80</sup>. Although banks are permitted to offer products across FX, interest rate and credit derivatives, banks act as market makers majorly for FX and interest rate derivatives market since the credit derivatives market in India is still at a nascent stage due to a developing corporate bond market.

FX derivatives can only be offered by AD Category-I banks, ie, banks that are permitted by the RBI to deal in FX transactions and hold the license of the highest authorized dealer category.

#### Banks in India as Buy-side Participants

As per the RBI guidelines<sup>81</sup>, banks are also permitted to undertake OTC derivatives transactions as buy-side participants. OTC derivatives are used by banks in India primarily for the following purposes:

- i. **Hedging client / merchant positions in the interbank market:** Banks undertake OTC derivative transactions in the interbank market to cover open positions arising out of client / merchant transactions. For eg, FX transactions undertaken with clients as a market maker are hedged via OTC FX derivatives in the interbank market.
- ii. **Capturing opportunities / trading:** Banks may also undertake OTC interest rate derivatives transactions for purposes other than hedging. Their ability to run naked positions is measured by the availability of limits set by their respective board of directors. Further, this ability gets stifled, given

<sup>79</sup> Source: [Department of Supervision, RBI](#) (Refer to: *Bank Group-Wise And Instrument-Wise Derivatives Of Scheduled Commercial Banks In India*, private sector banks do not include branches of foreign banks operating in India)

<sup>80</sup> Source: RBI [Market Maker Directions](#)

<sup>81</sup>Source: RBI [Risk Management and Inter-Bank Dealing Directions](#)

the high cost of capital allocation to such limits, irrespective of the actual net open positions run by the entity on any particular day.

- iii. **Balance sheet management:** Banks also use OTC derivatives to manage and hedge risks within their own balance sheets such as foreign exchange and interest rate risk. OTC foreign exchange derivatives are primarily used by banks to hedge FX revaluation risk associated with exposures in foreign currencies and thereby reduce volatility in consolidated financial reporting. OTC interest rate derivatives are used by banks to hedge interest rate risk in the banking and trading book arising due to mismatch between nature of assets and liabilities in the banking book (for eg, several banks in India fund floating rate assets with fixed rate deposits and could hedge the interest rate risk in the balance sheet using interest rate derivatives such as interest rate swaps or swaptions) and adverse movement of interest rates impacting valuation of fixed-income investments in the trading book.

### 3.5.2 Primary Dealers (PD)

Primary dealers (PDs) are financial intermediaries with the mandate to take part in the all-round development of the primary and secondary government securities market. The system of PDs was introduced by the RBI in 1995 to strengthen the market infrastructure of government securities and put in place an improved, efficient secondary market trading system. This was to encourage the holding of government securities on a large scale and make the market more vibrant and liquid.

The primary dealer segment is segregated into standalone primary dealers (SPDs) and bank primary dealers. As of October 2023, there were seven SPDs and 14 bank primary dealers in India<sup>82</sup>.

SPDs are allowed to conduct the following as core activities:

- Dealing and underwriting in government securities;
- Dealing in interest rate derivatives;
- Providing broking services in government securities;
- Dealing and underwriting in corporate / public sector undertaking / fixed income bonds / debentures;
- Lending in call / notice / term / repo / collateralized borrowing and lending obligation market;
- Investment in commercial papers;
- Investment in certificates of deposit;
- Investment in security receipts issued by securitization companies / reconstruction companies, asset-backed securities, mortgage-backed securities;
- Investment in debt mutual funds where entire corpus is invested in debt securities.

The RBI has permitted SPDs to act as market makers for OTC FX, interest rate and credit derivatives<sup>83</sup>. SPDs were allowed by the RBI in 1999 to offer interest rate derivatives such as FRAs and IRS. Currently, they are acting as market makers in the OIS and FRA segment but the share of SPDs in these markets is minimal. The RBI has recently permitted SPDs, in the year 2022, to act as a market maker in the OTC FX derivatives market and hence it is expected that SPDs will soon enter this market segment.

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<sup>82</sup> Source: [RBI](#)

<sup>83</sup> Source: [RBI Standalone Primary Dealer Directions](#)



PDs, as expert investors, deal in securities with inherent interest rate risk which can be mitigated through greater participation in the interest rate derivatives market. Thus, the RBI has permitted SPDs to hedge the underlying fixed income portfolio through participation in OTC interest rate derivatives.

The figure below depicts the trend of increasing participation by PDs in the IRS-MIBOR market (except during the year 2020):

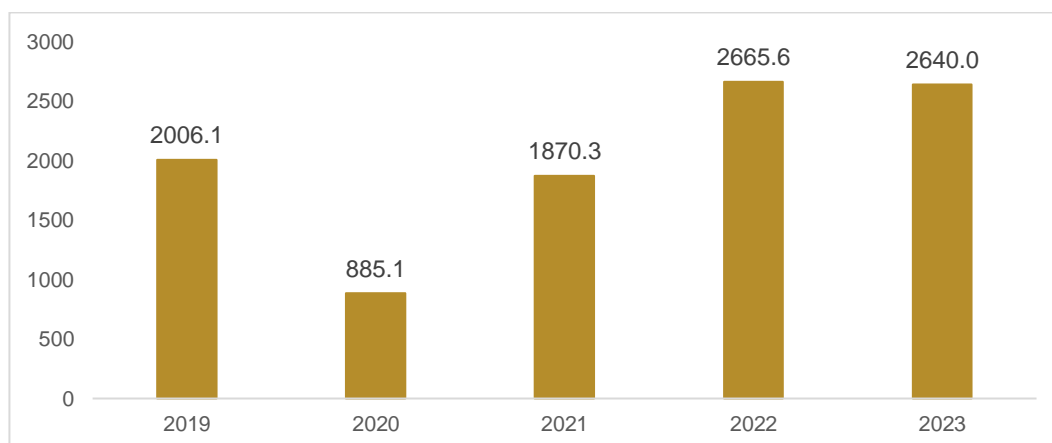


Figure 13 – Participation of PDs in IRS-MIBOR market (Notional value in INR '000 crores)<sup>84</sup>

### 3.5.3 Insurance Companies

Insurance companies are permitted by the RBI to enter into various OTC FX derivatives, interest rate derivatives and credit derivatives (both as protection seller and protection buyer for CDS). However, under the IRDAI (Investment) Regulations, 2016<sup>85</sup>, insurance companies are permitted by IRDAI only for the following:

- iv. Interest rate derivatives: They have been permitted to enter into Forward Rate Agreements, Interest Rate Swaps and Exchange Traded Interest Rate Futures. In case the insurance company enters into a Forward Rate Agreement or Interest Rate Swap, the counterparty shall necessarily be required to be a commercial bank or a primarily dealer as permitted by the RBI.
- v. Credit derivatives: Act as protection buyer for CDS.

As of October 2023, there were 23 life insurance, 26 general insurance and five health insurance companies operating in India<sup>86</sup>.

Life insurance companies are a major participant in the OTC interest rate derivatives market of India, whereas participation from general insurance and health insurance companies is minimal. Life insurance companies have been actively involved as buy-side participants in the OTC interest rate derivatives market, primarily for the following purposes:

- i. Hedging the interest rate risk arising out of guaranteed products offered to policyholders;
- ii. Protection against reinvestment risk;
- iii. Balance sheet management ie, matching of assets and liabilities.

<sup>84</sup> Source: [CCIL Rakshitra](#) (Notional amount for the year 2023 excludes the notional for the month of December)

<sup>85</sup> Source: [IRDAI \(Investment\) Regulations, 2016](#)

<sup>86</sup> Source: IRDAI [List of insurance companies](#)

Insurance companies are permitted to hedge the interest rate risk arising on forecasted transactions, for life, pension and general annuity business and general insurance business. However, interest rate derivatives are not permitted for unit linked insurance plan business<sup>87</sup>.

Of the above-mentioned interest rate derivative products permitted by IRDAI, FRAs are the most commonly used product class by insurance companies to hedge their interest rate risk. As of March 31, 2022, the outstanding notional in the interest rate derivative segment pertaining to life insurance companies was INR 92,396 crore (around \$11.1 billion)<sup>88</sup>, entirely attributable to FRAs. This is due to the benefit derived by the use of FRA in comparison to IRS and interest rate futures as mentioned below:

- i. IRS: Unlike FRAs, IRS are not written on any underlying government securities, hence insurance companies are not able to hedge their government securities risk with IRS. This in turn leads to IRS hedges being imperfect for hedging government securities and hence exposes the insurance company to a basis risk. Additionally, as per the latest statistics for April 2022, it has been observed that OIS forms approximately 85%<sup>89</sup> of the total interest rate swap market in India. However, the OIS market is comparatively less liquid for a term beyond five years, which leads to insurance companies not being able to hedge their long-term product portfolio. Similarly, the market for other IRS (ie, other than OIS), which forms approximately 15% of the IRS market, is less liquid and hence not preferred by insurance companies.
- ii. Interest rate futures: this is an exchange-traded derivatives instrument and hence a standardized instrument that is not customized to the exact requirement of the insurance company. Additionally, the insurance company is also exposed to operational risk since interest rate futures typically have short tenors which does not match the long-term exposure that most insurance companies hold in their book, and hence need arises to constantly roll over the future contracts. Such operational risk is not faced in the case of FRAs and the insurance companies are able to tailor the specifications of the OTC contracts to suit their requirements.

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<sup>87</sup> Source: [IRDAI \(Investment\) Regulations, 2016](#) (A unit-linked insurance plan is a product offered by insurance companies that, unlike a pure insurance policy, gives investors both insurance and investment under a single integrated plan)

<sup>88</sup> Source: Acies analysis (through financial statements of all life insurance companies operating in India)

<sup>89</sup> Source: [BIS Triennial Central Bank Survey](#)

### 3.5.4 Asset Management Companies

Asset management companies (AMCs) are financial institutions that manage and invest funds on behalf of investors. These funds can include mutual funds, exchange-traded funds, and other investment vehicles. As of October 2023, there were 45 AMCs operating in India<sup>90</sup>.

AMCs are permitted by SEBI, via the Master Circular for Mutual Funds<sup>91</sup>, to participate in the interest rate derivatives segment via the following:

- i. For trading purposes, AMCs are permitted to enter into FRAs and IRSs.
- ii. For hedging purposes, AMCs are permitted to enter into plain vanilla IRSs and interest rate futures.

They are also permitted to participate in the credit derivatives market via CDS. Additionally, they have been permitted to write call options under a covered call strategy subject to the requirements mentioned by SEBI in its master circular. However, AMCs have not been permitted to participate in the OTC FX derivatives market.

Investments by AMCs primarily comprise equity and fixed income securities. With respect to their fixed income portfolio, AMCs are susceptible to interest rate risk which can be hedged via interest rate derivatives. Currently, OIS is the most widely used derivatives instrument by AMCs to hedge the interest rate risk arising from the bond portfolio.

The chart below depicts the trend of increasing participation by AMCs in the IRS-MIBOR market (except during the last few months) over the years 2022 and 2023.

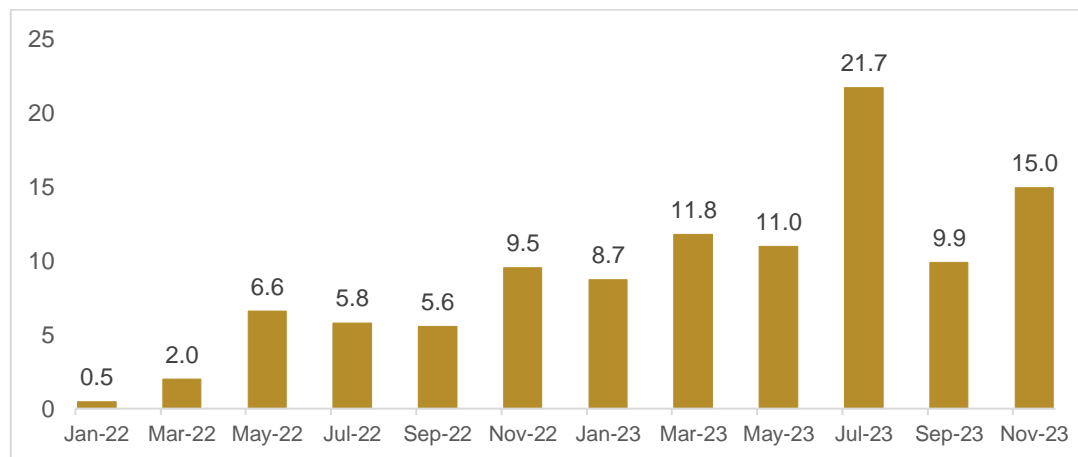


Figure 14 – Participation of AMCs in IRS (MIBOR) market (Notional value in INR crores)<sup>92</sup>

<sup>90</sup> Source: [AMFI India](#)

<sup>91</sup> Source: [Master Circular for Mutual Funds](#)

<sup>92</sup> Source: [CCIL Rakshitra](#)

### 3.5.5 Corporates

Corporates in India have been permitted by the RBI to participate in the OTC FX derivatives, interest rate derivatives and credit derivatives markets. Additionally, they have also been permitted to hedge commodity risk by using commodity derivatives in the overseas market<sup>93</sup>.

Corporates in India can use derivatives for the following purposes:

- i. FX derivatives: to hedge the currency risk arising through export and import transactions and overseas borrowings;
- ii. Interest rate derivatives: to hedge the interest rate risk arising out of debt exposures and for purposes other than hedging;
- iii. Commodity derivatives: to hedge commodity risk in case of corporates having exposure to the commodity sector.

Corporates are very active in the FX derivatives market, wherein FX forwards contracts are the most widely used product. With respect to the commodity derivatives segment, commodity forwards and swaps are the most used by such corporates. However, the participation of corporates in the interest rate derivatives segment has been minimal due to the lack of INR term benchmarks in India, which leads to basis risk between the loan benchmarks and derivatives benchmark. Similarly, participation in the credit derivatives market has also been negligible due to the nascent corporate bond market in India.

### 3.5.6 Non-bank Financial Companies

Non-bank financial companies (NBFCs) are entities registered with the RBI that are engaged in the business of loans and advances or engaged in investment activities. As of October 2023, there were 9,356 of these entities registered with the RBI.

As per the RBI guidelines<sup>94</sup>, NBFCs are permitted to use OTC FX, interest rate and credit derivatives to hedge their underlying exposures. NBFCs primarily act as end-users in the OTC derivatives market. Foreign currency risk arises for NBFCs majorly on account of foreign currency borrowings, many of which are floating rate borrowings. NBFCs manage this foreign currency risk through foreign exchange derivatives by simultaneously entering into a forward contract and a cross-currency swap. NBFCs also use interest rate derivatives such as interest rate swaps to hedge their balance sheet risk such as underlying risk on bond portfolio. However, based on anecdotal feedback received from a few NBFCs, the involvement and participation of NBFCs in the OTC derivatives market is minimal.

### 3.5.7 Pension Funds

Pension funds in India are regulated by PFRDA. As of October 2023, there were 10 pension funds registered with PFRDA. As per the investment guidelines<sup>95</sup> issued by PFRDA, pension funds are allowed to engage only in exchange-traded equity derivatives as regulated by SEBI for the purpose of hedging.

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<sup>93</sup> Source: [RBI Master Direction Hedging of Commodity Price Risk and Freight Risk in Overseas Markets](#)

<sup>94</sup> Source: [RBI Risk Management and Inter Bank Dealings Master Direction](#)

<sup>95</sup> Source: [PFRDA Investment Guidelines](#)

### 3.5.8 Alternative Investment Funds

Alternative investment funds (AIF) refer to a privately pooled investment vehicle that collects funds from investors, whether Indian or foreign, for investing in accordance with a defined investment policy for the benefit of its investors. SEBI classifies AIFs under three broad categories – I, II and III. Each of the categories has different investments as per the broad definition of the category.

As per the SEBI (Alternative Investment Funds) Regulations, 2012<sup>96</sup>, Category I AIFs and Category II AIFs have been permitted to engage in hedging subject to guidelines specified by their board, and category-three AIFs have been permitted to invest in derivatives for hedging or other purposes. With specific reference to CDS, keeping in view the volume of investments by AIFs in debt securities, SEBI has permitted them to participate in the CDS market. Category I AIFs and Category II AIFs have been permitted to buy CDS only for the purpose of hedging, whereas Category III AIFs have been permitted to buy CDS for purposes of hedging or otherwise, subject to certain limits. Additionally, Category II and Category III AIFs have also been permitted to sell CDS subject to certain regulations. However, based on anecdotal feedback, due to the cost of hedging involved, the participation of AIFs in the derivatives market has been observed to be minimal.

## 3.6 Market Infrastructure

### 3.6.1 Clearing, Settlement and Trade Repositories

Clearing and settlement services are provided in India by different clearing houses depending upon whether the derivatives transaction has been undertaken in the exchange-traded<sup>97</sup> or OTC market. There are seven clearing houses in India (including IFSC) pertaining to the derivatives market. The following is the list of clearing houses along with the bifurcation of the market segment to which they cater.

	Clearing house	Market segment	Exchange with the clearing platform	Derivative asset class
1	The Clearing Corporation of India Limited <sup>98</sup>	OTC	Not applicable	<ul style="list-style-type: none"> <li>▪ FX</li> <li>▪ Interest Rate</li> </ul>
2	NSE Clearing Limited <sup>99</sup>	Exchange-traded	National Stock Exchange (NSE)	<ul style="list-style-type: none"> <li>▪ Equity</li> <li>▪ FX</li> <li>▪ Commodity</li> <li>▪ Interest rate</li> </ul>
3	Indian Clearing Corporation Limited <sup>100</sup>	Exchange-traded	Bombay Stock Exchange (BSE)	<ul style="list-style-type: none"> <li>▪ Equity</li> <li>▪ FX</li> <li>▪ Commodity</li> <li>▪ Interest rate</li> </ul>
4	Multi Commodity Exchange Clearing Corporation Limited <sup>101</sup>	Exchange-traded	Multi-Commodity Exchange of India (MCX)	<ul style="list-style-type: none"> <li>▪ Commodity</li> </ul>

<sup>96</sup> Source: [Securities and Exchange Board of India \(Alternative Investment Funds\) Regulations, 2012 \(January 5, 2024\)](#) and [Master Circular for Alternative Investment Funds \(July 31, 2023\)](#)

<sup>97</sup> Source: [SEBI](#)

<sup>98</sup> Source: [Clearing Corporation of India Limited](#)

<sup>99</sup> Source: [NSE Clearing Limited](#)

<sup>100</sup> Source: [Indian Clearing Corporation Limited](#)

<sup>101</sup> Source: [Multi Commodity Exchange Clearing Corporation Limited](#)

	Clearing house	Market segment	Exchange with the clearing platform	Derivative asset class
5	National Commodity Clearing Limited <sup>102</sup>	Exchange-traded	National Commodity and Derivatives Exchange Limited (NCDEX)	<ul style="list-style-type: none"> <li>▪ Commodity</li> </ul>
6	India International Clearing Corporation (IFSC) Limited <sup>103</sup>	Exchange-traded	India International Exchange (IFSC) Limited (India INX)	<ul style="list-style-type: none"> <li>▪ Equity</li> <li>▪ Commodity</li> <li>▪ FX</li> </ul>
7	NSE IFSC Clearing Corporation Limited <sup>104</sup>	Exchange-traded	NSE	<ul style="list-style-type: none"> <li>▪ Equity</li> <li>▪ Commodity</li> <li>▪ FX</li> <li>▪ Interest rate</li> </ul>

The scope of this paper is limited to the OTC derivative market in India. Out of the seven clearing houses mentioned above, only Clearing Corporation of India Limited (CCIL) caters to the OTC derivatives market in India.

### **Clearing Corporation of India Ltd**

CCIL was set up in 2001 to provide an institutional infrastructure for the clearing and settlement of transactions in government securities, money market instruments, FX and other related products. CCIL has been designated as a critical financial market infrastructure (FMI) by the RBI and it has given CCIL the status of a qualifying central counterparty (QCCP) on January 1, 2014.

CCIL primarily provides the following major services in the Indian financial market:

- Clearing and settlement services
- Trade repository services
- Trading platforms (detailed in Section 3.6.2)

### **Clearing and settlement services**

CCIL provides its guaranteed clearing and settlement functions for transactions in money market, government securities, FX and derivatives markets. With respect to derivatives, CCIL offers its clearing and settlement services for both FX derivatives and interest rate derivatives ie, INR IRS, FRAs and interbank USD/INR forward trades through both guaranteed and non-guaranteed settlement mechanism.

The below chart depicts the number of CCIL members in the different segments of the OTC derivatives market. Most CCIL members clear FX derivatives on CCIL, followed by interest rate derivatives. The low number of members in the credit derivatives segment reflects the ground reality of a non-existent credit derivatives market in India due to a nascent corporate bond market.

<sup>102</sup> Source: [National Commodity Clearing Limited](#)

<sup>103</sup> Source: [India International Clearing Corporation \(IFSC\) Limited](#)

<sup>104</sup> Source: [NSE IFSC Clearing Corporation Limited](#)

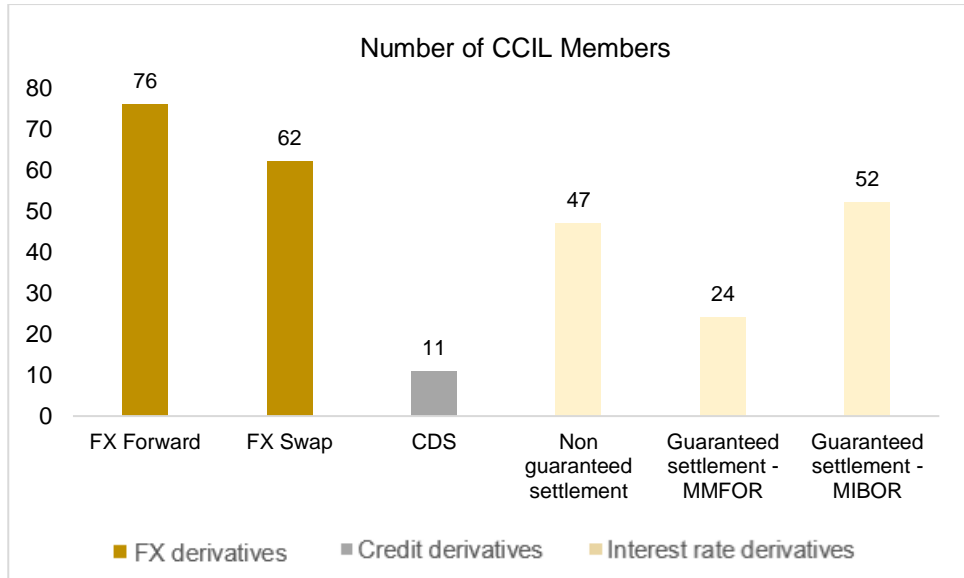


Figure 15 – Number of CCIL members in the different asset classes<sup>105</sup>

<sup>105</sup> Source: [CCIL](#)

### FX Derivatives

The chart below shows the volume of FX forward trades cleared on CCIL over the past few years. The volume of FX forward trades being cleared via CCIL has been increasing over the years, thereby ensuring stability in terms of reduced counterparty credit risk exposure.

