Credit Default Swaps and Corporate Bond Market

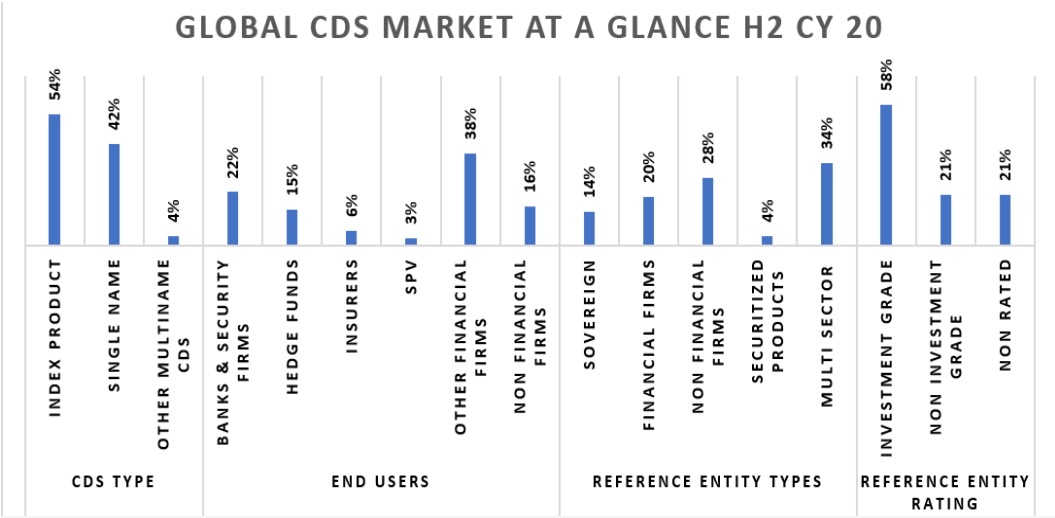
Mandar M. Pitale
Head-Treasury
SBM Bank (India) Ltd.

Preamble

Credit Default Swap (CDS) is a contract where a protection buyer agrees to make periodic payments termed as "the CDS spread or premium" over a predetermined number of years termed as "the maturity or term of the CDS" to a protection seller in exchange for a payment from the protection seller in the event of default by a "reference entity." Investors can buy (sell) CDS protection to establish short (long) credit positions.

Historically, credit default swaps have been mostly negotiated in a decentralized over-the-counter market. As a result, unlike exchanged-based markets, there are no readily available historical aggregate volume or notional amount statistics that one can draw upon. Instead, most discussions of the evolution of the market, its size, and activity are derived basis the results of surveys of market participants and on anecdotal accounts by key market players. For instance, the Bank for International Settlements (BIS) conducts a semi-annual survey of dealers' derivatives activities around the world, and that survey has included information on credit default swaps since 2004. Other surveys, some of which have been discontinued, go a little further back in the past. The credit default swap market was virtually non-existent in the early 1990s.

Credit Default Swaps Market – Global Perspective



Types

There are two types of CDS: Single name CDS and Multi name CDS. Single name CDS are contracts that name a single reference entity, such as a corporation or a sovereign borrower, whereas multi name CDS reference more than one borrower. For instance, a Multi name contract could be written to cover defaults in a reference portfolio such as in the case of a basket credit default swap or CDS indexes based on an index of commonly negotiated single-name CDS. Indices based CDS are increasingly common over the past couple of decades.

Market Participants

In global CDS market, contracts with central counterparty constitutes about 62 percent of the notional amounts outstanding. Central counterparties are exchange like entities that act as a protection buyer to every participating seller and a protection seller to every participating buyer. Interdealer contracts are also common and include CDS entered as part of a dealer's market-making activities as well as contracts where a dealer is an end user of credit derivatives. For example, a dealer (commercial bank) may enter into a contract as protection buyer to hedge part of the credit risk in its loan book.

The main end users include relatively smaller banks or securities firms, hedge funds, insurance firms, and mutual funds. Hedge funds have become increasingly important participants in the global credit default swap market over the past several years, both in relative and absolute terms. The main net protection sellers have been banks and securities firms, insurers, and mutual funds.

