# Market Design of Government Securities Market

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The government securities market has witnessed significant transformation in the 1990s in terms of market design. This paper explains the prevailing market design for the central government dated securities and suggests improvements therein.

## Primary Market

The issue of government securities is governed by the terms and conditions specified in the general notification of the government and also the terms and conditions specified in the specific notification issued in respect of issue of each security.

Any person including firm, company, corporate body, institution, state government, provident fund, trust, NRI, OCB predominantly owned by NRIs and FII registered with SEBI and approved by RBI can submit offers, including in electronic form, for purchase of government securities. Payment for the securities are made by the applicants on specified dates by means of cash or cheque drawn on RBI or Banker's pay order or by authority to debit their current account with RBI or by Electronic Fund Transfer in a secured environment. Government securities are issued for a minimum amount of Rs.10,000/- (face value) and in multiples of Rs.10,000/- thereafter. These are issued to the investors by credit to their SGL account or to a Constituents' SGL account of the institution as specified by them, or by credit to their Bond Ledger Account maintained with RBI or with any authorized institution, or in the form of stock certificate. These are repaid at Public Debt Offices of RBI or any other institution at which they are registered at the time of repayment. If specified in the specific notification, the payment for securities and the repayment thereof can be made in specified installments.

Government issues securities through the following modes:

**Issue of securities through auction**: The securities are issued through auction either on price basis or on yield basis. Where the issue is on price basis, the coupon is pre-determined and the bidders quote price per Rs.100 face value of the security, at which they desire to purchase the security. Where the issue is on yield basis, the coupon of the security is decided in an auction and the security carries the same coupon till maturity. On the basis of the bids received, RBI determines the maximum rate of yield or the minimum offer price as the case may be at which offers for purchase of securities would be accepted at the auction.

The auctions for issue of securities (on either yield basis or price basis) are held either on 'Uniform price' method or on 'Multiple price' method. Where an auction is held on 'Uniform price' method, competitive bids offered with rates up to and including the maximum rate of yield or the prices up to and including the minimum offer price, as determined by RBI, are accepted at the maximum rate of yield or minimum offer price so determined. Bids quoted higher than the maximum rate of yield or lower than the minimum price are rejected. Where an auction is held on 'Multiple price' method, competitive bids offered at the maximum rate of yield or the minimum offer price, as determined by RBI, are accepted. Other bids tendered at lower than the maximum rate of yield or higher than the minimum offer price are accepted at the rate of yield or price as quoted in the respective bid. Bids quoted higher than the maximum rate of yield or lower than the minimum price are rejected.

Individuals and specified institutions (read 'retail investors') can participate in the auctions on 'non-competitive' basis. Allocation of the securities to non-competitive bidders are made at the discretion of RBI and at a price not higher than the weighted average price arrived at on the basis of the competitive bids accepted at the auction or any other price announced in the specific notification. The nominal amount of securities that would be allocated to retail investors on non-competitive basis is restricted to a maximum percentage (5% currently) of the aggregate nominal amount of the issue, within or outside the nominal amount.

**Issue of securities with pre-announced coupon rates:** The coupon on such securities is announced before the date of floatation and the securities are issued at par. In case the total subscription exceeds the aggregate amount offered for sale, RBI may make partial allotment to all the applicants.

**Issue of securities through tap sale:** No aggregate amount is indicated in the notification in respect of the securities sold on tap. Sale of such securities may be

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extended to more than one day and the sale may be closed at any time on any day.

**Issue of securities in conversion of maturing treasury bills/dated securities:** The holders of treasury bills of certain specified maturities and holders of specified dated securities are provided an option to convert their holding at specified prices into new securities offered for sale. The new securities could be issued on an auction/pre-announced coupon basis.

RBI may participate in auctions as a "non-competitor" or subscribe to the government securities in other issues. Allotment of securities to RBI are made at the cut off price/yield emerging in the auction or at any other price/yield decided by the government. In order to maintain a stable interest rate environment, RBI accepts private placement of government securities. Such privately placed securities and securities that devolve on RBI are subsequently offloaded through RBI's open market operations.

Government issues the following types of Government securities:

**Securities with fixed coupon rates**: These securities carry a specific coupon rate remaining fixed during the term of the security and payable periodically. These may be issued at a discount, at par or at a premium to the face value and are redeemed at par.