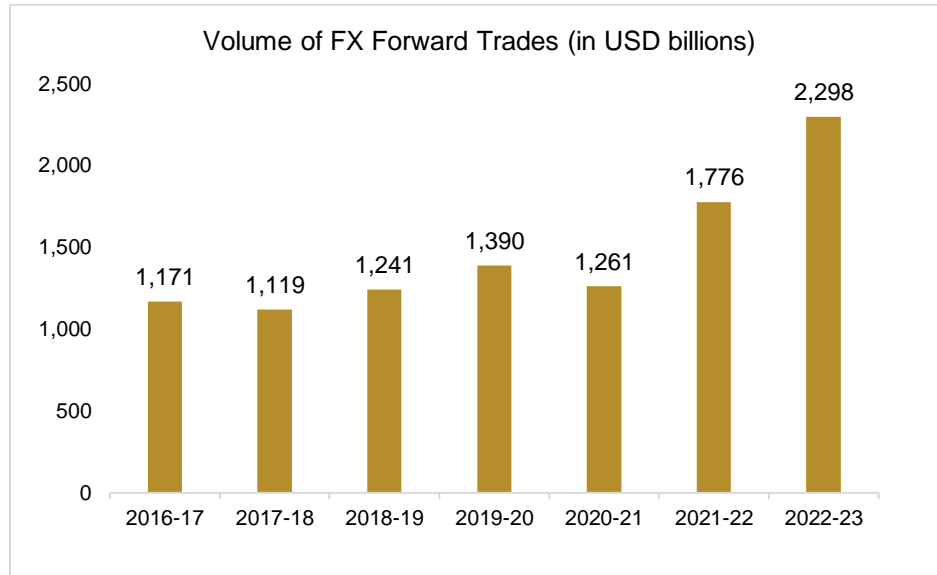


Figure 16 – Volume (in USD billions) of FX forward trades cleared via CCIL<sup>106</sup>

CCIL also offers settlement of all interbank USD/INR transactions (cash/tom/spot/forward) through a process of multilateral netting. All interbank FX forward trades with residual maturity up to 13 months are eligible for guaranteed settlement. CCIL has also been granted an ‘authorized person’ license under FEMA 1999 by the RBI for the conduct of FX clearing and settlement operations and activities. CCIL switched to a payment v/s payment basis of settlement from April 2015. Trades are subjected to an online exposure check. Net exposure limits are set for members in both INR and US dollar terms. CCIL also aggregates trades reported by all member banks and enables banks to collectively enjoy the benefits of cross-currency settlement through CLS Bank.

### Interest Rate Derivatives

CCIL launched clearing of INR-denominated IRS and FRAs on March 28, 2014. The guaranteed settlement INR-IRS market referenced to the overnight MIBOR benchmark found wide acceptance in the market. Further, CCIL began guaranteed settlement of the IRS derivative transactions referencing the MIFOR<sup>107</sup> benchmark on November 19, 2018. In order to enhance the reach of settlement services of CCIL to retail and non-retail participants, the clearing member structure was launched in the INR derivatives (guaranteed) settlement segment for IRS trades both concluded bilaterally and for those dealt on the ASTROID Dealing platform in November 2020<sup>108</sup>.

<sup>106</sup> Source: [CCIL Rakshitra](#)

<sup>107</sup> MIFOR was discontinued following the LIBOR transition, which was completed by July 1, 2023

<sup>108</sup> Source: [CCIL Clearing Member Structure](#)



Guaranteed settlement is provided by CCIL for the following OTC interest rate derivatives:

- i. FRAs with maximum maturity of 10 years;
- ii. INR denominated IRS referenced to the MIBOR and MIOIS with original maturities ranging from one month to 10 years;
- iii. INR denominated IRS trades referenced to the MIFOR<sup>109</sup> and MMFOR benchmark with residual maturity of less than equal to five years.

The chart below figure shows the volume of interbank IRS trades cleared via the guaranteed settlement route of CCIL. The volume of interbank IRS guaranteed settlement has increased to INR 61,25,000 crores in the year 2022-23 thereby signifying the increased preference for guaranteed route settlement which helps in ensuring reduced risk of default and settlement risk.

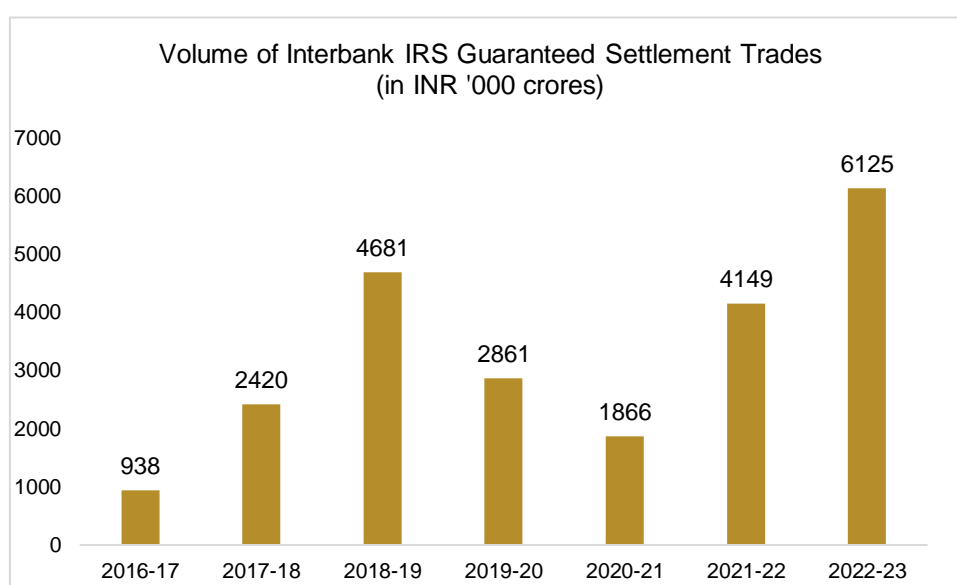


Figure 17 – Volume (INR '000 crores) of interbank IRS guaranteed settlement trades<sup>110</sup>

### **Trade Repository Services**

CCIL hosts its trade repository services for a variety of OTC FX, interest rate and credit derivatives<sup>111</sup>. The following OTC derivatives transactions (both interbank and client transactions) are mandated for reporting to CCIL<sup>112</sup>:

- INR CDS;
- FX-forwards and swaps;
- FX options;
- FX currency swaps;

<sup>109</sup> MIFOR was discontinued following the LIBOR transition, which was completed by July 1, 2023

<sup>110</sup> Source: [CCIL Rakshitra](#)

<sup>111</sup> Source: [CCIL Trade Repository \(TR\) Services](#)

<sup>112</sup> Source: [CCIL Trade Repository FAQs](#)

- Foreign currency IRS and FRAs;
- INR IRS and FRAs;
- Interest rate options;
- Swaptions.

Such trade repository services enable authorities to have transparent and timely access to information concerning OTC derivatives, help in mitigation of systemic risk and promote financial stability.

### ***Other Services***

Apart from the above services, CCIL also performs the following significant functions. This is not an exhaustive list of the services provided by CCIL.

- i. Portfolio compression cycles are run periodically for OTC derivatives such as INR IRS and for USD/INR forward trades. These compression exercises are aimed at reducing the overall notional outstanding and the number of outstanding contracts by identifying economically redundant trades for early termination.
- ii. CCIL, through its subsidiary Legal Entity Identifiers India Limited, is the local operating unit (LOU) for issuing globally compatible legal entity identifiers (LEIs) in the Indian financial market. LEI is a mandatory requirement as per the RBI for all participants in the OTC derivatives market aimed at improving the quality and risk management framework in the financial market.
- iii. CCIL is the calculation agent for some of the important benchmarks used by the market under the aegis of the benchmark administrator, Financial Benchmarks India Limited.

CCIL plays an integral role in the Indian financial system. It acts as a central counterparty for various transactions, reducing the overall counterparty credit risk with respect to OTC derivatives, and thereby promoting security and financial stability. By providing a central platform for clearing and settlement services (including multilateral netting), it has also benefited the financial markets in terms of operational efficiency and reduced liquidity requirements.

### 3.6.2 Trading Platforms

In 2018, the RBI issued the Electronic Trading Platforms (Reserve Bank) Directions, 2018<sup>113</sup> with a view to put in place a framework for authorization of ETPs for financial market instruments regulated by the RBI. No entity is permitted to operate an ETP for transactions in derivatives unless prior authorization has been obtained from the RBI. ETPs are required to have sufficient risk management and operating framework, technological availability and meet certain financial criteria and reporting requirements to obtain authorization from the RBI.

In general, such authorized trading platforms have a positive impact on the Indian OTC derivatives market as trading on electronic platforms enhances pricing transparency, process efficiency, risk control, market surveillance and discourages market abuse and unfair trading practices. The list of authorized trading platforms along with the instruments permitted under each platform has been provided below.

	Platform Operator	Platform Name/s	Permitted Instruments <sup>114</sup>
1	Clearcorp Dealing Systems (India) Ltd. (a wholly owned subsidiary of CCIL)	FX-CLEAR (including FX-RETAIL module)	<ul style="list-style-type: none"> <li>▪ USD/INR FX cash</li> <li>▪ USD/INR FX tom</li> <li>▪ USD/INR FX spot</li> <li>▪ USD/INR FX swap</li> <li>▪ USD/INR FX forward</li> </ul>
		ASTROID	<ul style="list-style-type: none"> <li>▪ Interest rate swaps based on MIBOR OIS benchmark</li> </ul>
		FX-SWAP	<ul style="list-style-type: none"> <li>▪ Cash/tom, cash/spot, tom/spot</li> <li>▪ Month-end (swap) instruments. ie spot over month 1 end to month 12 end.</li> <li>▪ Month end over month end instrument (month 1 end over month 2 end)</li> <li>▪ Outright forward instruments (month 1 end and month 2 end)</li> </ul>
2	ICAP IL India Pvt. Ltd.	i-Stream	<ul style="list-style-type: none"> <li>▪ INR interest rate swap (MIBOR and MMFOR based)</li> </ul>
3	Three Sixty Trading Networks (India) Pvt. Ltd.	TEX/SEP	<ul style="list-style-type: none"> <li>▪ FX spot, forwards, swaps and options (including NDDCs)</li> </ul>
4	Three Sixty Trading Networks (India) Pvt. Ltd.	360TGTX	<ul style="list-style-type: none"> <li>▪ FX spot, forwards, swaps and options</li> </ul>
5	Refinitiv India Transaction Services Pvt. Ltd.	FxAll / Matching	<ul style="list-style-type: none"> <li>▪ FX spot, forwards, swaps and options (including NDDCs)</li> </ul>
6	Bloomberg Tradebook India Pvt Ltd.	BTBS	<ul style="list-style-type: none"> <li>▪ FX spot, forwards, swaps and options (including NDDCs)</li> </ul>

<sup>113</sup> Source: [The Electronic Trading Platforms \(Reserve Bank\) Directions, 2018](#)

<sup>114</sup> Source: [RBI List of authorized ETPs](#)

### 3.6.3 Market Data and Benchmark Administration

Financial benchmarks, used as reference for pricing, valuation, and settlement of financial instruments, are a key driver of price integrity of financial markets. The market data and financial benchmarks administration process in India is carried out majorly by the following three institutions. A detailed overview of each of the below has been covered subsequently in this section.

	Institution	Major function
1	Financial Benchmark India Private Limited <sup>115</sup>	Develop and administer benchmarks relating to money market, government securities, FX and derivatives in India
2	Foreign Exchange Dealers' Association of India <sup>116</sup>	Frame rules governing the conduct of interbank foreign exchange business
3	Fixed Income Money Market and Derivatives Association of India <sup>117</sup>	Develop the fixed income, money and derivatives markets

#### **Financial Benchmark India Pvt. Ltd**

The RBI set up a committee on financial benchmarks in June 2013 to review the existing systems governing major financial benchmarks in India. The committee made wide-ranging recommendations to reform the benchmark administration in India. These were accepted by the RBI in early 2014, which identified the Fixed Income Money Market and Derivatives Association of India (FIMMDA) and Foreign Exchange Dealers' Association of India (FEDAI) as the benchmark administrators for the INR interest rates and FX benchmarks respectively. It was later suggested that these associations may jointly or independently form a separate entity to administer the benchmarks. This led to the formation of Financial Benchmark India Pvt. Ltd (FBIL) as an independent benchmark administrator for interest rates and FX.

FBIL was formed in December 2014 and is jointly owned by FIMMDA, FEDAI and the Indian Banks' Association (IBA). The FBIL is responsible for the development and administration of benchmarks relating to money market, government securities and foreign exchange in India. It is responsible for all the aspects relating to the benchmarks to be issued by it, namely, collection and submission of market data and information including polled data, formulation, adoption and periodic review of benchmark calculation methodologies, calculation, publication and administration of benchmarks conforming to the highest standards of integrity, transparency and precision.

The benchmarks published by FBIL are useful for the purposes of pricing, settlement and valuation of various financial contracts including derivatives. FBIL has assumed the responsibility for computation and dissemination of the daily reference rate for spot USD/INR and other major currencies against INR. With respect to the derivatives market, the following benchmarks are published by FBIL<sup>118</sup>:

- i. FBIL Forward Premia;
- ii. FC-INR Option Volatility Matrix;
- iii. FBIL MIBOR-OIS;

<sup>115</sup> Source: [FBIL](#)

<sup>116</sup> Source: [FEDAI](#)

<sup>117</sup> Source: [FIMMDA](#)

<sup>118</sup> Source: [FBIL](#)

- iv. FBIL Adjusted MIFOR as MIFOR-fallback;
- v. FBIL MMFOR.

Financial benchmarks are an integral component of any economy as they promote an efficient and transparent financial market and thus FBIL plays a significant role in the Indian financial market. It provides financial benchmarks that are compliant with global practices and are computed using precise methodologies and robust market data. It also helps in improving the overall benchmark governance and administration framework.

### ***Foreign Exchange Dealers' Association of India***

FEDAI was set up in 1958 as an association of banks dealing in FX in India (typically called Authorized Dealers – ADs) as a self-regulatory body. Its major activities include framing of rules governing the conduct of inter-bank foreign exchange business among banks vis-à-vis public and liaison with the RBI for reforms and development of forex market. FEDAI plays an integral role in the smooth functioning of the markets through closer co-ordination with the RBI, other organizations like FIMMDA, the Forex Association of India and various market participants.

With respect to FX rates, the following functions are performed by FEDAI:

- i. Publish revaluation rates for 26 currencies on a monthly basis<sup>119</sup>;
- ii. Publish weekly and quarterly average foreign exchange rates for nine currencies<sup>120</sup>;
- iii. Announce daily and periodical foreign exchange rates to its member banks.

As of October 2023, FEDAI had 100 members<sup>121</sup> including public sector banks, private sector banks, foreign banks, co-operative banks and financial institutions.

### ***Fixed Income Money Market and Derivatives Association of India***

FIMMDA was set up in 1998 as an association of scheduled commercial banks, public financial institutions, primary dealers and insurance companies. FIMMDA is a voluntary market body that has been formed for the development of the fixed income, money and derivatives markets. It acts as an interface with the regulators on various issues that impact the functioning of these markets.

FIMMDA plays a constructive role in the evolution of best market practices by its members so that the market as a whole operates transparently as well as efficiently. It has also published a 'Handbook of market practices'<sup>122</sup> for various fixed income, money market and derivative products including INR interest rate swap and forward rate agreement which helps the market participants to gain a clear understanding of market conventions and practices. FIMMDA is the calculation agent for all valuation rates for government securities under the administration of FBIL. It also provides daily corporate bond matrix for use by the industry.

As of October 2023, FIMMDA had 115 members<sup>123</sup>, including public sector banks, private sector banks, foreign banks, primary dealers, financial institutions, insurance companies and small finance banks.

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<sup>119</sup> Source: [FEDAI](#)

<sup>120</sup> Source: [FEDAI](#)

<sup>121</sup> Source: [FEDAI](#)

<sup>122</sup> Source: [FIMMDA](#)

<sup>123</sup> Source: [FIMMDA](#)

### 3.6.4 Exchanges

While the scope of this paper is limited to the OTC derivatives market in India, the exchange-traded derivatives market is dominant in India, with equity ETD turnover (\$396 trillion) contributing to approximately 98.3% of the total ETD turnover (\$403 trillion) in 2022<sup>124</sup>.

The following is a list of exchanges in India and the exchange-traded derivatives market segments they operate in.

	Exchange	Foreign Exchange	Commodity	Interest rate	Equity
1	NSE India (National Stock Exchange of India)	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bullion futures</li> <li>▪ Energy futures</li> </ul>	<ul style="list-style-type: none"> <li>▪ T-bill futures</li> <li>▪ G-Sec futures</li> <li>▪ G-Sec options</li> <li>▪ MIBOR futures</li> </ul>	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>
2	BSE India (formerly known as Bombay Stock Exchange)	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bullion</li> <li>▪ Energy</li> <li>▪ Agri</li> <li>▪ Base metals</li> </ul>	<ul style="list-style-type: none"> <li>▪ T-bill futures</li> <li>▪ G-Sec futures</li> </ul>	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>
3	Multi-Commodity Exchange of India Limited (MCX)	<i>None</i>	<ul style="list-style-type: none"> <li>▪ Bullion</li> <li>▪ Energy</li> <li>▪ Agri</li> <li>▪ Base metals</li> <li>▪ Index</li> </ul>	<i>None</i>	<i>None</i>
4	National Commodity & Derivatives Exchange Limited (NCDEX)	<i>None</i>	<ul style="list-style-type: none"> <li>▪ Agri</li> <li>▪ Steel</li> </ul>	<i>None</i>	<i>None</i>
5	Metropolitan Stock Exchange of India Ltd (MSEI)	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>	<i>None</i>	<ul style="list-style-type: none"> <li>▪ T-bill futures</li> <li>▪ G-Sec futures</li> </ul>	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> </ul>

<sup>124</sup> Source: SEBI Monthly Bulletin

## 3.7 Operational Aspects of India's OTC Derivatives Market

### 3.7.1 Taxation and Statutory Levies

Derivatives transactions undertaken in India are subject to taxation under the Income Tax Act, 1961. In India, the taxation regime for OTC derivatives with respect to the onshore market is different from the offshore market.

#### **Onshore Market**

The table below lists taxes and statutory levies applicable on undertaking OTC derivatives transactions in the onshore market.

	Event of Levy	Tax / Statutory Levy (Onshore Market)
1	Sale of a derivative contract	Capital gains tax under the Income Tax Act, 1961
2	Interest earned on the collateral exchanged	Income tax under the Income Tax Act, 1961. Payment of such interest to the counterparty is also subject to deduction of tax at source ie, withholding tax shall be applicable subject to certain exemptions
3	Execution of the CSA ie, creating a charge over the agreed collateral through title transfer	Stamp duty under the Indian Stamp Act, 1899
4	Execution of ISDA Master Agreement	Stamp duty under the Indian Stamp Act, 1899

#### **Offshore Market (GIFT City)**

GIFT City was formed with the objective of creating a world-class smart city with advanced financial services and technology related activities as an IFSC in India. To promote the growth of the offshore market ie, the GIFT City, derivatives transactions entered into in GIFT City are exempt from the above taxes and statutory levies.

### 3.7.2 Accounting of Derivatives Transactions

Accounting for derivatives transactions in India is regulated by the accounting standards and guidance notes issued by the Institute of Chartered Accountants of India (ICAI). However, such accounting standards and guidance notes are not applicable in cases where the entity is required to apply Indian Accounting Standards (Ind AS). Further details on the accounting methodology to be used in both these cases are covered in the subsequent paragraphs.

Accounting for derivatives transactions depends upon the intent of the entity holding the derivatives contract. In the case where the intent of entering into the derivatives transaction is trading, the mark to market values are accounted for as profit or loss. However, in the case where the intent of entering into the derivative transaction is hedging, accounting shall be governed by the concept of hedge accounting. Hedge accounting is used to account for derivative transactions which are undertaken with the intent to hedge the risk faced by the entity, namely interest rate risk, FX risk and commodity price risk. The objective of hedge accounting is to represent in the financial statements, the effect of an entity's risk management activities through the use of financial instruments to manage the exposures arising from particular risks that could impact the profit or loss or comprehensive income of the entity.

In India, accounting for OTC derivatives is governed by the following regulations and guidelines:

#### Entities Where Ind AS is Applicable

In India, Ind AS is applicable to companies and NBFCs meeting certain listing and net worth criteria. Under current international accounting standards and Ind AS 109: Financial Instruments<sup>125</sup>, such entities are required to measure derivatives instruments at fair value or mark to market. All fair value gains and losses are recognized in profit or loss except where the derivatives qualify as hedging instruments in cashflow hedges or net investment hedges.

#### Entities Where Ind AS is Not Applicable

In India, Ind AS is not applicable to banks, insurance companies and companies and NBFCs not meeting the specified listing and net worth criteria. With respect to these entities, the accounting of foreign currency forward exchange contracts is governed by the accounting standard issued by ICAI ie, Accounting Standard (AS) 11: The Effects of Changes in Foreign Exchange Rates<sup>126</sup>. However, certain FX forward contracts are outside the scope of AS 11. Hence, in the cases of FX forward contracts not governed by AS 11 and in cases of other derivatives contracts, ICAI has issued a Guidance Note on Accounting for Derivative Contracts<sup>127</sup>. These guidelines, issued in the year 2015 and later revised in 2021, provide recommended guidance on the accounting of derivatives contracts. With effect from April 1, 2024, banks in India will be required to comply with the directions given under Classification, Valuation and Operation of Investment Portfolio of Commercial Banks (Directions), 2023<sup>128</sup>.

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<sup>125</sup> Source: [Ind AS 109: Financial Instruments](#)

<sup>126</sup> Source: [Accounting Standard \(AS\) 11: The Effects of Changes in Foreign Exchange Rates](#)

<sup>127</sup> Source: [Guidance Note on Accounting for Derivative Contracts \(Revised 2021\)](#)

<sup>128</sup> Source: [Classification, Valuation and Operation of Investment Portfolio of Commercial Banks \(Directions\), 2023](#)



### 3.7.3 Legal and Documentation

ISDA Master Agreements are required for undertaking derivatives transactions in India (except in the case of FX forwards contracts of tenor up to 13 months). In cases where credit support is being offered by the counterparty, the version of credit support annex (CSA) is to be decided by the entity.