Types of Reference Entities
Credit default swaps are written on both sovereign and non-sovereign entities. The recent data (BIS 2021) suggest that most contracts reference non-sovereign entities (86% of the notional amount outstanding in 2020). Considering only CDS written on non-sovereigns, approximately one-third of the notional amounts outstanding at year-end 2020 corresponded to contracts that referenced only nonfinancial firms. Contracts that referenced only financial firms accounted for roughly 23 percent of the notional amounts outstanding in contracts referencing non-sovereign entities, with multi name contracts that reference both financial and nonfinancial firms accounting for most of the remainder.

The share of CDS written on sovereigns rose in the years after the Global Financial Crises (GFC), from less than 4 percent of the notional amounts outstanding in the global CDS market in 2007 to around 14 percent in 2020. CDS contracts written on emerging-market government debt remain a dominant segment of the sovereign CDS market.

Credit Quality of Reference Entities
Credit default swaps are written on investment grade (rated BBB or higher), speculative-grade (rated BB or below), as well as unrated debt instruments, but contracts written on investment-grade instruments correspond to the larger chunk of the notional amounts outstanding in the global credit default swap market. Notional amounts outstanding in credit default swaps written on investment grade entities accounted for roughly 58 percent of the notional amounts in global CDS market in 2020, with the remainder being about evenly split between contracts written on speculative grade instruments and instruments that either had an unknown credit rating or no credit rating (BIS 2021).

Basic CDS Transaction
Consider a CDS transaction where the two parties agree on a notional amount of INR 100 Cr, a reference entity, a term (the period covered by the contract), and a CDS spread of 40 basis points. In this case, the protection buyer will pay INR 10 Lacs every quarter to the protection seller. If no default by the reference entity occurs during the life of the CDS, the protection seller simply pockets the premium payments. Should a default event occur, however, the protection seller becomes liable for the difference between the face value of the debt obligations issued by the reference entity and their recovery value. For instance, assuming that the reference entities' obligations are worth INR 20 on the Face Value of INR 100 after default, the protection seller's liability to the protection buyer in the event of default would be INR 80 Cr. The contract is terminated once the seller fulfils its default-related obligation.

Mode of Settlement
In the event of default by the reference entity, a CDS can be settled physically or in cash, with the settlement choice determined upfront when entering the contract. In a physically settled swap, the protection buyer has the right to sell (deliver) a range of defaulted assets to the protection seller, receiving as payment the full-face value of the assets. The types of deliverable assets are also prespecified in the contract. For instance, the contract may determine that any form of senior unsecured debt issued by the reference entity is a deliverable asset, and thus any bank loan or bond that meets this criterion is a deliverable asset.

In a cash settled swap, the counterparties may agree to poll market participants to determine the recovery value of the defaulted assets, and the protection seller is liable for the difference between face and recovery values. The asset or types of assets that will be used in the poll are prespecified in the contract. In the earlier days of the CDS market, cash settlement was more common in Europe than in the United States, where, by far, the majority of CDS were physically settled. Since 2009, however, settlements in both the U.S. and Europe have increasingly happened through auctions involving the relevant defaulted instruments, where the auctions generally determine a common recovery rate for cash settling the contract. Auctions have become the standard settlement method in the global CDS market.

Uses
Market participants actively use CDS to adjust their risk exposures as well as to infer evolving market views on credit risk. CDS allow protection buyer holding underlying credit exposure to hedge anonymously their credit risk. While the credit instruments (Loan or Bond) may remain in the protection buyer's balance sheet. The associated credit risk is transferred to the protection seller under the CDS contract.

Buying protection without underlying credit exposure (Naked CDS) is akin to shorting the reference entity's debt. In such case, the market value of the protection buyer's position would increase in the event of a subsequent deterioration in the credit quality of the reference entity.

The largely unfunded nature of credit default swaps distinguishes them importantly from cash market instruments such as bonds and bank loans. Credit default swaps allow an investor (protection seller) to obtain exposure to debt issued by the reference entity with essentially no initial capital outlay.

Credit default swaps can also be used to create synthetic long positions in corporate debt. Instead of holding the credit risk assets outright, one can simply sell protection in a CDS contract.

CDS Interlinkages with Bonds – Recent Findings from Developed Markets
Prices in CDS market tend to incorporate information more quickly than prices in the corporate bond market given that, at times, it may be easier to enter into a swap position than to buy or sell certain corporate bonds and loans.

