

Report of the Working Group for Suggesting Operational and Prudential Guidelines on STRIPS (Separately Traded Registered Interest and Principal of Securities)

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Terms of Reference

The terms of reference for the Working Group were as under:

- 1) To recommend criteria for choosing securities eligible for stripping and reconstitution.
- 2) To recommend criteria for authorizing entities eligible to undertake stripping and reconstitution.
- 3) To suggest the operational procedure for stripping and reconstitution.
- 4) To suggest changes in software in NDS/PDO so as to enable stripping and reconstitution.
- 5) To make suggestions in regard to investment classification and valuation of stripped securities.
- 6) To make recommendations in regard to legal changes wherever required for enabling stripping including clarification on SLR eligibility of stripped securities
- 7) Any other related issue.

Composition of the Working Group

1	Shri M. R. Ramesh, Managing Director The Clearing Corporation of India Ltd. TradeWorld, Kamala Mills Compound S. B. Marg, Lower Parel, Mumbai - 400 013	Chairman
2	Shri C. E. S. Azariah General Manager (Treasury), State Bank of India Corporate Centre, Madame Cama Road Mumbai – 400 021	Member
3	Shri Nitin Jain Head: Fixed Income ICICI Securities & Finance Company Ltd 41/44 Minoo Desai Marg, Colaba, Mumbai – 400 005	Member
4	Shri V. Srinivasan Treasurer, J. P. Morgan Chase Bank Mafatlal Centre, 9 th floor Nariman Point, Mumbai – 400 020	Member
5	Mr. Jean Michel Moinade Treasurer (Singapore) Credit Agricole Indosuez, Hoechst House Nariman Point, Mumbai – 400 020	Member
6	Shri Tarun Mahrotri Treasurer, HSBC Ltd. 52/60, M. G. Road, Mumbai – 400 001 (Representative of FIMMDA)	Member
7	Shri S. R. Kamath General Manager Securities Trading Corporation of India Ltd. Krishna Chambers, Sir Vithaldas Thackersay Road, New Marine Lines, Mumbai – 400 020 (Representative of PDAI)	Member
8	Shri R. C. Das General Manager Department of Government & Bank Account Reserve Bank of India Central Office, Mumbai	Member
9	Shri D. Mishra General Manager Department of Banking Operations & Development Reserve Bank of India, Central Office, Mumbai	Member
10	Shri Jasbir Singh General Manager, Banking Department Reserve Bank of India, Central Office, Mumbai	Member
11	Shri A. Narayana Rao General Manager Department of Information Technology Reserve Bank of India Central Office, Mumbai	Member
12	Smt Rekha Warriar Deputy General Manager Internal Debt Management Cell Reserve Bank of India, Central Office, Mumbai	Member

Summary of Recommendations

- (1) Neither principal/ principal nor principal/ interest strips may be made fungible even if the redemption dates of two strippable stocks fall on the same date. However, coupon strips derived from two different strippable securities may be made fungible with each other.**
- (2) The choice of eligible securities may be restricted to securities whose redemption dates fall between 0 and 20 years, with a majority of them falling within the 12-15 years range.**
- (3) Keeping volume as a major factor (minimum volume of Interest coupons to be Rs.500 crore), the selection criteria will be optimized if the following two sets of coupon dates are selected for enlisting the securities eligible for stripping: (A) March and September 25, that would cover four securities, with redemption maturities ranging from 2004 to 2008 and the aggregate half-yearly coupon volume amounting to Rs.642.12 crore; and (B) May and November 30, also covering four securities, with redemption maturities ranging from 2011 to 2021 and the aggregate half-yearly coupon volume amounting to Rs.1990.37 crore. In order to build up the volume, future issuance of securities may, to the extent feasible, be aimed at the above coupon dates. The minimum strippable amount may be stipulated as Rs.10,000/-**
- (4) Only select PDs should be authorized to undertake stripping and reconstitution.**
- (5) RBI/PDO may either undertake all the activities on its own, or allow CCIL to intermediate in the process by undertaking the stripping and maintaining the strips' individual accounts at its end. However, preference was expressed by some for the former model as in the latter case, the market participants will have to maintain their accounts with CCIL (within the ambit of CCIL's CSGL account with RBI).**
- (6) The selected PDs may be allowed to undertake stripping and reconstitution only on their own account. It must be made mandatory for them to do market making in a certain minimum number of strips and strippable securities.**
- (7) The criteria for selecting PDs may include the following: net owned funds, turnover, age and experience, IT infrastructure, system support for risk management, ability to hold sufficient inventory of securities, market-making capability, organisational structure including availability of skilled personnel, management, parentage, etc.**
- (8) Either the RBI-PDO Model or the CCIL Model may be used for operationalising the scheme for stripping and reconstitution, and the interface with NDS/PDO may accordingly be worked out as detailed in the Report.**
- (9) Stripping / reconstitution may be allowed only in respect of un-encumbered securities.**