In addition to legal agreements, execution of derivatives transactions also includes term sheet, counterparty confirmations and specific underlying documentation where derivatives transactions are taken against contracted exposures meeting the threshold. Presently, in India, dissemination of such documentation is typically undertaken manually with hard copies and wet ink signatures being executed, without the use of any automated tools such as ISDA Create.

## 4. The Need to Further Develop the OTC Derivatives Market in India

India has advanced to become the fifth largest economy in the world, with a GDP of \$3.39 trillion in 2022<sup>129</sup>. India's growth story has transitioned from a 'turnaround' to a 'take-off' phase and is now at an inflexion point for further growth.

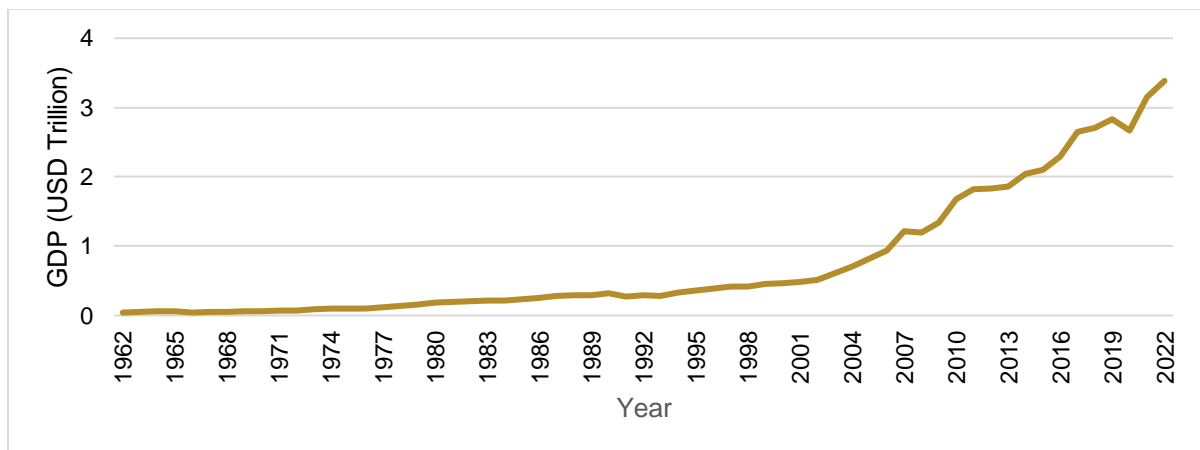


Figure 18 – Historical growth in GDP of India (USD trillion)<sup>130</sup>

India became a trillion-dollar economy in the first 60 years of independence. The second trillion milestone was achieved within a span of just seven years and the third trillion was added to the GDP within another seven years in 2021. Projections show that India's GDP will continue to expand and grow, adding an average of one trillion dollars to its economy every two years over the next 14-15 years to become a \$10 trillion economy by 2035<sup>131</sup>.

With India projected to become a major economic powerhouse in the long term, various levers will play an important role in India's growth story, including:

- Internationalization of INR;
- Increasing and attracting foreign investments;
- Long-term development and deepening of India's corporate bond market;
- Increasing robustness of the risk management ecosystem;
- Increasing skilled employment opportunities for India's workforce;
- Accelerating the net-zero transition.

Deepening of the OTC derivatives markets in India will play a dominant role in enabling these levers, which are imperative for India's growth story and in turn assist India in achieving its medium and long-term economic goals.

<sup>129</sup> Source: IMF [Real GDP Data](#)

<sup>130</sup> Source: IMF [Real GDP Data](#)

<sup>131</sup> Source: Centre for Economics and Business Research (CEBR), 2022

## 4.1 Internationalization of the Indian Rupee

As per the report of Inter-Departmental Group (IDG) on Internationalization of INR<sup>132</sup>, currency internationalization has been described as the “International extension of a national currency’s basic functions of serving as a unit of account, medium of exchange and store of value. In other words, the internationalization of a currency is an expression of its external credibility as the economy integrates globally”.

India has emerged as one of the fastest growing economies in the world in terms of trade, foreign investments, and capital flows. Over the years, inter-linkages between the Indian economy and rest of the world in terms of trade and capital flows have increased significantly. In the last decade, India’s FX reserves have grown from \$290.5 billion in August 2012 to \$560.4 billion in August 2022. During this period, India’s foreign direct investment (FDI) increased from \$46.6 billion to \$84.8 billion; imports increased from \$489.3 billion to \$612.6 billion, and exports grew from \$306.0 billion to \$421.9 billion<sup>133</sup>.

Meanwhile, the international monetary and financial system has moved towards being multipolar as reflected in the steadily decreasing share of US dollar in FX reserves of countries (see chart below), the increasing usage of other currencies in trade invoicing and settlement, and the emergence of various bilateral and regional economic co-operation agreements. This, along with recent geopolitical developments, has set the stage for the emergence of various other currencies, including the INR, as prospective currencies for use in international transactions.

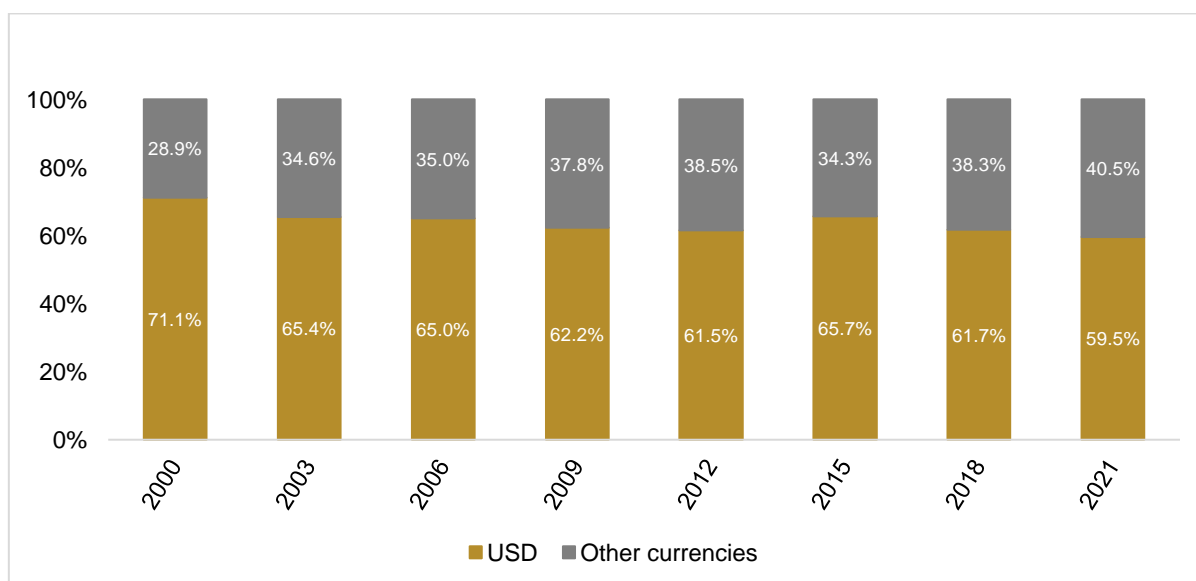


Figure 19 – Percentage share of US dollar and other currencies in global foreign exchange reserves<sup>134</sup>

According to an IMF Staff Discussion Note on ‘Internationalization of Emerging Market Currencies: A Balance between Risks and Rewards’, INR was identified as one of the key emerging market currencies with the potential for internationalization<sup>135</sup>.

<sup>132</sup> Source: [Report of the Inter-Departmental Group \(IDG\) on Internationalization of INR](#)

<sup>133</sup> Source: [Report of the Inter-Departmental Group \(IDG\) on Internationalization of INR](#)

<sup>134</sup> Source: [Federal Reserve Board - The International Role of the U.S. Dollar](#)

<sup>135</sup> Source: [IMF - Internationalization of Emerging Market Currencies: A Balance Between Risks and Rewards](#)

Internationalization of INR will accrue several benefits to the country's economic growth. Some of the ways in which internationalization of INR would benefit India are:

- i. **Reduction of requirement for the RBI to maintain large FX reserves:** Internationalization of a currency reduces the requirement to maintain and depend on large FX reserves in convertible currencies (along with its associated costs) to manage external vulnerabilities.
- ii. **Stabilization of domestic economy:** At the macroeconomic level, internationalization of a currency results in lowering the impact of sudden stops and reversals of capital flows and enhances the ability to repay external sovereign debt.
- iii. **Increase ability of government to finance budget / current account deficits:** Currency internationalization allows a country's government to finance part of its budget and / or current account deficit by issuing domestic currency debt in international markets rather than issuing foreign currency instruments and without drawing down its official reserves.
- iv. **Reduce exchange rate risk for importers and exporters:** Internationalization of its currency allows the country's exporters and importers to limit exchange rate risk. Domestic firms will be able to invoice and settle their exports/imports in their currency, thus shifting exchange rate risk to their foreign counterparts.
- v. **Easier access to international financial markets and new opportunities:** Internationalization permits domestic firms and financial institutions to access international financial markets without assuming exchange rate risk and offers new business opportunities.
- vi. **Reduced cost of capital and increased capital formation:** Internationalization will lead to an efficient financial sector which will serve the domestic non-financial sector better by reducing the cost of capital and widening the set of financial institutions that are willing and able to provide capital. This will boost capital formation in the economy, thereby increasing growth and reducing unemployment.

Over the past few years, regulators and policymakers in India have undertaken several steps and reforms to facilitate internationalization of the INR and realize its potential benefits. Some of those initiatives and reforms are:

- Establishment and set up of GIFT City – ie, India's first IFSC with a vision to bring to the Indian shores those financial services / markets and transactions, relating to India, that are currently done outside India. To cater to the global demand for INR products, non-deliverable OTC and exchange-traded INR derivatives are now allowed at GIFT City.
- Indo-Nepal Remittance Facility Scheme launched by the RBI in May 2008 as an option for cross-border remittances from India to Nepal with a special focus on the requirements of migrant citizens of Nepali origin working in India.
- Bilateral-swap arrangements with Japan for an amount up to \$75 billion as a backstop line of support in case of any balance of payments issue and swap framework with the South Asian Association for Regional Cooperation wherein requesting central bank can make withdrawals in US dollar, euro and also in INR.
- In August 2022, Sri Lanka made INR a designated foreign currency, which has paved the way for INR-based bilateral trade between India and Sri Lanka.
- The RBI in collaboration with the Government of India (GoI) and National Payments Corporation of India is reaching out to jurisdictions to increase the global outreach of the UPI system to facilitate cross-border transactions, including remittances. The linkages between fast payment systems

across jurisdictions can enhance cross-border payment arrangements and ensure faster remittances. Singapore, the US, Australia, Canada, Hong Kong, Middle Eastern countries, France and UK are some of the jurisdictions that enabled remittances through Unified Payments Interface.

Historical experience shows that well-developed financial markets are a key element in the use of a currency as an international vehicle currency<sup>136</sup>. Well-developed and sophisticated domestic financial markets give confidence to cross-border investors to invest and transact in a currency.

Derivatives will play a key role in further strengthening the development of Indian financial markets, which will subsequently facilitate internationalization of the INR currency. As per the short-term recommendations stated in the report of Inter-Departmental Group (IDG) on Internationalization of INR<sup>137</sup>, the IDG has implied the following benefits of using derivatives to facilitate the internationalization of INR:

- Derivatives such as local currency bilateral swaps can supplement the local currency settlement framework, which provides currency diversification that stabilizes the local currency and provides a natural hedge for the business community to protect against currency risk exposure, reduces transaction costs through more efficient direct rates, and facilitates faster transfers. Local currency swaps will also allow central banks to exchange domestic currencies with each other and thus are important tools for reducing/managing financial risks.
- Increased access to the onshore FX derivative market without the need for underlying exposure will help in further enhancing liquidity in the onshore market and thereby promoting it as the main center of INR price discovery.
- To foster a global 24x5 INR market, market makers in the interest rate derivative market can also be allowed to undertake customer and inter-bank transactions on a 24x5 basis through their overseas branches and subsidiaries. Additionally, operational hours of CCIL-operated platforms for derivatives can be increased to enable overseas branches and subsidiaries to continuously discover prices and provide liquidity.
- A vibrant derivatives market could lead to the inclusion of INR as a direct settlement currency in the Continuous Linked Settlement (CLS) system. The inclusion of INR in CLS will bring visibility to the INR and could scale up INR usage, depending on willing countries using the platform for the purchase of INR against their currencies.

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<sup>136</sup> [Source: BIS Quarterly Review, December 2011](#)

<sup>137</sup> [Source: Report of the Inter-Departmental Group \(IDG\) on Internationalization of INR](#)

## 4.2 Increasing and Attracting Foreign Investments

Foreign investments will play a crucial role in assisting India achieve its long-term economic objectives. Today, India attracts foreign investments through two primary channels – FDI and FPI.

FDI, being a significant non-debt financial resource, is a key driver for India's economic growth. Higher levels of FDI inflows provide growth capital for job creation, access to latest technology and tools, upskilling / training of existing labor force, increase in exports, exchange rate stability, improved capital flow and creation of a competitive market landscape in various industries.

India's FDI inflows have increased more than 20-fold since the financial year (FY) 2000-01, with the highest annual inflow of \$83.6 billion in FY 2021-22 alone<sup>138</sup>, mainly due to the government's efforts to improve the ease of doing business and relax FDI norms. In the last eight financial years (2016-23), India has received FDI inflow worth \$549.7 billion which is nearly 60% percent of the total FDI reported in the last 23 financial years (\$919.6 billion).

From an FPI perspective, up to June 2023, the cumulative net investments by foreign institutional investments from April 2000 stood at \$234.6 billion.

India's presidency of the G-20 Summit 2023 marked a significant milestone in India's global leadership role. During the presidency, various issues like inclusive growth, digital innovation, climate resilience, and equitable global health access were focused on. One of the key developments during India's G-20 presidency was the formation of a Trade and Investment Working Group (TIWG). The objective of TWIG is to address global trade and investment challenges which would further promote FDI and FPI inflows globally and in India.

The recent announcement of India's inclusion in JP Morgan's widely tracked Government Bond Index-Emerging Markets (GBI-EM), starting June 28, 2024, is a milestone event. India will achieve its maximum weightage of 10% in this \$213 billion Global Diversified Index by March 31, 2025<sup>139</sup>. According to JP Morgan, global investors will invest in 23 Indian government bonds with a combined notional value of \$330 billion. India's weightage in this index will annually fetch \$23 billion in investments. The inclusion of India in the JP Morgan GBI-EM index will help further integrate the Indian economy with the world economy, deepen the government bond market in India and help India meet the borrowing needs to support its growth ambitions. Stable long-term global investments generated due to this inclusion, will help Indian banks to lend more domestically, leading to infrastructure creation and employment generation.

The development of OTC derivatives market would be important to facilitate greater foreign investment flows into India. Robust price discovery, risk management and liquidity are key imperatives to attract cross-border investments via FDI and FPI flows and that is where OTC derivatives play an important role. OTC derivatives attract cross-border investments by allowing market participants to unbundle and redistribute / diversify these risks, thereby leading to a potential increase in net capital flows and creating new opportunities for portfolio diversification. Some of the ways in which OTC derivatives facilitate cross-border capital flows are:

- i. FX derivatives such as FX forwards and FX swaps can be used by foreign investors to hedge long local currency exposure in emerging markets, while local entities use the same instruments to manage foreign exchange risk associated with external financing.

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<sup>138</sup> Source: [Ministry of Commerce & Industry](#)

<sup>139</sup> Source: [Invest India](#)

- ii. Interest rate swaps can provide borrowers an opportunity to exploit their comparative advantages for borrowing at fixed vs floating rates in different markets and may encourage corporates or banks to seek external financing instead of borrowing locally.
- iii. Credit derivatives such as CDS allow foreign investors to manage default / bankruptcy risk.

### 4.3 Long-term Development and Deepening of India's Corporate Bond Market

The corporate bond market can be seen as the backbone of a financial economy and can contribute significantly to drive economic growth for any country. It supports the corporate sector's needs, acting as an alternative source of financing to bank lending.

India's corporate bond market has grown over the last decade. The outstanding amount of corporate bonds has doubled from \$226.7 billion in 2012 to \$520.3 billion in 2022<sup>140</sup>, indicating the increase in mobilization of funds through the corporate bond route as shown in the chart below.

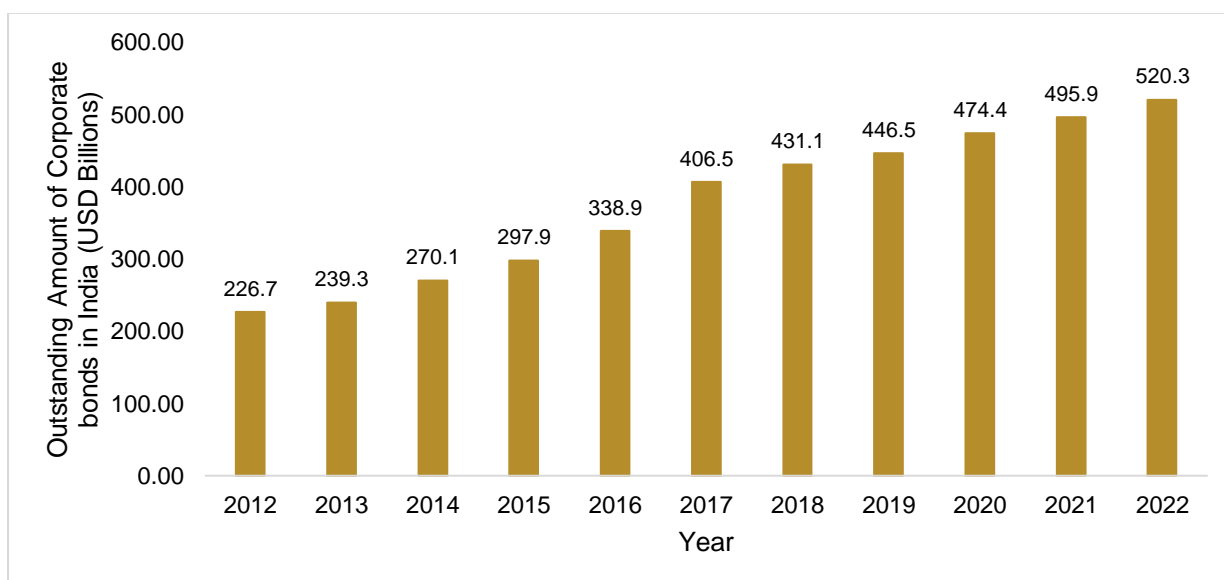


Figure 20 – Outstanding corporate bonds in India (in USD billions)<sup>141</sup>

However, even today approximately 66% (\$1.2 trillion) of the debt market in India is primarily driven by government bonds (G-Secs), as opposed to corporate bonds which contribute to just 33% (\$0.6 trillion) of the overall debt market<sup>142</sup>. Furthermore, the corporate bond market in India still trails that of most of its Asian peers. As can be seen from the figure below, the size of the Indian corporate bond market, scaled to the GDP is relatively smaller when compared to that of the other major Asian emerging markets.

<sup>140</sup> Source: SEBI

<sup>141</sup> Source: SEBI

<sup>142</sup> Source: [A Whitepaper on Corporate Bond Market 2023](#)



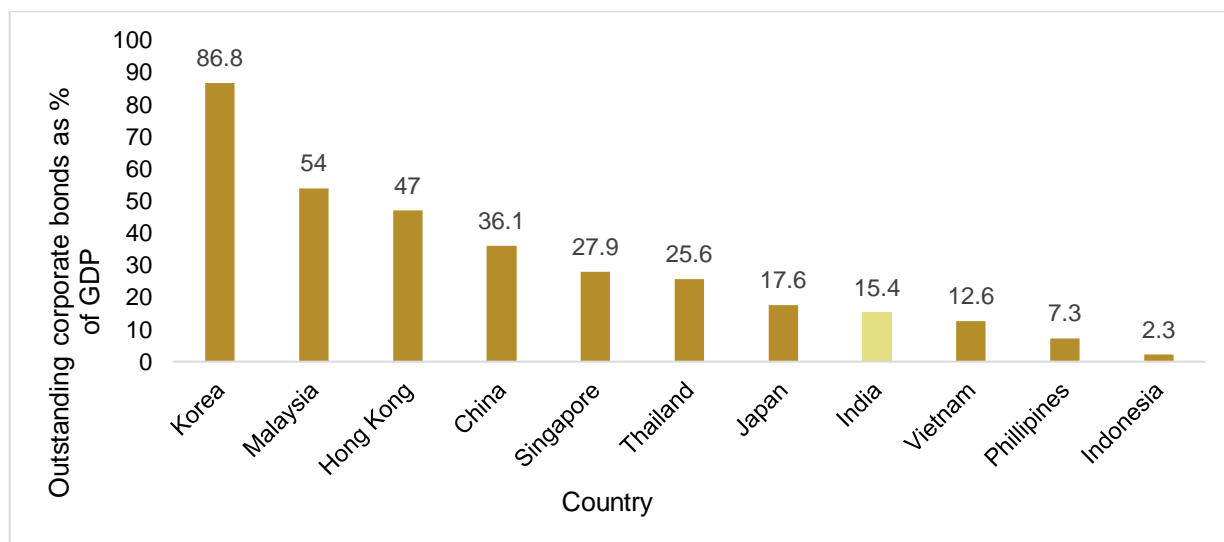


Figure 21 – Outstanding corporate bonds (as a percent of GDP) in major Asian emerging economies in 2022<sup>143</sup>

In India, the corporate bond market is skewed towards top-rated borrowers. In FY22, 80% of issuances in the corporate bond market were by AAA-rated entities and 15% by AA-rated entities. This is driven by the fact that corporates in India with a low credit rating turn to banks and lending institutions to meet their borrowing needs since the cost of raising funds through the corporate bond market is significantly high due to high credit spreads / premiums associated with lower credit ratings. Further, only 17 corporates made a public issue of corporate bonds in FY22<sup>144</sup>. Deepening of the OTC derivatives market will complement and enhance the growth of India's corporate bond market, by offering investors an avenue to mitigate risks associated with corporate bond holdings such as interest rate and credit risk. This will eventually lead to reduction of premiums and credit spreads incurred by lower-rated corporates for raising funds through the corporate bond market in India.

Interest rate risk associated with corporate bonds can be hedged by investors through the use of OTC interest rate derivatives such as OIS, interest rate swaps, FRAs and / or swaptions. Credit risk associated with corporate bonds can be hedged by investors through the use of OTC credit derivatives such as CDS. However, for investors to hedge credit risk efficiently, India needs a well-developed market for credit derivatives through instruments such as CDS. Today, the market for credit derivatives in India is virtually non-existent.