CDS markets provide an alternative trading venue for the transfer of credit risk. Therefore, they can either crowd out trading activity in the underlying bonds or complement it, for example by enabling investors to lay off unwanted credit risk.

CDS attracts investors who want to efficiently short the underlying credit risk. This, in turn, increases trading opportunities and reduces search frictions for long credit investors. The result is a positive spill over effect of CDS trading on bond market liquidity: larger trading volumes, higher turnover, and a greater number of bond buyers. The improved secondary market liquidity may translate into lower yield spreads at issuance, and therefore cheaper borrowing costs for bond issuers.

CDS prices (spreads) are the most closely tracked early warning signals for real time changes in credit risk profile of an entity, whether private or sovereign. This is because CDS make it possible to backout an implied credit price even when one is not being discovered in the underlying cash market instruments (bonds).

Allowing CDS without underlying cash market positions (naked CDS) is one of the most debated topics. There are certain supportive factors for permitting naked CDS such as improving market liquidity, better price discovery, proxy hedges to manage credit risk and lower cost of hedging, while on other side there are certain risks such as excessive leverage and systemic risk, Perverse incentives for coordinated manipulation (buying large amount of CDS protection and simultaneously shorting the underlying bond) and Destabilising cash markets (artificial rise in CDS spread to unjustified levels, thus not only reflecting the inherent credit risk but also liquidity and technical positioning which can have a deleterious impact on underlying cash bond market).

The recent research findings in developed markets, based on investigation on the economic role of the CDS market by analysing the determinants of the amount credit protection bought (or equivalently sold) in the market for credit default swaps (CDSs) suggests that CDS markets function as “alternative trading venues” for both hedging and speculation in the underlying bond. Net notional CDS positions are larger and CDS trading volume higher when the underlying bonds are fragmented into separate issues and differ in their contractual terms. The evidence therefore supports a standardization and liquidity role of the CDS market. This interpretation is supported by the finding that bond fragmentation and contractual heterogeneity among bond issues are associated with higher trading costs and lower trading volume in the underlying bonds.

The analysis also points to economically important arbitrage activity that links the CDS and the bond market via the basis trade. Firms that have a more negative CDS-bond basis (i.e., the bond is undervalued relative to the CDS) have larger outstanding net notional CDS amounts, suggesting that arbitrageurs use the CDS market to lean against price differences between the bond and the CDS. This has economic consequences. At times when basis traders are more active, the discount of the underlying bond relative to the CDS is smaller, potentially improving firms’ access to financing. Moreover, price impact in the bond market is lower when basis traders are more active, suggesting that levered arbitrageurs help absorb supply shocks in the bond market.

Regulatory initiatives in India

RBI introduced CDS for Corporate bonds in 2013 with an objective to provide market participants a tool to transfer and manage credit risk in an effective manner through redistribution of risk with an opportunity to either hive off credit risk or to assume credit risk which otherwise may not be possible. With benefits like enhancing investment and borrowing opportunities and reducing transaction costs while allowing risk-transfers, CDS is perceived as catalyst for increasing investors’ interest in corporate bonds and thus proving beneficial towards the development of the corporate bond market in India.

The subsequent master directions issued in February 2022 applicable for all credit derivatives transactions undertaken in OTC markets and on recognised stock exchanges in India now permits market makers and market users to undertake transactions in Single name CDS contracts. Given the importance of the CDS market for the development of a liquid market for corporate bonds, especially for the bonds of lower rated issuers; these regulatory initiatives are expected to set a level playing field for market participants.

Citation

1. Martin Oehmke, Adam Zawadowski (2016), The Anatomy of the CDS Market, Published by Oxford University Press on behalf of The Society for Financial Studies
2. Robert Czech (2021), Credit Default Swaps and Corporate Bond Trading, Journal of Financial Intermediation
3. Antulio N. Bomfim (2022-23), Credit Default Swaps, Finance and Economics Discussion Series, Federal Reserve Board
4. Patrick Augustin, Marti G. Subrahmanyam, Dragon Y. Tang and Sarah Q. Wang (2016), Credit Default Swaps: Past, Present and Future
5. RBI (2013), Revised Guidelines on Credit Default Swaps (CDS) for Corporate Bonds
6. RBI (2022), Master Directions on Credit Derivatives