- (10) The face value of a security may be the basis for stripping / reconstitution.**
- (11) All secondary markets quotes for STRIPS should be in terms of yield.**
- (12) The RBI Guidelines on Prudential Norms for Classification, Valuation and Operations of Investment Portfolios may allow banks to:**
 - (a) Recognize the interest accrued on their HTM investments in STRIPS and other zero coupon securities during the year as income for the year; and**
 - (b) Take both the net depreciation and the net appreciation in value (in case of the latter, the lower of the two amounts – the net appreciation in value or the interest accrued during the year), on account of their AFS investments in STRIPS and other zero coupon securities, to their profit & loss account.**
- (13) The Reserve Bank may formally take up the matter with FIMMDA and CCIL for publishing the zero-coupon yield curve at periodical intervals.**
- (14) RBI Guidelines on Prudential Norms for Classification, Valuation and Operation of Investment Portfolios by banks, as modified in terms of the above recommendations to suit the requirements of strips and other zero coupon bonds, and the yield curve published by either CCIL or FIMMDA may be the basis for computing the values of STRIPS securities for both SLR and LAF purposes.**
- (15) The method of valuation of STRIPS for the purpose of LAF must take into account market price with appropriate haircuts, so that the market risk is adequately factored in.**
- (16) With the proposed changes in the Government Securities Act, the available legal provisions are considered sufficient and no other legislative changes may be required.**
- (17) In order to simplify the procedure, tax authorities may consider changing the tax treatment, for the retail investors, from the mark-to-market valuation method as currently applicable, to the original yield valuation method.**
- (18) If, as a result of uneven demand for various maturities, trading in certain segments is inhibited and PDs get stuck with small, illiquid coupon or principal strips, the Reserve Bank may undertake Open Market Operations in those strips in order to relieve the situation.**
- (19) The Reserve Bank may also consider following the assimilation method in future, whereby securities are chosen for stripping such that not only their coupons but also some of the chosen securities' principal payments mature on a given date.**
- (20) The authorities may consider providing tax incentives to investors in strips. The incentives may be on the lines of Individual Retirement Account (IRAs) and Section 401(k) plans in the US that offer tax**

exemptions provided the investment remains locked up until the investor attains the age of retirement / superannuation, say 60/65 years.

- (21) The Reserve Bank may consider permitting PDs to undertake short selling in gilts and gilt strips, as also permitting lending and borrowing in such securities, as that may help in their market making obligations.**
- (22) The authorities may consider extending the Section 80L benefit to the interest earned on individual investors' investments in gilts and gilt strips.**

Chapter I

Introduction

A vibrant domestic debt market is important for the continued health of the financial system of an economy; its risk pooling and risk sharing characteristics provide the public authorities the required leverage to move a crisis outside the banking system, if needed. The finding that the under-developed state of the respective countries' debt markets (and the consequent over-dependence of their business firms on bank lending) was one of the primary causes of the East Asian crisis of 1997-98 has served to underline this. An efficient, deep and liquid debt market remains an important milestone to be achieved on the road to financial sector reform in our country.

The Reserve Bank of India has been seized of the matter for quite some time now. Because of its sheer size and other related factors, the government securities market was the logical choice for making a start in this direction. The Bank has, over the last few years, taken resolute steps for deepening and widening this market. These range from introduction of new instruments (zero coupon bonds, floating rate bonds, capital indexed bonds, bonds with put and call options, etc.), to adopting new selling techniques (multiple price auctions, uniform price auctions, non-competitive bidding, etc.), to setting up, and/ or encouraging the formation of, new entities in the marketplace (special institutions like DFHI, STCI, primary dealers, satellite dealers, gilt funds, etc.), to fashioning new market structures (transfer of market making activity to PDs, creating an institutional structure for clearing and settlement of trades in debt, money-market and FX segments, etc.). Besides, several innovations / changes in the operational procedures have been introduced to enhance the efficiency and reach of the market.