However, recent regulatory initiatives such as passage of the Bilateral Netting of Qualified Financial Contracts Act, 2020 allows CDS to be used as a qualified financial contract<sup>145</sup> for netting, the expansion of issuer (protection seller) and user (protection buyer) base for CDS by the RBI and the permissibility of AIFs to participate in the CDS market<sup>146</sup> will boost development of the CDS market in India.

For India to achieve a higher economic growth rate and invest in long-term infrastructure, the reliance on banks for financing requirements will have to be diversified and the corporate bond market in India would need to mature and flourish. Further development of the OTC derivatives market in India (especially credit derivatives) can lead to deepening of the Indian corporate bond market, which in turn can lead to the growth of the Indian financial economy.

<sup>143</sup> Source: [Source: Asia Bonds Online](#)

<sup>144</sup> Source: [SEBI Corporate Bond Data](#)

<sup>145</sup> Source: [RBI Circular](#)

<sup>146</sup> Source: [Master Direction – Reserve Bank of India \(Credit Derivatives\) Directions, 2022](#)

## 4.4 Increased Robustness of the Risk Management Ecosystem

For the Indian financial markets and economy to grow in a sustainable way, risk management needs to be given utmost importance and derivatives can play a crucial role in enhancing the robustness of the existing risk management framework used by various market participants.

OTC derivatives can be used by market participants to protect / hedge themselves against various types of risks such as FX risk, interest rate risk, credit default risk, commodity and equity risk. The use of OTC derivatives as a hedging tool by various market participants can help reduce volatility in their financial statements, stabilize cashflows, reduce capital cost and boost investor confidence.

Market participants in India have diverse risk exposures and by extension, diverse hedging requirements. Some of the ways in which various market participants in India can enhance their risk management framework through the use of OTC derivatives are:

- i. *Banks* – OTC derivatives can be used by multi-national, private sector and public sector banks in India for three primary purposes from a risk management perspective. Firstly, to cover any open / unhedged merchant transactions in the interbank market. Secondly, to manage risks within its own balance sheet such as interest rate risk in the banking book (IRRBB) arising due to mismatch between nature of assets and liabilities (eg, several banks in India fund floating rate assets with fixed rate deposits and could hedge the interest rate risk in the balance sheet using interest rate OTC derivatives such as interest rate swaps or swaptions). Lastly, OTC derivatives can be used by banking groups with legal entities across multiple countries and jurisdictions to hedge foreign exchange revaluation risk and reduce volatility associated with consolidated financial reporting.
- ii. *Life insurance companies* – Interest rate OTC derivatives such as FRAs and IRS can be used by life insurance companies for three primary purposes: (a) To hedge interest rate risk arising out of insurance products with embedded and/or explicit guarantees; (b) To protect themselves against reinvestment risk associated with expected proceeds from investments; (c) For management of balance sheet risk due to asset-liability mismatches.
- iii. *Corporates* – OTC derivatives can be used by corporates for various purposes: (a) Use of OTC FX derivatives such as FX forwards to hedge forex risk associated with imports and export transactions. For example, one of India's leading listed companies dealing in fast-moving consumer goods products uses FX forwards and options to hedge foreign currency risk associated with purchase and sale commitments. (b) OTC commodity derivatives to hedge price risk associated with commodities used and sold as part of the business. For example, one of the largest petroleum companies in India uses OTC commodity derivatives to hedge price risk associated with raw materials and finished goods. (c) OTC interest rate derivatives such as IRS to hedge interest rate risk associated with floating rate borrowings. For example, one of the largest NBFCs in India uses cross-currency IRS to hedge interest rate and foreign currency risk associated with external commercial borrowings (foreign loans),
- iv. *Asset Management Companies* – Investments by AMCs comprise equity and fixed income securities and are exposed to various risks such as equity price risk, interest rate risk and credit risk; (a) use of IRS to hedge interest rate risk associated with investments in fixed income securities; (b) use of CDS to hedge credit risk associated with investments in corporate bonds; (c) OTC equity derivatives can be used to hedge risks associated with investment in equity stocks, mutual funds, exchange-traded funds (ETFs), etc.
- v. *Pension funds* – Long-term investments of pension funds are exposed to various risks such as equity price risk, interest rate risk and credit risk. (a) OTC equity derivatives can be used to hedge risks

associated with investments in equity stocks, mutual funds, ETFs, etc.; b) OTC interest rate derivatives can be used to hedge interest rate risk associated with investments in government bonds and debt-funds; (c) credit derivatives such as credit default swaps can be used to hedge default risk associated with investments in corporate bonds.

- vi. *AIFs* – Category I AIFs and Category II AIFs may use OTC derivatives for the purpose of hedging their equity and debt investment portfolio. Category III AIFs may use OTC derivatives for the purpose of hedging as well as trading, thus generating higher returns for their investors.

## 4.5 Increasing Skilled Employment Opportunities for India's Workforce

As per the International Labour Organization, around 66 per cent of the total population of India is below the age of 35. Nearly 40 per cent of the Indian population is aged 13 to 35 years (defined as youth in the National Youth Policy). Furthermore, the Indian labor force is set to grow by over 8 million per annum over the coming decade, most of which will be driven by youth entering the workforce<sup>147</sup>.

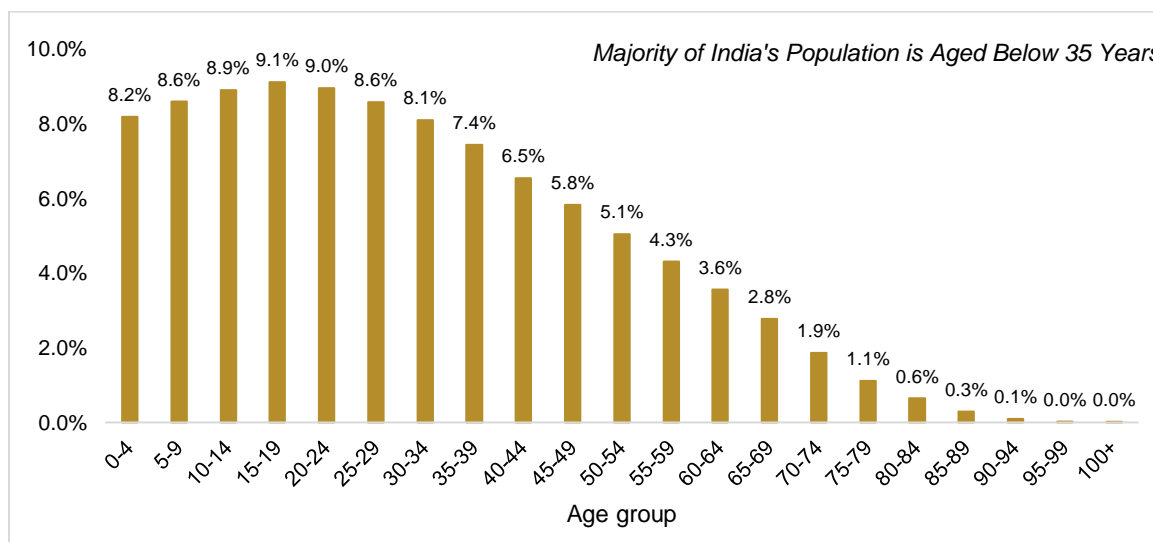


Figure 22 – Age-group wise distribution of the total population in India in 2021 (in %)<sup>148</sup>

India's large youth population is clearly an opportunity and for India to achieve its long-term economic growth objectives, it is imperative that the potential of the youth population is realized by creation and supply of skilled employment and job opportunities. That will mean creating the opportunities for this labor force to get absorbed and simultaneously training and upskilling the labor force. In the union budget of India for the year 2022-23, it has been projected that, in the next five years, 6 million new jobs will be created in 14 different industries in India<sup>149</sup>.

Development and deepening of the OTC derivatives markets in India will provide an additional avenue for the upskilling and generation of highly skilled employment opportunities for the population of India. Undertaking OTC derivatives transactions require banks, insurance companies, corporates, asset management companies and other related service providers to scale-up their business operations and create required infrastructure to support OTC derivative transactions. The scale-up of business operations can lead to creation of skilled employment opportunities across areas such as front office (pricing, deal booking and analytics), middle office (risk management, limit monitoring), back office (collateral management, final settlement, and accounting) and IT (system implementation, system maintenance, application security).

Further development of the OTC derivatives market in India will lead to an inevitable increase in the demand for experts having in-depth knowledge of derivatives, finance, risk management, regulatory compliance and technology, thereby increasing availability and participation of skilled workforce.

<sup>147</sup> Source: [International Labour Organization](#)

<sup>148</sup> Source: United Nations Department of Economic and Social Affairs Population Division

<sup>149</sup> Source: [Union Budget 2022-23](#)

## 4.6 Accelerating the Net-zero Transition

In its endeavor to achieve the \$5 trillion economy goal by 2024-25 and become the third largest economy by 2030, India has been putting a renewed focus on reducing the country's overall carbon footprint and meeting its Sustainable Development Goals (SDGs) commitments made during the Paris agreement.

Catapulting the transition towards clean energy, the government has been adopting several measures and introducing favorable policies to promote the domestic manufacturing of renewable energy. To bring in a green revolution in the country, the government has set an ambitious target of having 500GW of installed renewable energy by 2030, which includes the installation of 280GW of solar power and 140GW of wind power<sup>150</sup> – a move that can be considered one of the biggest steps towards India's target to produce 500 GW of non-fossil fuel-based energy by 2030<sup>151</sup>.

The import of non-renewable sources of energy accounts for roughly 36.6% of India's total import bill in FY2022-23, with a year-on-year growth of 33.9% from FY2021-22<sup>152</sup>. As per the report, one of the key challenges to the large-scale adoption of renewable energy is the investment required in the renewable energy infrastructure.

The development of the OTC derivatives market in India can act as a catalyst and offer a range of incentives to accelerate the green energy transition within the country. OTC derivatives will assist in structuring innovative financial products and green energy derivatives which can be used to create sustainable financing options, which can lower the cost of capital for green initiatives and make such projects financially viable and attractive to investors. In addition to risk management and innovative financing, a developed OTC market can enhance market liquidity which not only supports the growth of green energy but also makes them accessible to a wider range of investors. A developed OTC derivatives market will also attract international investors and capital in green energy projects which can play a pivotal role in supporting the growth of the green energy sector in India. It can support various programs of the central government that have been launched recently to incentivize projects for mitigation of carbon emissions<sup>153</sup>.

The transition to a more sustainable global economy requires scaling up of investments that provide environmental and social benefits, while it demands sound and effective risk management, and transparency and disclosure from issuers of capital instruments. Such investments have long-term objectives and require a long-term orientation. To this end, derivatives contracts can play a very important role because derivatives can:

- i. **Enable capital investments towards sustainable investments:** Being an efficient risk management instrument, derivatives can be used to channel capital towards environmentally friendly investments. For example, financial institutions such as banks can use credit derivatives (such as CDS) to hedge their credit risk exposure to ESG borrowers, and thus potentially increase the supply of credit to firms with sustainable and environmentally friendly investment projects. Another example would be, an ESG FX derivative that could be used to hedge a company's FX exposure related to a wind farm construction project and commit the provider of the derivative to reinvest the premium it receives in a reforestation project, in line with the UN's SDGs principles<sup>154</sup>.
- ii. **Hedge risks associated with sustainable investments:** By enabling the exchange of risks, derivatives offer an effective tool to hedge climate risks (either direct physical risks or related to required financial transition) by reducing the uncertainty on future prices. For example, by entering

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<sup>150</sup> [Source: Press release by Ministry of new and renewable energy in India](#)

<sup>151</sup> [Source: Press release by Ministry of Power in India](#)

<sup>152</sup> Source: Department of Commerce

<sup>153</sup> Source: [Carbon Credit Trading Scheme, 2023](#) and [Green Credit Programme 2023](#)

<sup>154</sup> <https://sdgs.un.org/goals>

into a cross-currency swap (with a bank) in connection to its SDG-linked bond or loan, an electricity company could hedge the exchange rate and interest rate risks of its new investment in a renewable energy generation capacity and thus ensure it meets its emissions target (UN Global Compact, 2019). In a similar way, an asset manager specializing in commercial and residential mortgage-backed securities may be willing to use derivatives as an interest rate duration hedge to combat prepayment risk (eg from an earthquake, storm or hurricane) in its portfolio.

For India to meet its goal of net-zero transition, innovative financial instruments such as sustainability-linked derivatives need to be introduced. Since these instruments link the financial performance of a business to its environmental practices, businesses are promoted to actively participate in sustainability development and meet their sustainability goals. Thus, with the introduction and development of such instruments, businesses can meet their ESG objectives, accelerating India's move towards its net-zero commitments.

# 5. Recommendations to Further Develop India's OTC Derivatives Market

## 5.1. Introduction

With India's mission towards firmly positioning itself amongst the largest and most dominant economies in the world, derivatives can play an important role in contributing towards the various growth levers (see Section 4) that are vital for India to achieve its economic goals.

For the purpose of this whitepaper, ISDA and Acies have undertaken a comprehensive survey of India's OTC derivatives market, engaging with a diverse range of market participants, including sell-side banks, domestic industry associations, asset management companies, insurance companies, corporates, market infrastructure, legal and regulatory advisors. The aim was to gain a deeper understanding of the opportunities and challenges that currently define this dynamic market.

Following this comprehensive survey and in-depth analysis, a roadmap of recommendations is presented for Indian regulatory authorities and market participants' considerations to chart the next chapter of growth of India's OTC derivatives market to meet the broader aspirations outlined in Section 4. India's OTC derivatives market, poised for significant growth, offers a unique opportunity for stakeholders to shape its trajectory in a way that aligns with international best practices while addressing the specific needs and nuances of the Indian financial landscape.

The recommendations are organized around five central pillars, each tailored to address critical facets of market development, regulation, risk management and participation.

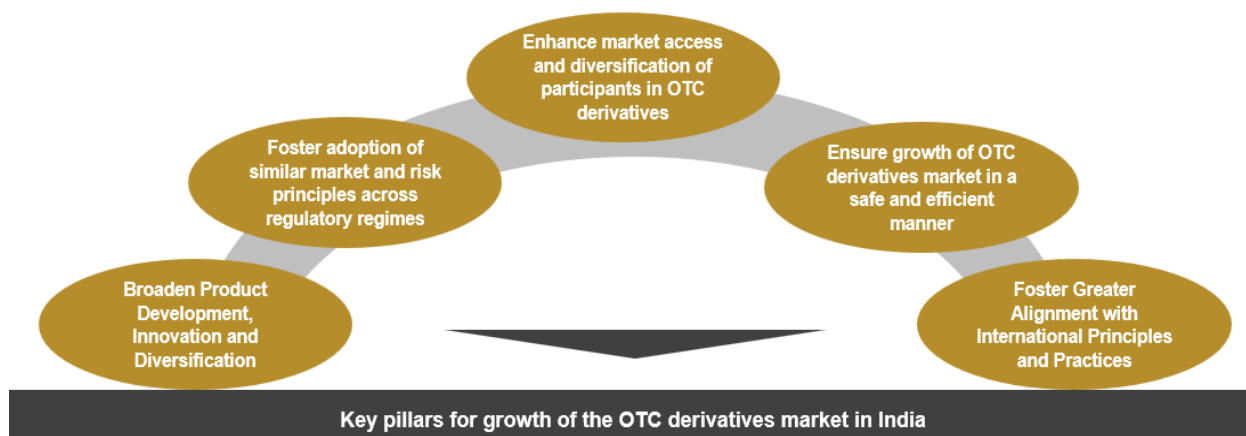


Figure 23 – Key pillars for the growth of the OTC derivatives market in India

By focusing on these five central pillars, this whitepaper provides a structured framework that considers both market development and regulatory aspects, which in turn ensures that the evolution of India's derivatives market remains well-informed, adaptive and resilient in the face of changing global financial dynamics. These recommendations will guide India's OTC derivatives market to a new level of success

and competitiveness, aligning it with international standards and fostering sustainable growth for years to come.

The recommendations pertaining to each of the above-mentioned pillars are covered in detail in the subsequent sub-sections of this whitepaper.



## 5.2. Broaden Product Development, Innovation and Diversification

The OTC derivative market in India has expanded to new asset classes and derivative products on the back of liberalization by the RBI on the available derivatives products, implementation of close-out netting, margin requirements and broader participation from corporates and insurance companies. The OTC derivatives market currently includes onshore FX, interest rate, and credit derivatives and OTC derivatives contracts through offshore derivative market (GIFT City).

Market makers in India are currently allowed to offer following OTC derivatives instruments<sup>155</sup>, subject to some provisions, to buy-side participants:

- FX – Short-term FX forwards, long-term FX forwards (LTFX), currency swaps, FX swaps, FX call / put options (European), NDF, and structured derivatives such as barrier options<sup>156</sup>;
- Interest rate derivatives – IRS, OIS swaps, FRAs, interest rates caps/floors (European), interest rate call/put options (European) and swaptions<sup>157</sup>;
- Credit derivatives – CDS<sup>158</sup>;
- Equity – OTC equity derivatives are not allowed in the onshore market but are permissible in the GIFT City. Offshore OTC equity derivatives are regulated if one of the parties (directly or indirectly) is an entity registered in India as an FPI;
- Commodity – OTC commodity derivatives are not allowed onshore. Hedging of bullion, energy, agriculture and base metals related business value chain risks is undertaken in the offshore market.

In line with India's economic growth aspirations and its commitment to the G-20 objectives, it is imperative for various market participants, including businesses, investors and financial institutions, to have access to a diverse range of hedging tools, such as OTC derivatives contracts. These financial instruments play a crucial role in managing and mitigating the risks associated with currency fluctuations, interest rates, and commodities. Given the growth and increasing diversification of India's economy, more and more market participants will need OTC derivatives for better risk and cashflow management, and as hedges to protect against risks that they are exposed to in their business value chain in the course of the industrial or commercial business: manufacturers, food producers or construction firms exposed to raw materials price fluctuations, power suppliers or airlines exposed to energy price hikes, corporate and investors exposed to interest rates fluctuations and inflation, local banks exposed to interest rates and currency volatility.

As such, there is a need to facilitate greater OTC derivatives product development in India. By providing a robust and extensive spectrum of derivatives contracts, India can empower its economic stakeholders to effectively navigate the complexities of a dynamic global economy. This not only fosters financial stability but also enhances the attractiveness of the Indian market for both domestic and international participants, ultimately contributing to India's economic growth trajectory and its alignment with G-20 objectives.

As such, it is recommended that Indian market participants and regulators should consider broadening product development, innovation and diversification to cater to growing needs in the market. These can be divided into two broad categories:

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<sup>155</sup> Source: RBI [Market Maker Directions](#)

<sup>156</sup> Source: RBI [Risk Management and Inter-Bank Dealing Directions](#)

<sup>157</sup> Source: RBI [Rupee Interest Rate Derivatives Directions](#)

<sup>158</sup> Source: RBI [Credit Derivatives Directions](#)

- *Category 1:* Products that are currently available in the market and are considered permissible but have not yet gained significant traction;
- *Category 2:* Products that are currently not offered by market makers as they are not permissible under existing regulatory guidelines, but will enable robust risk management and increase market depth.

### 5.2.1. Increase the Depth of Products that are Currently Available and Permissible in the Market (Category 1)

India currently offers several OTC derivatives products in the onshore market across the FX, interest rate and credit asset classes. However, given the growth of India's economy over the horizon, there will be a greater need for capital raising and hedging activities, especially as Indian corporates grow and expand regionally and globally and international companies set up factories in India. As such, there will be a need to further increase market liquidity and improve price discovery of OTC derivatives products to better cater to these needs. To that end, the following recommendations are made:

#### ***Increase Liquidity in the Longer Tenor OIS Curve and Enable Price Discovery***

Pension funds, long-term investors and infrastructure companies typically have long-term liabilities and investment horizons, requiring effective risk management tools to address long-term exposures ranging from seven years to well beyond 20 years. For effective risk management, these entities require long-dated derivatives instruments. Presently, within India's OTC derivatives market, liquidity tied to the FBIL MIBOR curve is robust up to five years, with quotes available to a limited extent up to 10 years. In the context of the OTC derivatives market in India, challenges arise due to the limited liquidity, particularly in longer-dated instruments. According to feedback from market participants, the lack of longer-term OTC derivatives instruments to hedge beyond 10 years has been an issue in managing long-term liabilities and risk exposure in their books. This liquidity constraint poses a significant hurdle for these market participants in their efforts to hedge and manage risks associated with their long-term liability exposures and investments.

Without a robust and liquid OTC derivatives market catering to longer-dated instruments, pension funds and other long-term investors may find it challenging to implement effective investment and risk management strategies. The unavailability of suitable hedging tools could expose these market participants to heightened market risks, potentially impacting the performance and stability of their portfolios over the long term. In the worst-case scenario where investors could not find suitable OTC derivatives to hedge off their risks, they may even avoid investing in that particular asset class or project, which would impede broader economic growth.

Addressing this issue requires concerted efforts from market makers, market participants, benchmark administrators and market infrastructure providers to enhance the liquidity and diversity of longer-dated OTC derivatives instruments in the Indian market.

A strategic move for market makers could be to offer such longer-tenor derivatives to buy-side participants. This, in turn, would enable market participants with long term liability exposures to better navigate and manage their long-term exposures effectively. Improving the liquidity in longer-dated instruments would contribute to the overall resilience and attractiveness of the OTC derivatives market in India for these key stakeholders.

In addition, FBIL, as the benchmark administrator, could collate data based on these longer-term transactions and extend the curve's tenor. In extending the curve's tenor beyond the current 10-year limit, market makers and FBIL would not only cater to the immediate liquidity needs of long buy-side players but also pave the way for the development of longer-dated derivative instruments. This expansion would

provide a foundation for crafting financial instruments with maturities ranging from 15 to 20 years. This could create a more comprehensive set of longer dated derivative instruments to cater to diversifying risk management needs, addressing the unique needs of these players and fostering a robust risk management ecosystem.

The proposed changes not only enhance market liquidity but also stimulate the evolution of sophisticated risk management instruments, contributing to the overall resilience and adaptability of India's financial markets.