**Floating Rate Bonds**: These securities carry a coupon rate which varies according to the change in the base rate to which it is related. The description of the base rate and the manner in which the coupon rate is linked to it is announced in the specific notification. The coupon rate may be subject to a floor or cap.

**Zero Coupon Bonds**: These are issued at a discount and redeemed at par. No interest payment is made on such bonds at periodic intervals before maturity. On the basis of the bids received through tenders, RBI determines the cut-off price at which tenders for purchase of such bonds would be accepted at the auction.

**Securities with Embedded Derivatives**: These securities are repaid at the option of government/holder of the security, before the specified redemption date, where a "call option" / "put option" is specified in the specific notification and repaid on the date of redemption specified in the specific notification, where neither a 'call option' nor a 'put option' is specified/ exercised.

**Secondary Market**

Most of the secondary market trades in government securities are negotiated between participants (Banks, FIs, PDs, MFs) having SGL accounts with RBI. These may be negotiated directly between counter parties or negotiated through brokers. NDS of RBI provides an electronic platform for negotiating trades in government securities. If a broker is involved, the trade is reported to the concerned exchange. Trades are also executed on electronic platform of the WDM segment of NSE.

**Negotiated Dealing System:** NDS facilitates screen based negotiated dealing for secondary market transactions in government securities (NDS has many other functionalities which are under development or which are not related to government securities), online reporting of transactions and dissemination of trade information to the market. NDS members concluding deals outside NDS system in government securities are required to report the deal on NDS system within 15 minutes of concluding the deal. The deals reported / negotiated on NDS, without the use of brokers, are required to be settled on T+0 or T+1. The deals executed through brokers need to be reported to exchanges and can be settled on T+0 to T+5 basis. The system is designed to maintain anonymity of buyers and sellers but only the vital information of a transaction viz., ISIN of the security, nomenclature, amount (face value), price/rate and/or indicative yield, in case applicable, are disseminated to the market, through Market and Trade Watch. NDS interfaces with CCIL for settlement of government securities transactions for both outright and repo trades done/reported by NDS members.

**Wholesale Debt Market of NSE:** Trading system provides two market sub-types: continuous market and negotiated market. In continuous market, the buyer and seller do not know each other and they put their best buy/sell orders, which are stored in order book with price/time priority. If orders match, it results into a trade. The trades are settled directly between the participants, who take an exposure to the settlement risk attached to any unknown counter-party. All participants can set up their counter-party exposure limits against all probable counter-parties. This enables the trading member/participant to reduce/minimise the counter-party risk associated with the counter-party to trade. A trade does not take place if both the buy/sell participants do not invoke the counter-party exposure limit in the trading system.

In the negotiated market, the trades are normally decided by the seller and the buyer outside NSE, and reported to NSE through the broker. Thus, deals negotiated or structured outside the exchange are disclosed to the market through the trading system. As buyers and sellers know each other and have agreed to trade, no counter-party exposure limit needs to be invoked.

The trades, reported or executed, on the WDM segment could be either outright trades or repo transactions with flexibility for varying days of settlement (T+0 to T+5) and repo periods (1 to 14 days). For every trade, it is necessary to specify the number of settlement days and the trade type (repo or non-repo), and in the event of a repo trade, the repo term and rate.

**Settlement:** Subsidiary General Ledger (SGL) account is a facility provided by RBI to large banks and financial institutions to hold their investments in government securities in the electronic book entry form. Such institutions can settle their trades for securities held in SGL through a D*v*P mechanism, which ensures movement of funds and securities simultaneously. As all investors in government securities do not have an access to the SGL accounting system, RBI has permitted such investors to hold their securities in physical form. They are also permitted to open a constituent SGL account with any entity authorised by RBI for this purpose, and thus avail of the D*v*P settlement. Such client accounts are referred to as constituent SGL accounts or SGL II accounts. All entities regulated by RBI [including FIs, PDs, cooperative banks, RRBs, local area banks, NBFCs] should necessarily hold their investments in government securities in either SGL or CSGL account.