A large investor base, encompassing participants with differing perceptions regarding the movement of market rates in future and liquidity requirements, is the sine qua non for a thriving market. A deep and liquid market is efficient and less volatile than a shallow, illiquid one. Developing such a market, however, takes more than just a large investor base; it is contingent upon the emergence of a chain of inter-related institutions and structures in the marketplace – benchmark rates, market structure for selling the securities in retail, institutional structure for guaranteed and efficient settlement of trades, etc. Emergence of these structures is often a function of the stage of development of the economy itself.

Developing a market in STRIPS (Separately Traded Registered Interest and Principal of Securities) is a link in this vital chain. Accordingly, alongside initiating action on various other fronts, the Reserve Bank has been anxious to create conditions for development of a market in STRIPS.

Historical Background

STRIPS (or, Separately Traded Interest and Principal of Securities) was innovated as a new instrument in the US in 1982 when Merrill Lynch issued Treasury Investment Growth Receipts (TIGRs), as zero coupon securities, to investors against treasury securities held in trust with a depository. Each TIGR was backed either by the principal or the coupon cashflow of the original treasury bond. Investors were initially attracted to the new instrument by the income tax benefit – the Federal Income Tax regulations, then, were not designed to capture the discount at which the

zero coupon bonds were purchased by the investors as interest accrued over the years to maturity.

The authorities finally woke up to the need to plug this loophole and the Tax Equity and Fiscal Responsibility Act was passed making it obligatory to recognize the notional annual coupon on stripped bonds as taxable income for that year. Eventually, the Federal Government decided to co-opt strips as part of their treasury security offerings and brought forth a regulatory framework for stripping and reconstitution.

Today, in the US, all treasury notes and bonds are strippable. A financial institution, government securities broker, or government securities dealer can convert an eligible treasury security into interest and principal components at any time from its issue date until its call or maturity date. There is a large and active market for principal strips, with many brokers and dealers making a market in these securities. Other market participants include pension funds, financial institutions, investment funds, and individuals. While the liquidity of particular issues may vary from time to time, generally the market for strips, with maturities ranging from a few months to 30 years, is quite liquid.

The tax deferral benefit of the IRA (Individual Retirement Accounts) and Section 401(k) savings plans available to individual income tax payers in the US makes strips an attractive investment instrument for them. In the US, interest on a bond issued to finance government operations generally is not taxable if the bond is issued by a State, the District of Columbia, a US possession or any of their political sub-divisions. The last category includes port authorities, toll road commissions, utility services authorities, community redevelopment agencies and qualified volunteer fire departments. Original Issue Discount (the interest accrued over the term of a debt instrument, whether or not any payment is received from the issuer) on tax-exempt state or local government bonds is treated as tax-exempt interest.

In the U.K. market, strips were introduced in December 1997, with only a handful of Gilt Edged Market Makers (GEMMs) being authorised to request stripping or reconstitution in respect of eligible gilt stocks. Market activity in strips has not been very encouraging, with liquidity in the underlying coupon bonds and efficiency in the pricing of strips posing problems. Difficulties in aligning the coupon payment dates across a number of bonds have also been experienced.

The experience has been, by and large, similar in other European countries, except in France where treasury strips were introduced in 1991. Initially, illiquidity plagued the strips market there but, in recent years, strips have become an important vehicle for investment. Incidentally, the institutional structure for stripping and reconstitution in France is markedly different from that obtaining in other countries, with the primary dealers being allowed to request stripping and reconstitution only on their own account and compelled to do market making in the stripped bonds. The French Government' Treasury Department has also given the mandate for stripping and reconstitution to Groupement D'interet Economique (GIE), an institution set up by the primary dealers themselves. GIE has, in turn, given the mandate to manage the accounting for stripping and reconstitution to the central clearinghouse, Euroclear (France).

Informal Working Group (IWG)

In India, the first steps were taken by the Reserve Bank in 1997, when it constituted an Informal Working Group (IWG) on “*Stripping of Gilts: Scope, Mechanics and Operational Aspects.*” The IWG examined various aspects of stripping government securities, including the benefits that would accrue to the different categories of investors, the pre-requisites for development of a market in gilt strips and the mechanics of stripping and reconstitution, as well as certain related issues like selection of stock, tax treatment, legal issues, etc.

The IWG Report listed the following among the benefits to be derived from introduction of gilt strips as a new instrument of investment:

- ? Activating the primary dealers’ role as market makers by opening a new avenue of business for them;
- ? Attracting retail investors to trading in strips which would result in broad-basing the government securities market by facilitating a lengthening of the maturity profile of government debt – an important factor from the capital account convertibility perspective; and
- ? Increasing depth and liquidity by attracting more players and higher volumes in trading, since an investment in strips would enable a trader to increase the duration of his portfolio without putting more cash.