### **Facilitate Growth of Standardized Term Benchmarks and Derivatives Linked to Term Benchmarks**

The banking sector in India uses multiple benchmarks for extending floating rate loans to the borrowers due to the evolving regulatory directions. As per the Master Direction – Reserve Bank of India (Interest Rate on Advances) Directions, 2016<sup>159</sup>, all floating rate loans sanctioned/renewed between July 2010 and March 2016 were required to be priced with reference to the base rate. Thereafter, all floating rate loans sanctioned/renewed after April 2016 are required to be priced with reference to the Marginal Cost of Funds based Lending Rate (MCLR). Subsequently, in 2019, the RBI mandated banks to link all new floating rate personal / retail loans and floating rate loans extended to micro, small and medium enterprises (with effect from October 2019 for Micro and Small Enterprises and April 2020 for Medium Enterprises) to external benchmarks lending rate (EBLR). The regulatory evolution has been summarized in the diagram below.

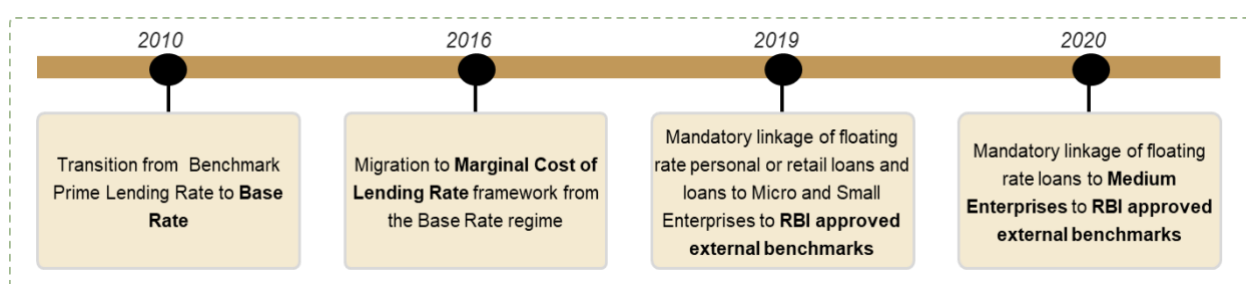


Figure 24: Regulatory evolution with respect to benchmarks for floating rate loans

Thus, banks then started using (i) overnight repo rate as their floating rate EBLR for INR loans; (ii) MCLR for wholesale portfolio; (iii) 10-year government securities tenor point for longer term portfolio such as home loans. This has led to multiple benchmarks being used by banks for extending floating rate loans. However, in the Indian OTC derivatives market, currently, the primary INR swap curve that can be used to hedge floating rate loans is the overnight FBIL MIBOR.

Hence, there is a mismatch between the benchmark rate used by banks for extending floating rate loans to the borrowers and the benchmark rate used for the derivative contracts (that have been entered into for hedging such floating rate loans). Since these benchmark curves don't move in tandem, it creates a significant basis risk between the OIS benchmark quoted in derivative markets vis-à-vis the term benchmarks used by banks to disburse floating rate loans for borrowers. This, in turn, leads to the banks not being able to hedge the IRRBB completely ie, a situation of imperfect hedge is created.

Hence, the existence of the aforementioned basis risk presents a significant opportunity for the development of a standardized term benchmark, creation of a basis curve and/or the introduction of swaps linked to the overnight repo rate. To provide a solution to the banks that would want to hedge their IRRBB arising out of floating rate loan exposures, it is recommended that market benchmark administrators such as FIMMDA should consider the development of a standardized term benchmark or the creation of a basis curve or for regulators to consider the introduction of repo linked swaps. Such benchmarks should be robust

<sup>159</sup> Source: [Master Direction - Reserve Bank of India \(Interest Rate on Advances\) Directions, 2016](#)

and transaction-based, in line with the International Organization of Securities Commissions' (IOSCO) principles for financial benchmarks.

### ***Facilitate Growth of Credit Derivatives<sup>160</sup>***

In India, guidelines for CDS were reviewed, and revised Directions (Credit Derivatives) were issued on February 10, 2022 (CDS Directions). The CDS Directions permit non-retail users such as regulated financial entities and FPIs to sell protection. They also allow non-retail users to buy protection for hedging or expressing their views on credit risk. Further, with the introduction of the Bilateral Netting of Qualified Financial Contracts Act 2020, issues relating to netting have been substantially addressed. However, the CDS market in India has not flourished up until now. Key factors on why India's CDS market has yet to gain traction, and corresponding recommendations to facilitate the growth of the CDS market are as follows.

- a. The RBI permits only single-name CDS with limited underlying instrument options such as a few money market instruments and specific bonds and debentures. However, most of the banking sector has credit exposure through loans. Since CDS with loans as underlying are currently not permitted by the RBI, this restricts the ability of banks to hedge using CDS and the potential use of CDS products.

The RBI may wish to consider expanding the scope of CDS from single-name to multi-name CDS along with allowing loans to be included as an eligible underlying instrument for CDS to allow banks to better manage their credit exposures. Multi-name CDS are CDS contracts where there is more than one reference entity or asset specified in the portfolio or basket CDS or CDS indices. Such a swap will provide protection for a combination of credits (names), rather than a single credit (single name: single-name CDS), thus facilitating a wider and diversified credit protection. A multi-name CDS is an insurance on a reference portfolio of a number of entities with equal or unequal weight so that the portfolio's total notional amount is equal to one. The protection buyer pays a regular premium that is proportionate to the current notional amount of the swap. An example of this swap would be a basket CDS, which is a credit derivative in which the reference entities are typically specific bonds or issuers chosen by the protection buyer and the protection seller. The credit events triggering the payout are linked to the default or other credit events of the entities included in the basket. Another example is a credit default index swap, which is essentially an index of CDS, with pre-defined baskets of reference entities grouped by industry or region. The credit events are linked to the performance of the entire index, rather than individual entities.

- b. As mentioned in Section 4.4, the underlying corporate bond market in India is still developing and is primarily restricted to top-rated entities. In FY22, 95% of issuances in India's corporate bond market were by AAA- and AA- rated entities. Corporates in India with lower credit rating tend to turn to banks and lending institutions to meet their borrowing needs as the cost of raising funds through the corporate bond market is significantly higher due to high credit spreads / premiums associated with lower credit ratings. Relevant authorities in India may consider ways to incentivize lower rated borrowers to participate in the corporate bond market and diversify their sources of funding such as via grants and bond market development schemes/initiatives, and kickstart the corporate bond market. For example, in Singapore, the Monetary Authority of Singapore has a Global-Asia Bond Grant Scheme which provides incentives for first-time bond issuers raising capital in Singapore's bond market.

The government of India and Indian regulatory authorities have recognized the growth potential of the corporate bond market in India and have already taken steps for implementation of many of the recommendations provided by expert committees on corporate bond market in India. As per the report

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<sup>160</sup> Please refer to *Annexure 4 (Section 7.4 of this document)* for details on the need of CDS

of the Working Group on Development of Corporate Bond market in India<sup>161</sup>, while the CDS market itself plays an active role in promoting the growth of the underlying bond market (by protecting the investors against credit risk, thus boosting investor confidence and leading to further investments), there are other aspects that contribute to the deepening of the bond market in India. One such aspect is the development of an active repo market for corporate bonds, which will assist in improving the liquidity of the underlying corporate bond and enhance the ability of the holders of such bonds to monetize these bonds without the need to sell them.

- c. Limited set of market makers allowed to sell protection via CDS. Currently, only banks, primary dealers, AIFs and strong NBFCs are permitted to offer CDS, limiting market-making activities and depth of this instrument. Although the RBI has permitted other entities such as insurance companies, AMCs, pension funds, etc. to sell protection via CDS, their respective regulators ie, IRDAI, SEBI and PFRDA respectively have not yet permitted them to act as protection sellers. IRDAI, SEBI and PFRDA may wish to consider allowing their respective regulated entities to sell CDS protection. Specifically, as an example, insurance companies selling CDS protection will allow them to diversify their own risk portfolio due to low correlations between insurance and financial risks. Furthermore, availability of more protection sellers will increase competitiveness in the market and can be beneficial for protection buyers since they will be able to obtain the CDS protection at a more affordable premium.

Facilitating the expansion of CDS in India could play a key role in addressing the intricate challenges associated with fostering the development of the country's corporate bond market. Presently, the corporate bond market in India grapples with a significant impediment where market participants are dissuaded by the limited availability of CDS as a risk management tool. Realizing the full potential of the corporate bond market necessitates the establishment of a robust CDS market capable of offering investors an effective mechanism for credit risk management. Enabling market participants to hedge against default risks through CDS has the potential to enhance investor confidence, consequently encouraging greater engagement in the corporate bond market. This mutually beneficial relationship between a vibrant CDS market and a flourishing corporate bond market has the capacity to overcome the existing impasse, paving the way for a more resilient and dynamic financial ecosystem in India.

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<sup>161</sup> Source: [Report of the Working Group on Development of Corporate Bond Market in India](#)

## 5.2.2. Allow New Product Offerings (Category 2) to Increase Market Depth

To align with its medium and long-term economic goals, there is potential to enhance the depth of India's financial markets. Introducing innovative and diversified products can serve as a catalyst for this advancement. In pursuit of this objective, we would propose key recommendations for products that are presently unavailable due to regulatory constraints imposed on market makers. The introduction of these products has the potential to facilitate robust risk management and contribute to the expansion of market depth in India's OTC derivatives market.

### **OTC Commodity Derivatives**

India does not have an OTC commodity derivatives market, and market making of OTC commodity products in India is not permitted by the RBI and also requires amendment to the Banking Regulation Act, 1949. On the other hand, India has an established and growing commodity ETD (onshore India and also in India's IFSC GIFT City) market comprising of futures and options across four major commodity market segments – energy (crude oil and natural gas), bullion (gold and silver), metals (copper, aluminum, zinc, lead, and nickel) and agricultural commodities (edible oils, cotton and others) (see Section 3).

However, resident Indian corporates are permitted to participate in commodity derivatives in overseas OTC and ETD markets, subject to approvals either under the automatic route (ie, the RBI delegates banks to provide approvals to resident Indian companies) or under the approval route (ie, mandatory requirement for obtaining the approval from the RBI or AD Category-I banks). Specific AD Category-I banks in India have also been permitted to participate in the overseas OTC and ETD gold derivatives market (subject to certain terms and conditions) for the purpose of hedging gold prices<sup>162</sup>.

There is opportunity for India to develop an onshore OTC commodity derivatives market without cannibalizing its ETD market to meet the growing risk management needs as India's economy grows and realize this potential onshore. Most of the commodity pricing benchmarks today are derived from international markets, and participation in overseas commodity derivative markets is limited primarily to large institutions given the high margin requirements, which have made it challenging for smaller domestic players to participate. While commodity derivatives available in the domestic ETD market serve as alternative instruments for such players for risk management, different pricing considerations and the difficulty of finding a perfect hedge catered to their underlying commodity pricing profile has led to challenges from a risk management perspective. To illustrate, for example, a buy-side entity may have exposure to crude oil priced in Dubai's pricing benchmarks; however, on India's ETD market, only WTI crude oil derivatives (futures and options) are available. As a result, for the buy-side entity hedging using the UTI crude oil ETDs, there would be basis risk because there is imperfect or incomplete correlation between the price movements of the asset being hedged and the hedging instrument.

In addition, as ETDs are standardized contracts and typically in smaller sizes, there is no flexibility in the ETD contract specifications to cater to the market participants' diverse and specific hedging requirements. In such cases, the OTC derivatives market can complement by offering such contract flexibility to the market participant and co-exist with the ETD market. The coexistence of both ETD and OTC commodity derivatives markets could prove beneficial, as they cater to distinct needs for a variety of market participants within the financial landscape. As such, there is opportunity for India to develop an onshore OTC commodity derivatives market without cannibalizing the ETD market.

Furthermore, having an Indian onshore OTC commodity derivative market can benefit market participants by offering derivatives for commodities where there are minimal or no available contracts in the ETD markets – for example: in the energy space, having crude oil derivatives with pricing that is linked to the Platts Dubai pricing benchmark or on the petroleum products side, having derivatives on gasoil and aviation

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<sup>162</sup> Source: RBI [Master Direction - Risk Management and Inter-Bank Dealings](#)

turbine fuel. Striking a balance between ETD and OTC commodity derivatives marketplaces can contribute to a more resilient, versatile and adaptable commodity derivatives landscape in India.

As such it is recommended that the RBI and other regulatory authorities could consider developing an OTC commodity derivatives market in India to meet India's market participants' needs onshore. The RBI could allow banks and other market participants to deal in OTC commodity derivatives onshore and develop capabilities in dealing in OTC commodity derivatives and risk management in India. The development of a robust and liquid OTC commodity derivatives market in India could prove instrumental as the economy continues to grow, given India's significant reliance on commodities. The establishment of a well-functioning OTC market would offer several key advantages – eg, an OTC commodity derivatives market would provide a flexible environment where market participants can navigate evolving economic conditions and changing commodity dynamics, reinforcing stability in the face of growth-related challenges.

An opportunity for the development of India's OTC commodity derivatives market lies in addressing specific risks faced by market participants. One avenue for this development is the introduction of OTC derivatives contracts for steel, which could be linked to a widely accepted benchmark such as Management Engineering & Production Services International Ltd<sup>163</sup> prices, commonly used by steel industry players in India. Another potential area involves introducing OTC crude oil derivatives contracts tied to the Brent and Dubai pricing benchmarks, which are currently employed by refineries in foreign OTC derivative markets to hedge against basis risk.

It would be understandable that India's regulatory authorities may be concerned with the gradual accumulation of risk of establishing an OTC commodity derivatives market onshore. In this relation, the RBI may contemplate initiating a trial phase within the GIFT city. Establishing an onshore OTC commodity derivatives market, both in India and within the GIFT city, holds potential benefits for mid-sized and small market participants, as well as large institutions in the long run. This initiative could enable them to engage in specific OTC products tailored to their physical pricing profiles, allowing them to hedge against price risk exposures as India's economy grows. Additionally, customizing OTC derivatives to align with specific industries and pricing benchmarks can reduce basis risk and align with the settlement cycles of the respective physical commodities.

As India has also instituted the netting legislation and is on course to address margin requirements as well (IM guidelines pending), this may serve as the right opportunity to consider instituting a safe and well-functioning onshore OTC commodity derivatives market.

### ***ESG-related and Climate Derivatives***

The past decade has seen ESG investing gaining prominence globally (especially among OECD group of countries). The growth in ESG has been fueled by country-level time-bound green transition goals, which envisage a shift towards economically sustainable growth and an ecosystem that is not based on fossil fuels and overconsumption of natural resources. In continuation of its commitment to COP26<sup>164</sup>, India has introduced an Energy Conservation Act in 2023, spelling out the framework for carbon trading system.

The development of an OTC ESG-related derivatives market in India can act as a catalyst and offer a range of incentives to facilitate green energy transition within the country. OTC ESG-related derivatives can play a crucial role in directing additional capital toward sustainable investments, aiding market participants in mitigating risks associated with factors, and make such projects more financially viable and attractive to investors which can support the growth of the green energy sector in India. They also contribute to

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<sup>163</sup> Management Engineering & Production Services (MEPS) International Ltd is a leading UK-based consultancy company operating in the steel sector worldwide and an independent supplier of steel market data and information.

<sup>164</sup> COP stands for Conference of the Parties and is attended by countries that signed the United Nations Framework Convention on Climate Change (UNFCCC) – a treaty signed in 1994. It is the global summit about climate change and how countries are planning to tackle it.

transparency, price discovery, market efficiency, and foster taking on a long-term perspective in ESG projects and financing.

The following products are recommended for introduction and development in India:

- i. **Sustainability-linked Derivatives (SLDs)**<sup>165</sup>: SLDs embed or create a sustainability linked cashflow using key performance indicators (KPIs) designed to monitor compliance with ESG targets. SLDs may be of different forms such as:

- Vanilla derivative transactions such as interest rate swap, CDS, cross-currency swap, etc. with an ESG pricing component linked to a KPI;
- In case the SLD is being used as a hedge instrument, the underlying may or may not be ESG-related. In case the underlying is not ESG-related, the KPI will not be linked to the underlying and may be linked to an external ESG component. However, in case the underlying is an ESG structure, the KPI may be specifically linked to the underlying.

Some of the use cases of SLDs are: (a) Entering into an IRS to hedge interest rate risk with interest costs varying (basis point discount or penalty can be applied) depending on whether the sustainability targets have been met by one of the counterparties; (b) Entering into a currency option wherein the counterparty must donate an agreed amount to a charitable organization depending upon its ESG performance.

- ii. **Emissions Allowance Transaction**<sup>166</sup>: A transaction in which one party agrees to buy from or sell to the other party a specified quantity of emissions allowances or reductions at a specified price for settlement either on a “spot” basis or on a specified future date. An emissions allowance transaction may also constitute a swap of emissions allowances or reductions or an option whereby one-party grants to the other party (in consideration for a premium payment) the right, but not the obligation, to receive a payment equal to the amount by which the specified quantity of emissions allowances or reductions exceeds or is less than a specified strike.
- iii. **Renewable Energy Certificate Transaction**: A transaction in which one party agrees to buy from or sell to the other party a specified quantity of renewable energy certificates (RECs), renewable energy credits or other analogous products at a specified price for settlement either on a “spot” basis or on a specified future date and is settled by physical delivery, transfer, export, retirement, cancellation, redemption or other analogous utilization of RECs in exchange for a specified price. A REC transaction may also be structured as an option for which a quantity of RECs is settled in exchange for the strike price or by cash settling the option, in which case the seller of the option would pay the difference between the market price of that quantity of RECs on the exercise date and the strike price.
- iv. **Climate Derivatives**: A transaction, structured in the form of a swap, cap, collar, floor, option or some combination thereof, between two parties in which the underlying value of the transaction is based on a rate or index pertaining to weather conditions, which may include measurements of heating, cooling, precipitation and wind. Currently wagering on occurrence or non-occurrence of rains is illegal in India. However, given the importance of climate change globally, an appropriate model for trading along with suitable regulations with respect to OTC trading of climate derivatives may be considered.

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<sup>165</sup> Source: [ISDA Overview of ESG related Derivatives](#) and [ISDA Sustainability-linked Derivatives KPI Guidelines](#)

<sup>166</sup> Though technically not commodity derivatives, Emissions allowance transactions are generally classified, under the ISDA legal documentation, as commodities.



### ***OTC Equity Derivatives in Onshore Market***

As per existing the RBI guidelines, market makers are not explicitly allowed to offer OTC equity derivatives in the Indian onshore market and market makers are unable to offer derivatives products with equity as an underlying. Given the strong growth of the underlying equity market in India through exchange-traded equity indices and stocks, there is a significant opportunity to develop a liquid and deep OTC equity derivatives market onshore for Indian market participants.

The key advantages of OTC equity derivatives include:

- Enable end-users to access customized risk management tools for diverse market needs. The introduction of OTC equity derivatives would facilitate the creation of customized financial instruments that cater to the diverse needs of investors and corporations. This flexibility is essential, especially when addressing complex risk exposures that may not be adequately covered by standardized exchange-traded products.
- Complement India's vibrant ETD and cash equities market – OTC equity derivatives would play a complementary role alongside exchange-traded products, offering additional avenues for risk management without overshadowing the importance of traditional exchange-traded instruments. This dual-market structure provides investors with a broader array of choices to suit their risk appetites and equity investment strategies.
- Attract institutional participation in India – institutional investors often seek tailored solutions to meet their specific risk and return requirements. For example, customization may include non-standard strikes, expiries and contract size, as well as specific arrangements relating to pricing, special pricing features, valuation terms, dividends, corporate-action and other adjustments, risk allocation terms and margin. The contracts may also be referenced to custom underliers. Allowing OTC equity derivatives would attract increased institutional participation, contributing to greater market depth and liquidity. This, in turn, enhances the overall attractiveness of the Indian equity market to domestic and international investors.
- Create price stability in the market by reducing concentration risk around exchange-traded derivatives expiry dates.
- Borrowers in the local capital markets can diversify funding sources by embedding equity optionality in their financing. Equity options give the holder the right to purchase equity shares at a predetermined price and date. By incorporating equity-linked features into their financing, borrowers gain the advantage of diversification in their funding sources. Investors attracted to the potential equity upside may be more inclined to participate in such offerings, broadening the pool of available capital.

Regulators may also explore the permissibility of total return swaps (TRS) with the reference instrument (underlying asset) as an equity instrument / equity index / benchmark index. A TRS refers to a swap agreement in which one party (total return receiver) makes the payment based on a set rate that can be fixed or variable and the other party (total return payer) makes the payment based on the return of the underlying asset. The underlying asset is usually owned by the party receiving the set rate payment. This structure allows the total return receiver to benefit from and earn returns on the underlying instrument without the need to actually own the instrument and the total return payer to benefit from protection against loss in value of the underlying asset.

- Provide means for insurance companies to launch capital protection products and hedge their risk using equity derivatives products.

In conclusion, the introduction of OTC equity derivatives in India has the potential to further enhance the resilience and efficiency of India's financial markets. The flexibility, risk management capabilities and innovation fostered by OTC products can contribute positively to the growth trajectory of India's equity markets. The development of OTC equity derivatives would align India with global financial market practices and reinforce India's position in the global derivatives landscape. It would send a positive signal to international investors and institutions, showcasing India's commitment to providing a more comprehensive and sophisticated financial market infrastructure. This will further underscore India's commitment to a vibrant and globally competitive financial ecosystem.

### 5.3. Foster Adoption of Similar Market and Risk Principles Across Regulatory Regimes

The Indian financial system is supervised by a comprehensive multi-regulatory framework covering a diverse set of market participants such as banks, insurance companies, pension funds, asset management companies, NBFCs and corporates. The responsibility of regulatory supervision and oversight of the OTC derivatives market in India resides with various regulators and central government ministries, including the Ministry of Finance, RBI, SEBI, IRDAI, PFRDA and IFSCA.