All trades in government securities are reported to RBI-SGL for settlement. The trades are settled on gross basis. Transfer of funds is effected by crediting/debiting the current account of the seller/buyer, maintained with the RBI. Securities are transferred through credits/debits in the SGL account. Gross settlement occasionally leads to gridlock in the DvP system due to shortfall of funds on a gross basis in the current accounts of one or more SGL account holders, though sufficient balance are available to settle on net basis. To take care of such unusual occurrences, the scheme of special fund facility provides intra-day funds to banks and primary dealers against undrawn collateralised lending facility and liquidity support facility from RBI.

**Clearing Corporation of India Limited:** The CCIL facilitates settlement of transactions in government securities (both outright and repo) on Delivery *versus* Payment (DVP-II) basis which provides for settlement of securities on gross basis and settlement of funds on net basis simultaneously. It acts as a central counterparty for clearing and settlement of government securities transactions done on NDS. It provides guaranteed settlement for transactions in government securities including repos.

Members conclude trades, on-line, on the NDS platform, via the INFINET network, a secure closed-user group (CUG) hybrid network consisting of VSATs and leased lines. After trades have been concluded on the NDS, details are forwarded to the CCIL system, via INFINET, for settlement. All Repo deals by NDS members irrespective of amount are settled through CCIL. All outright deals in government securities done/reported on NDS by members up to Rs. 20 crore (face value) are compulsorily settled through CCIL. For deals above Rs. 20 crore, the NDS members have the option to settle through CCIL or directly at PDO, RBI. CCIL generates pay-in and pay-out file for securities and funds and transmits the same to RBI for settlement.

CCIL has in place a comprehensive risk management system. It encompasses strict admission norms, measures for risk mitigation (in the form of exposure limit, settlement Guarantee Fund (SGF), liquidity arrangements, continuous position monitoring and loss allocation procedure) penalties in case of default, etc. Each member contributes collaterals to a SGF, against which CCIL avails of a line of credit from a bank(s) so as to be able to complete settlement in case of member's default. The price risk is mitigated by stipulating that members contribute additional collaterals in the form of Initial and Mark-to-Market Margins. In case of funds shortages, CCIL completes settlement by utilizing the cash component of the concerned member's contribution to SGF and/or the lines of credit available to CCIL from banks and/or by entering into a reverse repo transaction with market participants. In case of securities shortages, CCIL arranges to complete settlement by transferring the securities to the member concerned, either from its SGF SGL Account or from its own Proprietary SGL Account at RBI, or by paying a cash compensation in lieu thereof, to the receiving member.

**Derivatives Market**

Deregulation of interest rate exposed market participants to a wide variety of risks. To manage and control these risks and to deepen money market, scheduled commercial banks, primary dealers and all India financial institutions have been permitted to undertake forward rate agreements (FRAs) and interest rate swaps (IRAs). They undertake FRAs/ IRSs as a product for their own balance sheet management or for market making. They also offer these products to corporates for hedging their (corporates) own balance sheet exposures. It may be noted that FRAs/IRSs are not derivatives on government securities, but on interest rates which have bearing on the government securities market.

Banks / PDS/ FIs can undertake different types of plain vanilla FRAs/ IRS. Swaps having explicit/ implicit option features such as caps/floors/collars are not permitted. The parties are free to use any domestic money or debt market rate as benchmark rate for entering into FRAs/ IRS, provided methodology of computing the rate is objective, transparent and mutually acceptable to counterparties. The interest rates implied in the foreign exchange forward market can also used as a benchmark for undertaking FRAs/IRSs. There are no restrictions on the minimum or maximum size of 'notional principal' amounts of FRAs/ IRSs. There are also no restrictions on the minimum or maximum tenor of the FRAs/ IRSs.

**Improving Market Design**

Government securities are 'securities' under the Securities Contracts Regulation Act, 1956. Government is just another issuer. Hence there is no justification to have a market design for government securities different from equities issued by corporate sector. In fact, it would improve efficiency and transparency immensely if the market design of equities - primary, secondary and derivatives - are replicated for government securities market.

**Primary Market**

The bids are received, auctions are conducted, and the results of auctions are displayed at Mumbai office of RBI. The bidders have option to submit bids electronically and make payment for the securities by electronic fund transfer. However, the entire process of auction is carried out manually without use of information technology. As a result, the market is localised; it is not transparent; the bidders have no choice to revise their bids; and hence the price discovery is inefficient. What is required is the auction should be held electronically on an all India basis and participants should be able to see the building up of bids and revise their bids if they so feel.