The IWG Report also identified the different categories of investors who would find investment in strips attractive, viz.:

- ? Long-term investors, such as pension funds and insurance companies, who would be able to narrow the gap between the maturities of their assets and liabilities, besides earning a guaranteed return;
- ? Corporate entities who would be able to ensure precise management of cash flows, while eliminating reinvestment risks;
- ? Traders who would have an instrument which, because of its higher duration and higher convexity and lower cash outlay, could help them out-perform the market (since a more convex bond falls in price less than a less convex one when yields rise, and rises more in price when yields fall);
- ? Individual investors wishing to immunise their portfolios against the interest rate risks on account of reinvestment of coupons; and
- ? Foreign Institutional Investors (FIIs) who would be able to contract sovereign debt of higher duration at lower cash outlay which would result in savings on their exchange expense.

The IWG Report identified the following as the pre-requisites for development of a gilt strips market: a favourable taxation environment; exclusive use of the book-entry, or dematerialised system for undertaking transactions in gilts; PDOs disseminating information to the investing public on strippable securities and segment-wise holdings of strips, and making strips issues sufficiently large in volume (by means such as reissues in designated strippable securities, making coupons from different strippable securities fungible, etc.) so as to ensure liquidity in strips; ensuring transparency and predictability in gilt market operations by ushering in an automated and risk-free clearing and settlement system; use of modern technology for successful implementation of stripping and reconstitution.

Informal Group (IG)

In November 2001, another Informal Group (IG) of the RBI was constituted for going into the issues of identification of stocks for stripping, consolidation of securities and alignment of coupon payment dates, fungibility, etc. connected with stripping.

The IG Report pointed out yet another justification for strips in the context of the peculiarities of the financial system in our country. It noted that the banking system continues to be the predominant investor in government securities but this has resulted in huge asset liability mismatches in their balance sheets which has been a cause of great concern to the authorities. Since their liabilities are short-term, banks need ever larger volumes of relatively shorter term gilts. On the other hand, certain other institutions such as insurance companies, provident funds and pension funds, need to invest in longer term government securities. RBI's earlier attempt at addressing this problem through issue of zero coupon bonds, though successful in market terms, encountered a peculiar roadblock. Government of India expressed its discomfort with issuance of zero coupon bonds because, being discounted bonds, the cash inflows for a given issue size (which goes by the face or nominal value) is much smaller and this is incompatible with the government's budget accounting system which is not designed to handle purchase cashflows that are lower than the face value of the instrument. Strips, which are nothing but zero coupon bonds created by the market and not by the issuer, get around these problems while at the same time creating securities of varied maturities from a single coupon-bearing instrument. Thus they could cater to the demands of diverse investor groups having different investment horizons.

The IG Report made the following recommendations: (a) That the principal strips should not be made fungible with each other and with coupon strips; (b) That either Rs.1,000 or Rs.10,000 (with further increases being allowed in similar multiples) be stipulated as the minimum strippable amount; (c) That strips be held in dematerialised (book-entry) form and the stripping and reconstitution process be carried out in a highly computerised environment; (d) That only a limited number of intermediaries, along with the Debt Manager, be allowed to perform stripping / reconstitution on the specific requisition from the holders; (e) That consolidating existing loans would be difficult on account of the legal and operational problems to be faced; (f) That a set of fixed coupon payment dates, coinciding with the advance tax payment dates, may be ideal for issuance of strippable stocks in future; (g) That aligning the coupon payment dates of existing loans would be difficult since this would involve changing the coupon payment dates of the securities concerned unilaterally, without any mandate from the investors, and would create avoidable confusion in the marketplace; (h) That issuance of benchmark securities be made a supplementary objective of the STRIPS scheme so that the same benchmark securities are issued year after year, thus smoothening the maturity profile of the outstanding loans.

The IG Report also gave details of the tax treatment of zero coupon bonds as clarified by the Central board of Direct Taxes (CBDT) at that point in time, and indicated that, under the draft Government Securities Act, stripping and reconstitution would be legally valid. The Group was of the view that permitting repos in strips, and including strips in the list of SLR securities, would be feasible propositions.

The Mid-Term Review of the Monetary and Credit Policy 2002-03 mentioned that, in order to operationalize a scheme for STRIPS, it had been decided to constitute a Working Group for suggesting operational and prudential guidelines in respect thereof. Pursuant to that, on May 15, 2002, RBI notified the constitution of a Working Group for Suggesting Operational and Prudential Guidelines on STRIPS.