Each regulatory body mentioned is responsible for regulatory supervision and oversight of a specific market segment and set of market participants in the OTC derivative market of India. The infographic below summarizes the scope of regulatory coverage associated with each of the five regulators mentioned above. For more information on the regulatory authorities and supervision framework in India, refer to Section **Error! Reference source not found.**

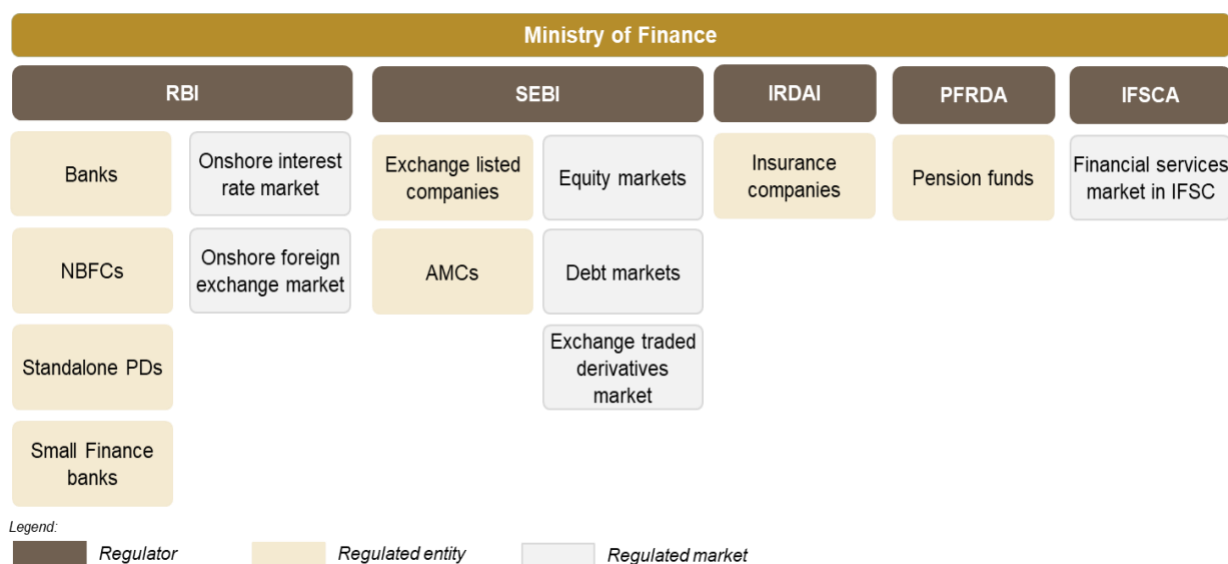


Figure 25 – Overview of the regulatory landscape in India

A key principle underlying implementation of an efficient multi-regulatory framework is the principle of ‘similar business, similar rules’. In global jurisdictions that also follow a multi-regulatory framework, such as the EU and the US, a fairly consistent application of the aforementioned principle can be observed across areas pertaining to OTC derivatives such as margining, valuation, clearing, product offerings and reporting.

In India, the principle of ‘similar business, similar rules’ can be observed being applied amongst the market participants of OTC derivatives through examples such as presence of a common market data source and repository for all market participants through FBIL and FEDAI. However, in certain cases, as highlighted below, there are different practices adopted by respective regulators for their regulated entities.

## Usage and Permissibility of OTC CDS

The RBI has permitted non-retail users to buy protection via CDS for hedging or otherwise. However, IRDAI and SEBI have allowed insurance companies and asset management companies respectively to buy protection via CDS only for hedging purposes. PFRDA has not permitted pension funds to buy and/or sell protection via CDS.

The RBI has also stated that non-retail users such as insurance companies, pension funds, mutual funds, AIFs and FPIs are eligible to act as protection sellers of CDS. However, both IRDAI and SEBI have not allowed their respective regulated entities to act as protection sellers of CDS and have limited their usage as buyers of CDS protection. PFRDA has not permitted pension funds to buy and/or sell protection via CDS.

The RBI has stated that instruments such as money market debt instruments, rated INR corporate bonds and debentures, unrated INR corporate bonds and debentures issued by the special purpose vehicles set up by infrastructure companies and bonds with call/put options shall be eligible to be a reference obligation in a CDS contract. However, IRDAI does not consider money market debt instruments and bonds with call/put options as an explicit eligible underlying reference obligation for CDS contracts. SEBI states that “Mutual funds can participate as users in CDS for the eligible securities as reference obligations, constituting from within the portfolio of only Fixed Maturity Plans (FMP) schemes having tenor exceeding one year”.

Insurance Companies			
	Theme	RBI <sup>167</sup>	IRDAI <sup>168</sup>
1	Purpose of entering into CDS	Non-retail users (including insurance companies regulated by IRDAI) shall be allowed to buy protection for <b>hedging or otherwise</b>	CDS are permitted as a “ <b>hedge</b> ” to manage the credit risk covering the credit event
2	Participation as protection seller in CDS	Insurance Companies regulated by IRDAI shall be eligible to act as <b>protection sellers</b>	Insurers are allowed only as “Users” ( <b>protection buyers</b> ) of CDS
3	Underlying (reference obligation) for CDS	<p>a. The following debt instruments issued in India:</p> <p>i. <b>Money market debt instruments</b>;</p> <p>ii. Rated INR corporate bonds and <b>debentures</b>; and</p> <p>iii. Unrated INR corporate bonds and <b>debentures</b> issued by the special purpose vehicles set up by infrastructure companies</p> <p>b. <b>Bonds with call/put options</b> shall be eligible to be reference obligations</p>	<p>i. CDS will be allowed only on listed corporate bonds as reference obligations</p> <p>ii. CDS can also be bought on unlisted but rated bonds of Infrastructure companies.</p> <p>iii. Unlisted / unrated bonds issued by the SPVs set up by the infrastructure companies</p>

<sup>167</sup> Source: RBI [Credit Derivatives Directions](#)

<sup>168</sup> Source: [IRDAI \(Investment\) Regulations, 2016](#) (for OTC FX, IR and Credit derivatives)

AMCs			
	Theme	RBI	SEBI <sup>169</sup>
1	Purpose of entering into CDS	Non-retail users (including mutual funds regulated by SEBI) shall be allowed to buy protection for <b>hedging or otherwise</b>	Mutual funds are permitted to <b>buy</b> credit protection only to <b>hedge</b> their credit risk on corporate bonds they hold
2	Participation as protection seller in CDS	Mutual funds regulated by SEBI shall be eligible to act as <b>protection sellers</b>	Mutual funds shall participate in CDS transactions only as users ( <b>protection buyer</b> )
3	Underlying for CDS	<p>a. The following debt instruments issued in India:</p> <p>i. <b>Money market debt instruments;</b></p> <p>ii. Rated INR corporate bonds and <b>debentures;</b> and</p> <p>iii. Unrated INR corporate bonds and <b>debentures</b> issued by the Special Purpose Vehicles set up by infrastructure companies</p> <p>b. <b>Bonds with call/put options</b> shall be eligible to be reference obligations.</p>	Mutual funds can participate as users in CDS for the eligible securities as reference obligations, constituting from within the portfolio of only FMP schemes having tenor exceeding one year

Pension Funds			
	Theme	RBI	PFRDA <sup>170</sup>
1	Purpose of entering into CDS	Non-retail users (including pension funds regulated by PFRDA) shall be allowed to buy protection for hedging or otherwise	CDS not permitted

### **Usage and Permissibility of OTC Interest Rate Derivatives**

The RBI has permitted non-retail users to undertake transactions in permitted OTC interest rate derivatives such as FRAs, IRS, European interest rate options (caps, floors, collars and reverse collars), swaptions and structured derivatives (excluding leveraged derivatives), for both hedging or otherwise.

However, IRDAI has permitted insurance companies to only enter into FRAs, IRS and/or IRFs to hedge interest rate risk on forecasted transactions for life, pension and general annuity business and general insurance business. Life Insurance companies may be allowed to use interest rate options, swaptions, interest rate caps, interest rate floors, interest rate collars and IR reverse collars by IRDAI for the purpose of risk management and hedging, given that the RBI has already stipulated that insurance companies can participate in such instruments.

<sup>169</sup> Source: [Master Circular for Mutual Funds](#) (for OTC FX, IR and Credit derivatives)

<sup>170</sup> Source: [PFRDA Investment Guidelines](#) (for OTC FX, IR and Credit derivatives)

Additionally, SEBI has permitted mutual fund schemes to undertake transactions in only FRAs and IRS with banks, primary dealers and financial institutions as per applicable the RBI guidelines for trading purposes, and regulated entities are permitted to enter into only plain vanilla IRS for hedging purposes. PFRDA has not permitted pension funds to undertake any transactions in OTC interest rate derivatives.

Insurance companies			
	Theme	RBI <sup>171</sup>	IRDAI <sup>172</sup>
1	Purpose of entering into IRD	Resident 'non-retail' users (including insurance companies regulated by IRDAI) can undertake transactions in permitted products for both hedging and otherwise	Insurers can enter FRAs, IRS, exchange-traded IRF to "hedge" interest rate risk on forecasted transactions, for life, pension and general annuity business and general insurance business
2	Interest rate derivatives permitted	i. FRA, ii. IRS, iii. European interest rate options including caps, floors, collars and reverse collars, iv. Swaptions and structured derivatives products, excluding leveraged derivatives	OTC products permitted: i. FRAs; ii. IRS.  IRS having explicit/implicit options features are prohibited

AMCs			
	Theme	RBI	SEBI <sup>173</sup>
1	Products permitted for trading in IRD	i. FRA, ii. IRS, iii. European interest rate options, including caps, floors, collars and reverse collars, iv. Swaptions and structured derivatives products, excluding leveraged derivatives	<u>Trading in IRD</u> Mutual fund schemes are permitted to undertake transactions in FRAs and IRS with banks, primary dealers and financial institutions as per applicable the RBI guidelines
2	Products permitted for hedging in IRD	i. FRA, ii. IRS, iii. European interest rate options, including caps, floors, collars and reverse collars, iv. Swaptions and structured derivative products, excluding leveraged derivatives	<u>Hedging in IRD</u> Plain vanilla interest rate swaps

Pension Funds			
	Theme	RBI	PFRDA <sup>174</sup>

<sup>171</sup> Source: RBI [Rupee Interest Rate Derivatives Directions](#)

<sup>172</sup> Source: [IRDAI \(Investment\) Regulations, 2016](#) (for OTC FX, IR and Credit derivatives)

<sup>173</sup> Source: [Master Circular for Mutual Funds](#) (for OTC FX, IR and Credit derivatives)

<sup>174</sup> Source: [PFRDA Investment Guidelines](#) (for OTC FX, IR and Credit derivatives)

1	Purpose of entering into IRD	Resident 'non-retail' users (including pension funds regulated by PFRDA) can undertake transactions in permitted products for both hedging and otherwise	OTC IR derivatives not permitted
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### **Usage and Permissibility of OTC FX Derivatives**

The RBI has permitted ADs to offer OTC FX derivatives contracts such as FX forwards and swaps to non-retail users subject to the RBI guidelines. However, IRDAI, SEBI and/or PFRDA do not permit their respective regulated entities to undertake any transactions in OTC FX derivatives.

IRDAI may consider allowing FX derivatives such as FX forwards and FX swaps for insurance companies as they provide global coverage and are required to pay out claims in different currencies, and also on account of reinsurance contracts.

SEBI may consider allowing mutual fund companies to hedge FX exposures via onshore OTC derivatives. If allowed, fund of fund structures, flexi cap structures, where Indian mutual funds houses are directly investing global funds and/or equities may be able to offer currency risk protection.

<b>Insurance Companies</b>			
	<b>Theme</b>	<b>RBI<sup>175</sup></b>	<b>IRDAI<sup>176</sup></b>
1	FX derivatives	Authorized users shall offer the eligible products to non-retail users (including insurance companies regulated by IRDAI)	OTX FX derivatives not permitted

<b>AMCs</b>			
	<b>Theme</b>	<b>RBI</b>	<b>SEBI<sup>177</sup></b>
1	FX derivatives	Authorized users shall offer the eligible products to non-retail users (including mutual funds regulated by SEBI)	OTX FX derivatives not permitted

<b>Pension Funds</b>			
	<b>Theme</b>	<b>RBI</b>	<b>PFRDA<sup>178</sup></b>
1	FX derivatives	Authorized users shall offer the eligible products to non-retail users (including pension funds regulated by PFRDA)	OTX FX derivatives not permitted

### **Application of credit conversion factors**

The implementation of credit conversion factors (CCF) for OTC interest rate derivatives is inconsistent between the RBI and IRDAI regulations. Although the CCFs under both the RBI guidelines and IRDAI regulations are equal (as given in the table below), the method of application differs under both the regulations.

<sup>175</sup> Source: RBI [Risk Management and Inter-Bank Dealing Directions](#)

<sup>176</sup> Source: [IRDAI \(Investment\) Regulations, 2016](#) (for OTC FX, IR and Credit derivatives)

<sup>177</sup> Source: [Master Circular for Mutual Funds](#) (for OTC FX, IR and Credit derivatives)

<sup>178</sup> Source: [PFRDA Investment Guidelines](#) (for OTC FX, IR and Credit derivatives)

Residual Maturity	Interest Rate Contracts
One year or less	0.50
Over one year to five years	1.00
Over five years	3.00

As per the RBI regulations, the relevant CCF (depending upon the residual maturity of the contract) is directly multiplied by the notional of the contract to calculate the potential future exposure. However, in case of IRDAI regulations, the CCFs are calculated for each year of the residual maturity of the contract (unlike the RBI guidelines) and the sum of the yearly CCFs is applied to the notional in order to arrive at the potential future exposure (please refer to the example below for further clarity). IRDAI may consider revising their existing CCF norms and aligning them to the RBI norms.

For example, for an IRS of INR 10 crore with residual maturity of four years, potential future exposure shall be calculated as follows:

RBI: INR 10 crore \* 1% = INR 0.10 crore (where 1% is the CCF factor for the fourth year)

IRDAI: INR 10 crore \* 3.5% = INR 0.35 crore (where 3.5% = 0.5% CCF for the first year and 1% CCF for each of the next three years)

It is recommended that regulatory authorities overseeing different buy-side participants align their rules regarding participation in the OTC derivatives market. In principle, we advocate granting buy-side entities access to both exchange-traded and OTC derivatives to provide flexibility for managing and hedging risks, as well as executing trading and investment strategies. This approach enables them to access a broader range of products to fulfill their hedging and investment objectives. Regulators' concerns about potential systemic risks associated with increased participation of buy-side players in OTC derivatives are recognized. However, addressing these concerns can be achieved through policy tools such as central clearing and margining of non-centrally cleared derivatives, as elaborated in subsequent sections. Implementing these measures would contribute to well-integrated financial regulations and promote development in India's OTC derivatives market.

Therefore, it is recommended that policymakers in India could consider exploring the dismantling of market access barriers and harmonizing regulatory treatment across buy-side entities in OTC derivatives. Forums like the Financial Stability and Development Council (FSDC) chaired by the Ministry of Finance, or the FSDC sub-committee, chaired by the RBI governor, which reviews issues of inter-regulatory coordination relating to the Indian financial sector, can serve as valuable platforms for coordinating and aligning regulatory rules related to OTC derivatives among various market regulators.



## 5.4. Enhance Market Access and Diversification of Participants in OTC Derivatives

Ensuring a diverse range of participants on both the buy and sell side is a fundamental necessity to foster the growth of a resilient, liquid, and efficient OTC derivatives market. The success of any market when measured in terms of depth, liquidity, efficiency and stability is predicated among other things on how widely the market instrument is used by various participants in addressing their needs. Having a wider set of participants typically ensures a good medium for risk transfer from one participant to the other as their needs may be offsetting. Hence, diversification of market participants across buy- and sell-side is an essential requirement to facilitate development of a stable, liquid and efficient OTC derivatives market.

The OTC derivatives market in India has witnessed significant growth over the years, as mentioned in Section 2. The regulatory landscape in India has played a crucial role in enabling and fostering this growth, with regulators promoting transparency and accessibility in derivatives markets. As a result, the OTC derivatives market has become more inclusive, providing a platform for a diverse range of market participants to engage in risk management and trading strategies.

The structural market depth, and participation across different asset classes and market participants across buy and/or sell side is illustrated in Section 3. The table below<sup>179</sup> provides a summary of which market participants are actively involved across various asset classes of OTC derivatives in the onshore market segment.

Market Participant	OTC FX Derivatives	OTC IR Derivatives	OTC Credit Derivatives	OTC Commodity Derivatives*	OTC Equity Derivatives**
Banks	High participation	High participation	Low participation	Not permitted	Not permitted
Primary Dealers	Low participation	Medium participation	Low participation	Not permitted	Not permitted
Insurance	Not permitted	High participation	Low participation	Not permitted	Not permitted
AMCs	Not permitted	High participation	Low participation	Not permitted	Not permitted
Corporates	High participation	Medium participation	Low participation	Not permitted	Not permitted
NBFCs	Medium participation	Medium participation	Low participation	Not permitted	Not permitted
Pension funds	Not permitted	Not permitted	Not permitted	Not permitted	Not permitted

\* Corporates have been permitted to hedge price risk by using OTC commodity derivatives in overseas commodity markets

\*\* OTC equity derivatives are permissible in GIFT City as per guidelines issued by IFSCA

Legend:

High participation
  Medium participation
  Low participation
  Not permitted

Table 2 – Summary of market participation across various OTC derivatives asset classes in the onshore market

<sup>179</sup> Source: Acies analysis through discussion with market participants

### Sell-side Market Participation

Analysis of the data published by CCIL<sup>180</sup> on sell-side participation in the FX and IR derivatives market shows the following key characteristics.

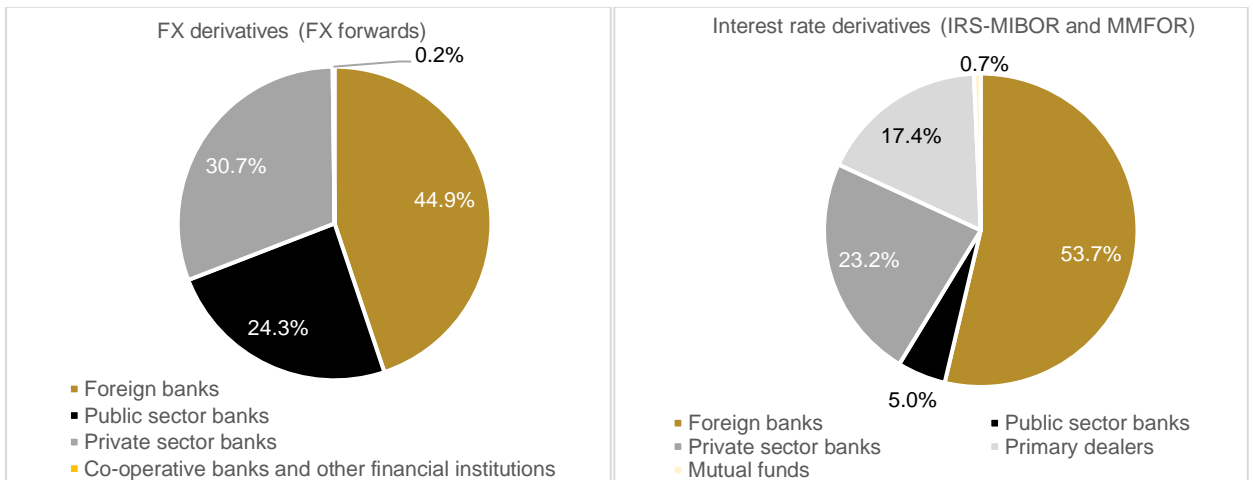


Figure 26 – Summary of sell-side market participation (in terms of notional value) across FX and IR derivatives market

Banks are the major market participants in the Indian OTC derivatives market (being the primary market maker for derivatives transactions). Data obtained from CCIL (as shown in the charts above) identifies that a significant contribution in both FX and interest rate derivatives market is driven by foreign banks. On the onshore sell-side market, while there is sufficient participation by public sector banks in OTC FX derivatives, participation in the OTC interest rate derivatives market has been observed to be limited. The OTC interest rate derivatives market is dominated by a few sell-side participants such as foreign banks and a limited number of private sector banks and primary dealers.

Anecdotally, we have observed that the market share in the OTC derivatives market and banking book of banks in India are not congruent. While foreign banks have a small banking book in India, their market share and contribution to the OTC derivatives market is significantly large. On the other hand, while public-sector banks have an extremely large banking book in India, their market share and contribution to the OTC derivatives market is minimal compared to foreign banks.

In addition to banks, primary dealers also act as market makers and are very active in the OTC interest rate derivatives market. This is because they have recently been permitted to act as market makers in the OTC FX derivatives market. Mutual funds contribute as sell-side participants in the IRS market for the purpose of trading (as permitted by SEBI). However, they have not been permitted access to the OTC FX derivatives market. To summarize, the sell side of the Indian OTC FX and interest rate derivatives market is dominated by banks as the major market makers. Additionally, the sell-side market for OTC interest rate derivatives also comprises some participation from primary dealers and mutual funds.

### Buy-side Market Participation

Banks are the major participants in the buy-side OTC derivatives market for purposes such as interbank hedging, trading and management of their own balance sheet. Participation by banks in the OTC derivatives market is followed by participation from insurance companies and AMCs (including alternate investment

<sup>180</sup> Average of over 1 year period from Table 61, 69 and 70 <https://www.ccilindia.com/Documents/Rakshitra/2023/Oct/Statistics.pdf> (please note that this data is restricted to participation of banks and mutual funds and does not include the notional volume for other market participants such as corporates, AMCs and insurance companies)

funds), which are active participants in the OTC interest rate derivatives market. However, they have not been permitted to participate in the OTC FX derivatives market. It can also be seen from the above table that corporates participate heavily in the OTC FX derivatives market and primary dealers participate heavily in the OTC interest rate derivatives market. NBFCs are equally active in both the OTC FX and OTC interest rate derivatives market. To summarize, apart from banks, the buy-side market for OTC FX derivatives is primarily dominated by large corporate houses and a few NBFCs while the buy-side market for OTC interest rate derivatives primarily comprises life insurance companies and AMCs.

As can be seen from the table above, pension funds in India have not been permitted to undertake OTC derivatives transactions in any asset class. Similarly, OTC commodity and OTC equity derivatives have not been permitted in the Indian onshore market for any market participant. However, OTC credit derivatives ie, CDS, have been permitted in the onshore market. Although, CDS have been permitted in the onshore market, however, they are not actively used in the Indian OTC derivatives market due to the fact that the underlying corporate bond market in India is still developing.

Diversification of market participants across the buy and sell side is an essential requirement to ensure a level playing field. In this respect, to facilitate development of a stable, liquid and efficient OTC derivative market in India, we would like to recommend further development of the skills and expertise across market participants through sector specific and targeted educational and awareness initiatives and seminars on OTC derivatives, organized by relevant regulatory authorities, voluntary associations and/or market organizations such as ISDA, IBA, FBIL, FIMMDA and FEDAI.

## 5.5. Ensure Growth of OTC Derivatives Market in a Safe and Efficient Manner

### 5.5.1. Enhancement of Collateral and Margin Management Requirements for OTC Derivatives

In recent years, India has been liberalizing and developing the OTC derivatives market and has progressed towards a more dynamic market complemented by implementation of effective safeguarding measures such as the introduction of bilateral-netting legislation and having CCP (ie, CCIL) to centrally clear OTC derivatives. In addition, one such policy tool, critical for regulating market growth against systemic risk, is the introduction of margin requirements for non-centrally cleared derivatives (NCCDs).

Margin requirements for NCCDs serve as a crucial risk management mechanism, designed to mitigate potential systemic risks, and ensure the financial soundness of market participants. They require market players to set aside a certain amount of collateral to cover their obligations, reducing counterparty credit risk.