It is believed that securities market disintermediates by establishing direct relationship between the investors in securities and issuers of securities. However, in the government securities market, there are three layers of intermediaries (RBI, PDs and Banks) between the issuers (governments) and investors (households). With the availability of technology, it is possible to completely do away with these intermediaries and save the overheads costs which can be shared by issuers and investors. Government can conduct auction where the investors can bid directly.

Government securities should be listed on exchanges like equities. While issuing securities, it should be made clear if a particular security is going to be listed or not. The pricing of and participation in listed securities would be different from unlisted securities. If it is to be listed, at least 25% of issue size should be offered to public.

The role of RBI as the manager of government debt conflicts with its role as manager of the monetary policy. In the interest of greater autonomy of monetary policy, the issuance of government securities may be managed outside RBI.

**Secondary Market**

There are strong entry barriers to participate in trading of government securities. Like equity markets, any and everybody who complies with the specified criteria should be allowed to participate in the market.

Trades are negotiated bilaterally over phone or NDS. The enforcement of such trades, being in the nature of OTC, is difficult. It is necessary to ban OTC trades and prescribe that all trades in government securities would be subject to discipline of stock exchanges.

The market as such does not have any liquidity. The parties have to search for counterparties and negotiate the best price. It is necessary to mandate that all trades will be executed on the basis of price and order matching mechanism of stock exchanges as in case of equities.

The knowledge of parties affects the terms of trade and can facilitate formulation of cartels. It is necessary to allow parties to participate in the market anonymously. However, there should be complete audit trail to resolve the disputes, if any, by logging in the trade execution process in entirety.

The market is highly fragmented. A buyer from Chennai can not trade in the Mumbai market since securities held in his account with RBI books cannot be easily transferred to Mumbai and vice-versa. Since the order book is geographically fragmented, the quality of price discovery process is very poor. It is necessary to provide a facility enabling any body from any corner of the country to trade with ease and convenience.

NDS is a vastly superior system for negotiation of trades in government securities. However, it does not obviate the difficulties of an OTC market; nor does it provide the liquidity of an order matching market. Since it does not consolidate all orders into an order book, the parties have to search for counter parties. Since it does not guarantee the best price for all trades, the parties have to negotiate with counterparties to arrive at an agreeable price. Since there are strong entry barriers, the number of participants who can negotiate on NDS, is very limited.

The settlement involves physical movement of papers. Trades are settled on trade by trade basis without any bilateral/multilateral netting. The trades, except those settled through CCIL, do not enjoy counterparty guarantee. The settlement system is not efficient, unless the buyers and sellers have both SGL and current accounts with RBI. Since RBI provides these account facilities to only a limited number of entities, non-transferable city-wise settlement facilities are available only to these entities.

What is required is a nationwide clearing and settlement arrangement where trades would be netted and net positions would be settled. A clearing corporation should provide novation and guarantee financial settlement of trades in case any counterparty defaults in discharging its obligations. A significant development in this regard is the establishment of CCIL. But it provides settlement of securities on gross basis and provides counterparty guarantee for transactions done on NDS.

**Derivatives Market**

The market for debt derivatives has not developed (It is difficult to know the size of market, as data in respect of this are not publicly available) appreciably for lack of legal clarity. There is no suitable regulatory framework to govern trading of these derivatives. These are not derivatives under the Securities Contracts (Regulation) Act, 1956 as these are not derived from securities. These are believed in some circles to be in the nature of wagering contracts. It is, therefore, desirable to have express legislative provisions to provide for such contracts and their enforcement. Such provisions should cover the entities who can enter into such contracts, the broad parameters of such contracts, settlement of such contacts, and a dispute resolution mechanism.

The FRAs and IRSs are transacted outside the exchanges. The counterparties thus do not have flexibility to come out of the contract by entering into reverse trades with any counter party at any point of time before the expiry of the contract. This restricts liquidity of the contracts and thereby increases impact cost of trading. In order to provide liquidity and enforceability of these contracts, these need to be traded on exchanges.

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