It will be important for jurisdictions to implement margin requirements on NCCDs that are aligned with the Basel Committee on Banking Supervision (BCBS) and IOSCO framework and the major jurisdictions for the following key reasons.

1. *Risk Mitigation and Financial Stability*: Harmonized margin requirements help mitigate systemic risk by ensuring that all market participants adhere to consistent standards.
2. *Global Competitiveness*: Global financial markets are interconnected. Harmonized margin requirements bring India in line with international standards, making it more attractive to foreign investors and fostering cross-border trading activities. By aligning with global standards, there is a potential for cost savings as market participants can leverage economies of scale in developing and implementing risk management systems that comply with a unified set of regulations.
3. *Consistency and Clarity*: Harmonized and standardized margin requirements provide clarity to market participants, reducing uncertainty and enhancing confidence in the derivatives market. This fosters a more robust and efficient financial ecosystem. Harmonized margin requirements contribute to a fair and transparent marketplace, enhancing investor protection. Investors can have greater confidence that risk management practices are consistent and robust.
4. *Operational Efficiency*: A harmonized framework simplifies compliance for market participants, especially those engaged in cross-border transactions. This, in turn, reduces the compliance burden and promotes smoother operational processes.
5. *Risk Management and Streamlined Oversight*: Harmonized margin requirements facilitate consistent risk management practices across the financial industry. This ensures that entities are adequately protected against market volatility, contributing to the overall resilience of the financial system. Harmonization simplifies the regulatory landscape, making it more efficient for the regulators to monitor and enforce compliance. This can lead to a more proactive and responsive regulatory environment.

In summary, advocating for harmonized margin requirements is not just about conforming to international norms; it is about enhancing the resilience, competitiveness, and efficiency of the Indian financial system while minimizing systemic risks. By aligning with global standards, regulators around the world can contribute to a more stable and interconnected global financial ecosystem.

India marked a significant milestone on May 1, 2023, with the implementation of VM requirements, which detail timely collateral exchange between counterparties of NCCD trades. Coupled with the impending introduction of IM requirements for NCCDs, of which the RBI has released draft IM directions in June 2022 for public comments, these are positive steps taken by the RBI in enhancing market stability in line with G-20 commitments while growing the derivatives market. If margin requirements are implemented consistently with international standard and practices, this will further aid effective implementation of a non-cleared margin framework in India and can serve as an opportunity to improve efficiencies of India's OTC derivatives markets and further strengthen the engagement of international financial market participants and the development of hedging activities.

The IM framework currently encompasses the following:

- *Applicability:* IM requirements apply to all financial sector market participants, including banks, financial institutions, and regulated entities, engaging in NCCD transactions.
- *Calculation Method:* The guidelines specify a standardized approach or a quantitative portfolio margin model approach for calculating IM.
- *Phase-In Period:* the RBI has allowed for a phased implementation of IM, with staggered compliance deadlines based on the category of market participants.
- *Substituted compliance:* the RBI has allowed substituted compliance for NCCD transactions between a domestic covered entity (DCE) and a foreign covered entity (FCE) subject to comparability assessment by the DCE of the margin requirements implemented in the foreign jurisdiction.
- *Collateral Types:* Acceptable collateral for NCCD transactions (i) between two DCEs includes Indian currency and government securities (ii) between a DCE and FCE includes Indian currency, freely convertible FCY, government securities, and securities issued by foreign sovereigns with a credit rating of AA-, ensuring the safety and liquidity of collateral.
- *Documentation:* Proper documentation and legal agreements are required to establish IM arrangements between counterparties.

Striking a balance between risk mitigation and market vibrancy as India's derivatives market continues to grow and evolve in a controlled, sustainable manner, fostering economic stability is of paramount importance. We would like to recommend the following suggestions to the draft IM directions which we believe will assist India to align with major financial jurisdictions and make derivatives markets more robust in India.

#### ***Allow Full Substituted Compliance for Indian Branches of Foreign Banks***

Indian branches of foreign banks are covered within the scope of DCE under the draft IM directions. Hence, it is subject to both draft directions issued by the RBI as well as the margining directions applicable in its home jurisdiction.

The RBI has recognized the concern of compliance with the margining requirements in both India and the foreign jurisdiction and hence has permitted substituted compliance in case of NCCD transactions between a DCE and FCE, However, substituted compliance has not been allowed in case of a NCCD transaction between two DCEs. As a result, in case an Indian branch of a foreign bank enters into a transaction with another DCE, it will be required to comply with the directions issued by the RBI as well as its home jurisdiction margining directions which might be conflicting to each other.

Therefore, in addition to NCCD transactions between a DCE and an FCE, allowing substituted compliance for NCCD transactions between two DCEs will lead to operational and regulatory feasibility for an Indian branch of a foreign bank in case it enters into a NCCD transaction with another DCE.

### ***Establishment of Eligibility Requirements for Third-party Custodians***

The draft regulation allows for a third-party custodian or legally effective arrangements for placement of Initial margin. India would need one or more third-party custodians prior or simultaneous to IM rule implementation.

The regulator may consider developing clear legal framework and qualification guidelines on licensing framework for international custodians to establish and provide services in India as the current custodians are limited to exchange-traded products and does not extend to OTC derivatives.

The third-party custodial infrastructure established in India would also need to enable Indian branches of foreign banks to comply with IM segregation and other requirements under their home regulatory rules. This would assist in alleviating Indian branches of foreign banks comply with the IM segregation and other requirements under the margin rules of their home jurisdictions.

The Indian entities offering clearing, or payment services may also consider establishing custodian services to enable exchange of IM. However, in such cases, these entities would need to be ring-fenced for security of the IM in scenarios of financial distress and thus to boost confidence of Indian and foreign market participants.

### ***Expand the List of Eligible Collaterals Allowed Under the IM Umbrella\****

The eligible collateral for transactions between two DCEs (including where one of the DCEs is an Indian branch of a foreign bank) is limited to Indian currency and Indian government securities. This means the collateral has to be INR-denominated and foreign currency collateral posted by their FCE head offices or by the FCE branches cannot be utilized. Thus, a foreign bank is required to have two separate CSAs and collateral portfolios, ie, one for its onshore transactions (between DCEs) and the other for cross-border transactions (between a DCE and FCE), which in turn leads to operational inefficiency and increased transaction costs.

Offshore exchange of collateral for onshore transactions between two DCEs may be permitted and the set of collaterals eligible for transactions between two DCEs may be extended to freely convertible FCY, securities issued by foreign sovereigns with a minimum credit rating, equity securities included in the main index of regulated exchange, gold, and high-quality foreign currency corporate bonds.

This would enable a DCE – ie, the Indian branch of a foreign bank – to be able to use them as eligible collateral under its home country regulation. This change would also enable participation of corporates in India in accepting collateral other than cash from foreign banks and protect against exchange rate risk on conversion and reconversion.

With respect to transactions between a DCE and an FCE, in addition to Indian currency and Indian government securities, the list of eligible collateral expands to freely convertible FCY, and securities issued by foreign sovereigns with a minimum credit rating. However, in various foreign jurisdictions, instruments such as gold, equity securities, highly marketable debt securities, etc. are also permitted as eligible collateral. Expanding the list of eligible collateral in India would be beneficial to DCEs (Indian branch of

foreign bank) and FCEs as they would be able to utilize the collateral as eligible collateral in their home jurisdiction.

Thus, in line with the BCBS-IOSCO framework and margin requirements of other jurisdictions, the collateral types covered in the draft IM regulation between DCE and FCE may be expanded to cover equity securities included in the main index of regulated exchange, gold, and high-quality foreign currency corporate bonds.

- *The eligible collateral as per the BCBS-IOSCO framework currently includes, inter alia, the following:*
  - High quality government and central bank securities
  - High quality corporate bonds
  - High quality covered bonds
  - Equities included in major stock indices
  - Gold

***BCBS-IOSCO Framework: Eligible list of collateral***

#### ***Relaxation in Stamp Duty and Filings Levied on the Collateral Postings***

Stamp duties exist in many jurisdictions, for instance on cash equity markets and apply to transfer of ownership resulting from a transaction with a buyer and a seller. Posting of initial margin is not a transaction, but a separate regulatory requirement from the derivatives transaction. Application of the stamp duty would be a barrier to the development of vibrant derivatives markets in India compared to other jurisdictions where stamp duty does not apply to exchange of margin.

IM collected is required to be segregated by the collecting party and may be subject to filing and registration with the Registrar of Companies (RoC) under Section 77 of the Companies Act, 2013. The Companies (Amendment) Act, 2017, provides dispensation for waiver for certain charges that are not mandatorily required by a company to register with the RoC.

The regulator, in consultation with government, may allow dispensation for relaxation in stamp duty charges and filings required for IM collateral posting. This would enable all market participants to meet the timeline for IM collateral posting and lead to operational ease as volume of these transaction increase.

## 5.5.2. Expansion of the Scope of Products Centrally Cleared and Settled via CCIL

Currently, 17 out of 24 FSB member jurisdictions (including the US, UK, EU, Japan, Hong Kong, Singapore and Australia) have mandated central clearing for more than 90 percent of all standardized OTC derivatives products<sup>181</sup> in their respective jurisdictions. However, in India, the clearing and settlement framework is in place for a few derivatives instruments as mentioned above ie, INR IRS, FRAs and interbank USD/INR forward trades.

Currently, CCIL plays a fundamental role in the Indian OTC derivatives market segment as the clearing house for OTC derivatives. Extensive discussions with market participants have revealed a high level of satisfaction with the services provided by CCIL, which have been acknowledged to be on par with those offered by other global central clearing houses. This consensus attests not only to the high standard of CCIL's offerings but also underscores the tangible efficiency gains experienced by market participants in terms of trade lifecycle management."

Based on comprehensive consultation with a diverse array of market participants, there is a shared opinion on expansion of the scope of clearing services offered by CCIL. In the interest of market participants and with the aim of mitigating systemic counterparty risk, it is recommended that CCIL should consider extending its clearing and settlement services to encompass a broader range of derivative products such as:

- FX options
- Vanilla cross-currency swaps
- IR options
- CDS

CCIL may consider expanding its clearing services to the above products keeping in view the trade economies and the volume traded of such products. This expansion of services would not only meet the evolving and growing needs of the market but also contribute significantly to the reduction of systemic risk, fostering a more resilient and comprehensive risk management framework for the Indian derivatives market<sup>182</sup>.

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<sup>181</sup> Source: [FSB OTC Market Reforms 2022](#)

<sup>182</sup> As a reference to this recommendation, please refer to *Annexure 5 (Section 7.5 of this document)* for details on the volume of OTC derivatives cleared centrally on clearing houses outside India.



## 5.6. Foster Greater Alignment with International Principles and Practices

### 5.6.1. Alignment of Methodologies and Standards to Measure and Monitor Counterparty Credit Risk

In 2014, BCBS presented its formulation for its standardized approach for measuring exposure at default for counterparty credit risk<sup>183</sup>. The SA-CCR replaced both non-internal models approaches, the CEM and the standardized method (SM), and aimed to address known deficiencies of the CEM and the SM. The CEM had been criticized for several limitations, in particular, that it did not differentiate between margined and unmargined transactions, that the supervisory add-on factor did not sufficiently capture the level of volatilities as observed over recent stress periods, and the recognition of netting benefits was too simplistic and not reflective of economically meaningful relationships between derivatives positions.

According to FSB's OTC derivatives market reforms implementation progress report in 2022<sup>184</sup>, 18 out of 24 FSB member jurisdictions have implemented the final capital requirements through the SA-CCR method as per the Basel III regulations.

In India, the final guidelines for computing exposure for counterparty credit risk arising from derivative transactions<sup>185</sup> describing the standardized approach (ie, the SA-CCR methodology) for calculation of default risk capital charge were issued on November 10, 2016. However, India has yet to implement the final higher capital requirements for NCCD. As such, India is currently not aligned with global standards and banks in India are still using the CEM to calculate the counterparty credit risk exposure as per the RBI guidelines<sup>186</sup>.

Under SA-CCR, a banking organization calculates the exposure amount of its derivatives contracts at the netting set level, meaning either one derivatives contract between a banking organization and a single counterparty, or a group of derivatives contracts between a banking organization and a single counterparty that are subject to a qualifying master netting agreement.

Adoption of the SA-CCR method would be beneficial for banks in India as it improves risk sensitivity by differentiating between margined and unmargined trades, considering asset class wide volatilities and recognizing the risk-reducing effect of netting and hedging sets thus leading to a suitable risk charge.

Calculation of the capital charge for default risk involves calculation of the total counterparty credit risk exposure. According to the Basel III guidelines published by the BCBS, the total counterparty credit risk exposure amount can be calculated using the following methods:

- i. Modelled approach ie, the internal modelling method;
- ii. Non-modelled approach – ie, SA-CCR.

As per Basel III guidelines published by BCBS, the SA-CCR method has replaced the CEM and the SM due to the following benefits of the SA-CCR method in comparison to these erstwhile methods:

- Exposure amount is calculated differently in case of margined and unmargined transactions;
- Improved risk sensitivity and computation of the risk-weighted assets exposure.

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<sup>183</sup> Source: BCBS "The standardized approach for measuring counterparty credit risk exposures", March 2014

<sup>184</sup> Source: [FSB OTC Market Reforms 2022](#)

<sup>185</sup> Source: [Guidelines for computing exposure for counterparty credit risk arising from derivative transactions](#)

<sup>186</sup> Source: [RBI Basel III Capital Regulations](#)

- Add-on factor to calculate the potential future exposure is computed separately for each asset class according to the prescribed methodology wherein the methodology is different depending on the nature and volatility of each asset class;
- Basis transactions and volatility transactions form separate hedging sets under each asset class;
- Gold derivatives are considered as commodity derivatives and hence the add-on factors are calculated according to the commodity derivatives asset class methodology unlike the erstwhile CEM approach wherein common add on factors were prescribed by the regulator for gold and FX contracts.

Notwithstanding the fact that SA-CCR is a more risk sensitive approach for calculating exposure at default for counterparty credit risk compared to CEM, it is becoming evident as firms implement SA-CCR around the world that the framework needs to be revisited as it does not adequately reflect structural changes in the derivatives market and the overall regulatory framework since the standard was finalized. More details are provided in ISDA's letter submitted to the Basel Committee<sup>187</sup>.

To ensure alignment with global standards and adoption of the best practices for counterparty credit risk management, we recommend that the SA-CCR methodology for counterparty credit risk measurement should be implemented in India soon and the RBI could consider industry's feedback regarding calibration to ensure risk appropriate capital treatment. As an interim solution, while the implementation of SA-CCR methodology is pending, the RBI may consider aligning the CCFs prescribed by it under the CEM with the CCFs prescribed under Basel guidelines (CCFs prescribed under the RBI guidelines are higher than that prescribed under Basel guidelines). This would ensure alignment with the global CEM methodology and align the capital requirement for banks in India globally.

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<sup>187</sup> <https://www.isda.org/2022/04/21/letter-to-bcbs-on-revisiting-sa-ccr/>

## 6. Summary of Recommendations

### 6.1. Broaden Product Development, Innovation and Diversification

#### *High Priority Recommendations:*

1. **Development of standardized term benchmarks to reduce basis risk:** Market participants and benchmark administrators could work towards the development of a standardized term benchmark and/or the creation of a basis curve, to eliminate basis risk while hedging interest rate risk through OTC derivatives and provide a suitable solution to market participants that would want to hedge their exposures to floating rate loans. Such benchmarks should be robust and transaction-based, in line with IOSCO's principles for financial benchmarks.
2. **Enable growth of OTC credit derivatives such as CDS:** the RBI may wish to consider expanding the scope of CDS from single-name to multi-name CDS along with allowing loans to be included as an eligible underlying instrument for CDS to allow banks to better manage their credit exposures. Respective buy-side regulators may allow regulated entities to sell CDS protection.
3. **Regulatory allowance for offering OTC commodity derivatives in onshore market:** the RBI and/or SEBI may consider allowance for market makers to offer OTC commodity derivatives in the onshore market for specific commodities such as crude oil and steel.

#### *Medium Priority Recommendations:*

4. **Increase liquidity in longer tenors of the OIS curve for enabling price discovery:** Market makers could offer long-term derivative instruments to buy-side participants with long-term liabilities such as life insurance companies, pension funds and infrastructure institutions. Market benchmark administrators such as FBIL could collate data based on these long-term transactions and enable price discovery and liquidity in longer tenors of the OIS curve.
5. **Develop OTC equity derivatives in the onshore market:** the RBI may wish to consider explicit allowance for market makers to offer OTC equity derivatives in the onshore market. Buy-side regulators may consider respective regulated entities to undertake transactions in OTC equity derivatives for hedging purposes.
6. **Develop ESG and climate derivatives:** Regulators may consider allowance and development of a market for ESG derivatives such as SLDs, emissions allowance transactions, RECs and climate derivatives.

### 6.2. Foster adoption of similar market and risk principles across regulatory regimes

#### *High Priority Recommendations:*

1. **Harmonize regulations for usage and permissibility of OTC credit derivatives such as CDS:** IRDAI and SEBI may allow insurance companies and asset management companies respectively to buy and sell protection via CDS for purposes other than hedging. IRDAI and SEBI may also consider aligning the scope of eligible underlying reference obligations in CDS contracts with list of eligible underlying instruments prescribed by the RBI. PFRDA may consider permitting pension funds to buy and/or sell protection via CDS.
2. **Harmonize regulations for use and permissibility of OTC interest rate derivatives:** IRDAI and SEBI may consider allowing insurance companies and asset management companies to undertake transactions in OTC interest rate derivatives instruments such as European interest rate options (caps, floors, collars and reverse collars) and swaptions for hedging purposes. PFRDA may consider permitting pension funds to undertake transactions in OTC interest rate derivatives for hedging purposes.

*Medium Priority Recommendations:*

3. **Align regulatory norms for application of CCFs:** IRDAI may consider aligning implementation and application of CCFs for insurance companies to directions and norms prescribed by the RBI.
4. **Harmonize regulations for usage and permissibility of OTC FX derivatives:** IRDAI, SEBI and PFRDA may consider allowing respective regulated entities to undertake transactions in OTC FX derivatives in the onshore market.

### 6.3. Enhance Market Access and Diversification of Participants in OTC Derivatives

*High Priority Recommendations:*

1. **Increase education and awareness on OTC derivatives:** Development of skills and expertise across market participants through sector specific and targeted educational and awareness initiatives and seminars on OTC derivatives, organized by relevant regulatory authorities, voluntary associations and/or market organizations such as ISDA, IBA, FBIL, FIMMDA and FEDAI.

### 6.4. Ensure Growth of OTC Derivatives Market in a Safe and Efficient Manner

*High Priority Recommendations:*

1. **Facilitate substituted compliance for Indian branches of foreign banks under the draft IM directions:** the RBI may wish to consider allowance of substituted compliance for NCCD transactions between two DCEs (including NCCD transactions entered into by Indian branches of foreign banks).
2. **Expand the list of eligible collateral allowed under the draft IM guidelines:** the RBI may wish to consider expanding the list of eligible collateral under draft IM guidelines in line with the BCBS-IOSCO framework for NCCD transactions between two DCEs or between a DCE and FCE.

*Medium Priority Recommendations:*

3. **Establish eligibility requirements for third party custodians under the draft IM guidelines:** Regulators may consider the development of an explicit licensing framework to establish eligibility requirements for third-party custodians. Regulators may consider allowing existing QCCPs offering clearing and settlement services in India for providing custodian services, subject to setup of stringent ring-fencing requirements.
4. **Expand the scope of products cleared and settled via CCIL:** CCIL may consider expanding the scope of its clearing and settlement services to products such as FX options, vanilla cross-currency swaps, interest rate options and CDS.
5. **Relax stamp duty and filings levied on the collateral postings:** Relevant regulatory and supervisory authorities may consider relaxation of stamp duty charges and filings required for IM collateral postings.

### 6.5. Foster greater alignment with international principles and practices

*High Priority Recommendations:*

1. **Adopt SA-CCR methodology to measure and monitor counterparty credit risk:** the RBI may consider expedited implementation of the SA-CCR methodology for measurement of counterparty credit risk in line with Basel guidelines.

# 7. Annexes

## 7.1. Annex 1

### **Types of derivatives transactions**

Derivatives contracts can be broadly categorized into two types based on the place of execution: ETDs and OTC) derivatives. ETDs, traded on regulated derivatives exchanges, are standardized, and regulated, settled through clearing houses. In contrast, OTC derivatives are customized bilateral agreements directly between two counterparties, introducing counterparty risk. To address this risk, clearing houses like CCIL in India act as central counterparties for OTC transactions and further OTC derivatives can be categorized into centrally cleared and bilaterally cleared.

The necessity for OTC derivatives arises because ETDs, with predefined attributes, lack the flexibility to meet specific business needs. The flexibility to customize the OTC derivative contracts allows participants to tailor the agreements to their specific needs and thus address the unique risk exposures that may not be covered by standardized ETD instruments. Thus, while ETDs allow hedging standardized exposures against general market movements, OTC derivatives allow for precise risk management based on customized needs. A co-existing ETD and OTC derivatives market can achieve a more comprehensive and versatile ecosystem for the market participants. The distinction among the sub-categories (ETD, OTC – centrally cleared and OTC - bilaterally cleared) which revolves around the settlement processes and customization has been summarized below:

Particulars	Exchange-traded Derivatives	OTC Derivatives	
Place and Mode of Execution	Standardized contracts executed on regulated derivatives exchange. For example – transaction undertaken on a regulated derivatives exchange through a broker by users	Tailor-made contracts negotiated bilaterally to suit the specific needs of the user.  For example – Transaction undertaken between two banks or between a bank and an enterprise	
Types of Instruments Executed	<ul style="list-style-type: none"> <li>▪ Futures</li> <li>▪ Options</li> <li>▪ Listed Swaps</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forwards</li> <li>▪ Options</li> <li>▪ Structured derivatives</li> </ul>	
Clearing	Transactions are cleared through clearing houses, which acts as a central counterparty to all transactions	Centrally cleared	Bilaterally cleared
		Transactions are cleared through CCP, which acts as a central counterparty to all transactions	Transactions are settled bilaterally between counter parties
Margin	Margin is based on rules of regulated derivatives exchange	Margin is based on the rules of the central counterparty	Margin is based on non-cleared margin rules
Identity of Counterparty	Anonymous	Known	Known

## 7.2. Annex 2

### *Policy, Regulatory and Development Reforms to Boost the Growth of Indian OTC derivatives and ETD market*

Year	Market Segment	Reform Introduction Authority	Key Regulatory and Developmental Reforms	Link
1999	Interest rate	RBI	The RBI permits the use of interest rate derivatives in the OTC market and provided guidelines, especially on FRAs and IRS	<a href="#">Permissibility to use IR derivatives</a>
2000	FX	RBI	The RBI provides specific permissions and guidelines to resident Indians and non-residents outside India to enter into foreign exchange derivative contracts	<a href="#">Permissibility to use FX derivatives</a>
2000	Commodity	RBI	The RBI allows resident Indians to hedge their price risk in overseas commodity derivative markets (OTC or exchange-traded) subject to approvals and alignment of regulatory guidelines	<a href="#">Permissibility to hedge in overseas commodity derivatives market</a>
2001	FX and interest rates	RBI	CCIL is set up to provide an institutional infrastructure for the clearing and settlement of transactions in government securities, money market instruments, FX and derivatives for interbank transactions	<a href="#">Set up of CCIL</a>
2002	Interest rate	SEBI	SEBI permits mutual funds to participate in interest rate derivatives with financial institutions or through recognized stock exchange	<a href="#">Permissibility to mutual funds to participate in IR derivatives</a>
2003	FX	RBI	Currency options between Indian INR and foreign currency are launched, with banks only being permitted to write such options	<a href="#">Launch of currency options</a>
2004	Interest rate	IRDAI	IRDAI permits Indian insurers to deal in OTC and exchange-traded interest rate derivatives (specifically on FRAs, IRS and exchange-traded interest rate futures) up to a tenor of one year. The tenor was later relaxed in 2014	<a href="#">Permissibility to insurers to hedge in OTC and ETD interest rate derivatives</a>
2005	All	SEBI	SEBI permits Mutual Funds to participate in ETDs	<a href="#">Permissibility to mutual funds to participate in ETD</a>
2006	All	RBI	Amendment to the RBI Act, 1934 to include derivatives in the legal framework	<a href="#">Inclusion of derivatives in the legal framework</a>
2007	Interest rate	CCIL	CCIL launches its trade repository services for OTC interest rate derivatives	<a href="#">Launch of CCIL Trade Repository services</a>
2007	Credit derivatives	RBI	The RBI issues draft guidelines for the introduction of CDS in India, and also issued the first comprehensive guidelines on derivatives	<a href="#">Draft guidelines on introduction of CDS</a> <a href="#">Introduction of comprehensive guidelines on derivatives</a>

2008	All	RBI	Suitability and appropriateness requirements in alignment with the 2007 comprehensive guidelines on derivatives	<a href="#">Introduction of suitability and appropriateness requirements</a>
2008	Interest rate	CCIL	CCIL commences multilateral net settlement of cash flows arising out of INR IRS trades on a non-guaranteed basis	<a href="#">Commencement of multilateral net settlement</a>
2009	FX	CCIL	CCIL provides settlement of forex forward trades with guarantee of up to 13 months of residual maturity	<a href="#">Guaranteed settlement via CCIL</a>
2010	FX and commodity	RBI	The RBI issues comprehensive guidelines on OTC FX derivatives and overseas hedging of commodity price and freight risks	<a href="#">Comprehensive guidelines on OTC FX derivatives and overseas hedging of commodity price and freight risks</a>
2011	FX	RBI	The RBI issues revised guidelines for internal control over FX business	<a href="#">Guidelines on internal control over FX business</a>
2011	Credit derivatives	RBI	The RBI issues guidelines on CDS for corporate bonds, which further evolved and was issued as a master direction for credit derivatives in February 2022. CCIL also developed a trade repository for reporting of CDS trades in the market	<a href="#">Guidelines on CDS for corporate bond and development of corresponding trade repository</a>
2012	FX	CCIL	CCIL launches its trade repository services for OTC FX derivatives where from 2013 banks started reporting FX derivatives trades concluded by them with their clients for value beyond \$1 million	<a href="#">Trade repository for OTC FX derivatives</a>
2013	FX	RBI	The RBI permits deferment of option premium in FX options for option structure with maturity of more than one year	<a href="#">Permissibility of FX options with deferment of premium</a>
2014	Interest rate	RBI	The RBI directs implementation of the recommendations of the benchmark reform committee chaired by Vijay Bhaskar with respect to financial benchmarks	<a href="#">Financial benchmarks reforms</a>
2014	FX and interest rate	CCIL	CCIL also launches CCP clearing of INR-denominated IRS and FRA transactions	<a href="#">Launch of CCP clearing for INR IRS and FRA</a>
2015	IFSC	GOI	The government of India operationalizes the International Financial Services Centre at GIFT City	<a href="#">Operationalization of the IFSC</a>
2016	General	RBI	Guidelines on Large Exposures Framework published (as amended from time to time) to limit the exposure to any counterparty of a group of counterparties	<a href="#">Guidelines on Large Exposures Framework</a>
2017	FX, interest rate and credit derivatives	RBI	The RBI mandates the implementation of the LEI system for all participants in the OTC markets for INR interest rate derivatives, foreign currency derivatives and credit derivatives in India	<a href="#">Implementation of LEI system</a>

2018	FX	RBI	The RBI releases ETP guidelines for authorized FX trading platforms	<a href="#">ETP guidelines</a>
2018	Commodity	RBI	The RBI provides certain liberalizations on the commodity hedging guidelines issued in 2010, especially on permissions for entities to undertake more via the automatic route (ie approval from banks) than the approval route (ie specific approval from the RBI)	<a href="#">Liberalization on the commodity hedging guidelines</a>
2019	Interest rate	RBI	The RBI permits non-residents to enter into OIS for purposes other than hedging with a limit of INR 350 crores on foreign currency settled OIS. The RBI permits INR interest rate derivatives including swaptions	<a href="#">Permissibility to non-residents to enter OIS for purposes other than hedging and permissibility of INR IRD</a>
2019	Commodity	SEBI	SEBI permits mutual funds to participate in exchange traded commodity derivatives except sensitive commodities	<a href="#">Permissibility to mutual funds to participate in ETD commodity derivatives</a>
2020	FX	RBI	The RBI permits banks to voluntarily undertake user and interbank transactions beyond onshore market hours	<a href="#">Transactions beyond onshore market hours</a>
2020	FX	RBI	The RBI releases principles-based FX hedging guidelines	<a href="#">Principle based FX hedging guidelines</a>
2020	FX	RBI	The threshold of notional amount below \$1 million for reporting of client transactions in currency derivatives to CCIL's trade repository is removed	<a href="#">Threshold removed for reporting to CCIL's Trade Repository</a>
2020	FX	RBI	Banks having an AD Category-I license and operating IBUs are allowed to offer non-deliverable derivatives contracts involving the INR, or otherwise, to persons not resident in India through their branches in India, through their IBUs or their foreign branches (in case of foreign banks operating in India, through any branch of the parent bank)	<a href="#">Offering of NDDCs by specific AD Category 1 banks</a>
2020	FX	RBI	All non-deliverable derivatives contracts (involving INR or otherwise) undertaken by banks in India are to be reported to CCIL's reporting platform with effect from June 1, 2020	<a href="#">NDDCs to be reported to CCIL's reporting platform</a>
2021	FX	RBI	The RBI permits use of cross-border collateral as margin for derivatives contracts	<a href="#">Cross border collateral</a>
2021	All	RBI	Revised guidelines on bilateral netting of qualified financial contracts (QFC) are released to include derivatives within the definition of a qualified financial contract	<a href="#">Bilateral Netting of Qualified Financial Contracts</a>
2021	All	RBI	Master directions on the market makers in OTC derivatives released by the RBI, including the requirements to be complied with before the introduction of a new OTC derivatives product and before offering of a product to a user	<a href="#">Master Directions on Market makers in OTC Derivatives</a>



2022	Interest rate	RBI	The RBI permits banks to deal in foreign currency settled OIS	<a href="#">Permissibility to deal in FCS-OIS</a>
2022	Credit derivatives	RBI	Master Directions published by the RBI to regulate the OTC and exchange-traded credit derivatives	<a href="#">Master Directions on Credit Derivatives</a>
2022	All	RBI	Master Directions released by the RBI regarding exchange of VM for NCCDs in line with the G-20 reforms	<a href="#">Variation Margin Directions</a>
2023	All	CCIL	CCIL launches the "SARVAM" platform to provide valuation, margining, collateral management and risk analytics services for non-centrally cleared derivatives. The services presently provided by SARVAM have been notified by CCIL vide Notification No.: CCIL/DRV/23/15.	<a href="#">Launch of SARVAM platform by CCIL for NCCDs</a>
2023	FX	RBI	The RBI issues revised directions to permit units in IFSC to settle NDDCs in INR. Further, these units can provide INR NDDCs to resident non-retail users for hedging	<a href="#">Revised directions for settlement and offer of NDDCs</a>

### 7.3. Annex 3

#### Regulatory Authorities and Supervision in Other Jurisdictions

There is no single architecture for the regulation and supervision of the derivatives market globally. This is because the derivatives market was developed in different ways across jurisdictions, and because the architecture was designed under various historical factors.

Generally, regulators overseeing the securities markets are well equipped and have a robust ability to track market functioning and market operations due to their extensive historical experience on supervision of both securities markets and of all the participants involved in these markets including issuers, investors, dealers, brokers, asset managers, among others. Securities market regulators are also usually well-equipped and can adeptly assure investor protection through vigilant oversight and ensuring implementation of the securities regulations.

Derivatives markets, since the global financial crisis and the G-20 commitments, have been subject, through a long implementation process, to rules that involve multiplicity of actors and regulators:

- *Trade repositories:* Supervision by securities/market regulators;
- *Clearing houses:* Supervision by securities/markets regulators (in case CCPs face distress thus requiring resolution, prudential regulators/central banks need to step in to safeguard financial stability);
- *Margin requirements:* Involvement of both securities/markets regulators and prudential regulators as it combines market regulation and protection of financial stability;
- *Capital rules:* Implementation and supervision by prudential regulators/central banks;
- *Trading rules:* Implementation and supervision of trading rules (including transparency, licensing of exchanges and trading venues) by securities/markets regulators.

Both securities/markets regulators and prudential regulators/central banks have a strong role to play and must collaborate closely to ensure comprehensive and effective regulation and supervision of the derivatives market.

A brief overview of the regulatory authorities with respect to OTC derivatives in other jurisdictions is highlighted below:

	Country	Regulator	Functions pertaining to OTC derivatives
1	US	Commodity Futures Trading Commission (CFTC)	<ul style="list-style-type: none"> <li>▪ Supervision of the overall derivatives market in the US including trade repositories</li> <li>▪ Regulation and establishment of rules for derivatives clearing organizations and supervision of clearing houses</li> </ul>
		Securities and Exchange Commission	<ul style="list-style-type: none"> <li>▪ Joint supervision with CFTC of credit derivatives and equity derivatives markets (ie, derivatives with securities as underlying)</li> <li>▪ Supervision of the trade repository, margin, and capital rules for security-based swaps</li> </ul>

2	UK	Financial Authority Conduct	<ul style="list-style-type: none"> <li>Overall supervision of the OTC derivatives market, central counterparties, margin requirements and trade repositories via UK European Market Infrastructure Regulation (alongside the Prudential Regulation Authority)</li> <li>Oversees trading platforms and mandates reporting requirements</li> </ul>
3	EU	European Securities and Markets Authority (ESMA) National regulators for supervision	<ul style="list-style-type: none"> <li>Under mandates from EU legislation (Markets in Financial Instruments Directive and EMIR), ESMA drafts implementing regulations on clearing and reporting requirements</li> <li>In case of margining requirements, ESMA drafts the regulations in coordination with the other two European Supervisory Authorities – the European Banking Authority and the European Insurance and Occupational Pensions Authority</li> <li>Direct supervision of trade repositories</li> <li>Supervision of derivatives market participants and transactions and of clearing houses</li> <li>Enforcement (with the exception of trade repositories) at national level</li> </ul>
4	Singapore	Monetary Authority of Singapore	<ul style="list-style-type: none"> <li>Overall supervision of the OTC derivatives market, margining and capital regulations via the Securities and Futures Act</li> <li>Supervision of the central clearing counterparties and trade repositories</li> </ul>
5	China	China Securities Regulatory Commission	<ul style="list-style-type: none"> <li>Supervision of ETD trading activities by securities firms, securities funds and futures brokers</li> <li>Supervision of OTC equity and commodity derivatives</li> <li>Formation of the reporting and margining requirements (via the Futures and Derivatives Law)</li> </ul>
		National Administration of Financial Regulation	<ul style="list-style-type: none"> <li>Supervision of OTC interest rate and credit derivatives</li> </ul>
		State Administration of Foreign Exchange	<ul style="list-style-type: none"> <li>Supervision of FX derivatives business</li> </ul>
		People's Bank of China	<ul style="list-style-type: none"> <li>Authorizing and supervising CCPs</li> </ul>

## 7.4. Annex 4

### Need of Credit Default Swaps

Deep and liquid fixed income markets are essential to meet the long-term funding requirements of issuers (both public and private sector issuers). Most investors in bonds are long-term investors with buy-and-hold strategies and a key risk associated with this investment is the default risk of the issuers. Bondholders anticipate earning interest on their bonds and the return of their principal when the bond reaches maturity. However, there is no assurance that these outcomes will materialize, requiring investors to shoulder the risk associated with holding the debt.

CDS are essential risk-mitigation tools in this respect. CDS are financial derivatives designed to provide protection against the risk of a bond issuer, be it a company, bank, or sovereign government, defaulting on their obligations to creditors. A CDS is essentially a financial contract between two parties – the bondholder (protection buyer) and the counterparty (protection seller). In the event of a bond issuer (the entity that issued the bond) defaulting on its payments, the protection buyer can trigger the CDS to receive compensation from the protection seller. This compensation can help offset the losses incurred due to the default. By purchasing a CDS, bondholders effectively transfer the credit risk of the underlying bond to the protection seller. This allows bondholders to diversify their risk exposure and protect themselves from the credit risk of a specific issuer. CDS can enhance the liquidity of the bond market. Investors may be more willing to buy and hold bonds when they have the ability to hedge against default risk using CDS. This increased liquidity can contribute to a more efficient and stable market for bonds.

CDS are priced in terms of a credit spread, representing the basis points that the seller charges the buyer for offering protection. The wider this spread, the higher the perceived risk of a credit event. Bondholders can use the pricing of CDS contracts as an indicator of market sentiment regarding the creditworthiness of the issuer. A rising CDS spread may suggest increasing perceived default risk, prompting bondholders to reassess their investment decisions. Similar to other financial assets, CDS are actively traded globally. In instances where the risk perception surrounding a debt issuer intensifies, there is an increased demand for its CDS, leading to a broadening of the spread. The primary CDS market pertains to governments, with Brazil standing out with a daily notional average of \$350 million in trades, as per data from the Depository Trust and Clearing Corporation (DTCC). In the corporate sector, Credit Suisse's CDS claimed the top spot in trading activity during the last quarter of 2022, with \$100 million traded daily, according to DTCC data.

The current value of the CDS market is approximately \$3.8 trillion, a notable decrease from its peak of \$33 trillion in 2008, according to ISDA data. It is important to note that the CDS market, valued at \$3.8 trillion, is relatively modest when compared to the extensive global bond markets, equities, and foreign exchange, which collectively boast over \$120 trillion in outstanding bonds and close to \$8 trillion in average daily foreign exchange volume, as reported by the BIS.

According to the Bank for International Settlements<sup>188</sup>, over the last decade, the size and structure of the global CDS market have changed markedly. Besides the fall in outstanding amounts, central clearing has risen, and the composition of underlying credit risk exposures has evolved. The netting of CDS contracts has increased, due to the combination of a higher share of standardized index products and the clearing of such contracts via central counterparties. In turn, this has led to a further reduction in counterparty risk.

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<sup>188</sup> BIS Quarterly Review June 2018 – “The credit default swap market: what a difference a decade makes”

## 7.5. Annex 5

### Volume of OTC Derivatives Products Cleared Centrally Outside India

As per the statistics published in the ISDA SwapsInfo Review Report<sup>189</sup>, in the third quarter of the year 2023, centrally cleared interest rate derivatives transactions comprised 76.7% of the total interest rate derivatives (as compared to 74.9% in the third quarter of the year 2022), centrally cleared index credit derivative transactions accounted for 87.1% of the total index credit derivatives (as compared to 85.1% in the third quarter of the year 2022) and centrally cleared security based credit derivative transactions accounted for 49.5% of the total security based credit derivatives (as compared to 11.4% in the third quarter of the year 2022). In general, an increasing trend has been observed with respect to the volume of OTC derivative transactions cleared centrally via a central counterparty.

Referring to LCH specifically, central clearing services are offered for products such as OIS, IRS, basis swap, zero coupon swap, variable notional swap, FRAs, FX forwards, NDFs, FX options, etc. The volume of different products cleared on LCH during the month of November 2023 were as follows.

Product	Amount (USD billions)
OIS	85,232.2
IRS	15,361.1
Basis Swap	1,999.7
Zero Coupon Swap	241.4
Variable Notional Swap	107.0
FRA	10,462.1
FX Forwards	42.0
NDF	2,613.7
FX Options	296.9

A surge in the volume of OTC derivatives transactions being cleared centrally has been seen which reflects a shift towards the central clearing mechanism being adopted as part of the G-20 derivative reforms and the increasing importance of such risk mitigation tools in enhancing the robustness of the OTC derivatives market.

<sup>189</sup> Source: [ISDA SwapsInfo Review Report](#) - This report covers the interest rate derivatives and index credit derivatives transactions disclosed to the Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR) under US Commodity Futures Trading Commission (CFTC) regulations. It also includes security based credit derivatives transactions reported to DTCC security based swap data repository (SBSDR) and ICE Trade Vault under US Securities and Exchange Commission (SEC) regulations

## 8. Glossary

AD	Authorized dealers	CSA	Credit support annex
AIF	Alternative investment fund	CTT	Commodity transaction tax
ALM	Asset liability management	DCE	Domestic covered entity
AMC	Asset management company	DCO	Derivatives clearing organization
AP	Authorized persons	DTCC	Depository Trust and Clearing Corporation
ARR	Alternative reference rate	ESG	Environmental, social and governance
AS	Accounting standards	ETF	Exchange-traded fund
BCBS	Basel Committee on Banking Supervision	ETP	Electronic trading platform
BIS	Bank for International Settlements	EU	European Union
BSA	Bilateral-swap arrangements	FBIL	Financial Benchmark India Private Limited
BSE	Bombay Stock Exchange	FCE	Foreign covered entity
CAGR	Compounded annual growth rate	FCS-OIS	Foreign currency-settled OIS
CBLO	Collateralized borrowing and lending obligation	FCY	Foreign currency
CCBS	Cross-currency basis swap	FDI	Foreign direct investment
CCF	Credit conversion factors	FEDAI	Foreign Exchange Dealers' Association of India
CCIL	Clearing Corporation of India Limited	FEMA	Foreign Exchange Management Act
CCP	Central counterparty	FII	Foreign institutional investment
CCS	Cross-currency swap	FIMMDA	Fixed Income Money Market and Derivatives Association of India
CDS	Credit default swap	FMCG	Fast moving consumer goods
CEM	Current exposure method	FMI	Financial market infrastructure
CFTC	Commodity Futures Trading Commission	FPI	Foreign portfolio investment
CM	Clearing member	FRA	Forward rate agreement
CORE	Centralized online real-time exchange	FRS	File routing system
CRAR	Capital to risk (weighted) assets ratio	FSB	Financial Stability Board

FSDC	Financial Stability and Development Council	ISDA	International Swaps and Derivatives Association
FX	Foreign exchange	IT	Information technology
FY	Financial year	KPI	Key performance indicators
GBI-EM	Government Bond Index-Emerging Markets	LEI	Legal entity identifier
GDP	Gross domestic product	LEIL	Legal Entity Identifier India Limited
GIFT	Gujarat International Finance Tec-City	LIBOR	London Interbank Offer Rate
Gol	Government of India	LOU	Local operating unit
GST	Goods and service tax	LTFX	Long-term FX forwards
GW	Gigawatt	MCLR	Marginal cost of funds based lending rate
HNI	High net worth individuals	MCX	Multi-Commodity Exchange of India
IBA	Indian Banks' Association	MIBOR	Mumbai Interbank Offer Rate
IBU	IFSC banking unit	MIFOR	Mumbai Interbank Forward Offer Rate
IDG	Inter-Departmental Group	MoF	Ministry of Finance
IFSC	International financial services center	MNCs	Multinational corporations
IFSCA	International Financial Services Centers Authority	MSEI	Metropolitan Stock Exchange of India Limited
IM	Initial margin	MSME	Micro, small and medium enterprises
IMF	International Monetary Fund	MTA	Minimum transfer amount
IMM	Internal modelling method	MTM	Mark-to-market
Ind AS	Indian accounting standards	NBFC	Non-bank financial company
IOSCO	International Organization of Securities Commissions	NCCD	Non-centrally cleared derivatives
IR	Interest rate	NCDEX	National Commodity and Derivatives Exchange Limited
IRDAI	Insurance Regulatory and Development Authority of India	NDDC	Non-deliverable derivative contract
IRF	Interest rate futures	NDF	Non-deliverable forward
IRS	Interest rate swap	NPA	Non-performing assets

NPCI	National Payments Corporation of India	RWA	Risk-weighted assets
NSE	National Stock Exchange	SA-CRR	Standardized Approach for Counterparty Credit Risk
ODI	Offshore derivative instrument	SDG	Sustainable development goals
ODSG	OTC Derivatives Supervisors Group	SEBI	Securities and Exchange Board of India
ODWG	OTC Derivatives Working Group	SEZ	Special economic zone
OECD	Organization for Economic Corporation and Development	SLD	Sustainability-linked derivative
OIS	Overnight index swaps	SOFR	Secured Overnight Financing Rate
OTC	Over the counter	SPD	Standalone primary dealer
PD	Primary dealer	STP	Straight-through processing
PFRDA	Pension Fund Regulatory and Development Authority	TIWG	Trade and investment working group
PSU	Public sector undertaking	TFPR	Trade For processing
PvP	Payment vs payment	TRS	Total return swap
QCCP	Qualifying central counterparty	ULIP	Unit-linked insurance plan
RBI	Reserve Bank of India	VM	Variation margin
REC	Renewable energy certificate	ZCYC	Zero coupon yield curve
RFR	Risk-free rate		
RoC	Registrar of Companies		



## ABOUT ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 1,000 member institutions from 77 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In

addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: [www.isda.org](http://www.isda.org). Follow us on [X](#), [LinkedIn](#), and [YouTube](#).

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- Acies TechWorks focuses on providing enterprise applications (with Acies's no-code platform Revolutio as its backbone) in the domains of risk management, regulation, treasury and derivatives, and finance.
- Acies Consulting focuses on providing research and advisory services in the areas of derivatives and risk management,

digital transformation, regulatory compliance and strategy, and implementing technology-enabled risk, regulatory and business transformation initiatives.

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