Coupon vs. Zero Coupon Bonds/ STRIPS

Strips are nothing but zero coupon bonds. Zero coupon bonds differ from coupon bonds in that they offer investors just one payment – upon maturity. They are accessed by investors who have a known payment obligation coming up at a specific date in future because the cashflows from the zeros can be precisely matched, in time and magnitude, with the investor's payment obligation.

If an investor invested in a coupon bond with a view to matching his/ her cash outflows on account of maturing liabilities with his/her cash inflows from the investment, he/she would be exposed to the risk of reinvestment in respect of the periodical coupon payments – the coupon cashflows will have to be invested at the rates available in the market, for the respective times to maturity, at the corresponding points in time. Thus, for a 10-year coupon bond, the first interest payment may be due 9 ½ years from maturity, the second 9 years from maturity, and so on. The first cashflow would thus be reinvested at the 9.5 year rate prevailing at that point in time, the second at the 9 year rate, etc. The last but one coupon payment would be reinvested for just 6 months.

This uncertainty poses a problem in valuation. For valuing a coupon bond at a given point in time, it is assumed that each coupon payment is reinvested at the same rate – the yield to maturity (YTM) rate. The market value is computed as the aggregate of the present values of all future coupon flows, and the present values, in turn, are arrived at by discounting all the coupon flows at the same, YTM, rate.

For valuing a strip, or a zero coupon bond, we need a zero coupon yield curve. A zero coupon curve can also be used for valuing coupon bonds; only, in such a case, we will have to discount each cashflow at the respective rates given by the zero coupon yield curve instead of discounting all cashflows at a (YTM) rate read off from a conventional yield curve. In case the zero curve is upward sloping, the YTM will be lower than the zero coupon yield at maturity since, when discounting on the zero curve, the earlier cashflows are discounted at lower yields and the later ones, at higher yields.

The industry practice, of course, is to use the YTM rate read off from the conventional yield curve for discounting the cashflows in case of coupon bonds. The trading of strips in the market will lead to derivation of a true zero coupon yield curve which will result in more accurate valuation of Government Securities.

Duration and Convexity

Duration (the length of time exposure to a bond or portfolio weighted by the present value of the cashflows), Price Value Per Basis Point or PVBP (change in price for a unit, or one basis point, change in yield) and Convexity are measures of the sensitivity of bonds to yield changes. While the first two are measures useful for small yield changes of a few basis points, the kind that characterise the day-to-day movements in the marketplace, Convexity is a second order measure, and gives the rate at which PVBP changes for a unit change in yield. Since the relationship between bond price and yield is non-linear, the change in price for a 10 basis point rise in yield is not exactly 10 times the change in price for a 1 basis point rise in yield.

Convexity increases with the maturity of bonds. For a given maturity, lower coupon bonds are more convex than higher coupon bonds but strips or zero coupon bonds are the most convex of all. This means that for each successive basis point fall in yield, the price of a strip will rise at a higher rate, while for each successive basis point rise

in yield, its price will fall at a lower rate. From an investor's/ trader's perspective, this is a most desirable characteristic since it ensures that his/her profits increase exponentially as yields fall, while losses accumulate more slowly as yields rise.

Because of their higher convexity, traders use strips-based strategies for increasing their holding period return and for arbitraging. For instance, in a rising interest rate scenario when the yield curve is expected to become steeper, a trader would earn higher return on his portfolio if he sold an intermediate coupon bearing bond and simultaneously purchased a duration-weighted combination of a shorter and a longer zero coupon bond / strip using the sale proceeds. Likewise, a trader may spot arbitrage opportunities, through creating and reconstituting strips and coupon bearing securities at different point on the yield curve, if the price of longer maturity principal strips firms up on account of higher demand, or if there is imbalance between the price of the underlying coupon bearing stock and the aggregate of the prices of its component strips.

STRIPS – The Investor Categories

In France, there are three categories of investors in the strips market: those who deal in strips of 0-5 years' maturity; others who deal in strips of 5-15 years' maturity; and still others who deal in strips of more than 15 years' maturity. Financial companies who sell the savings product "Guaranteed Equity Fund" (guaranteeing that after, say, 5 years, the return to the investor will not be less than the original investment, i.e. the investor's principal will remain protected), are the major investors in the first category of strips, holding the investments until maturity.

The second category (5-15 years) includes investors like the insurance companies who invest in strips instruments so as to ensure that the maturity payments from them become available when their liability payments fall due for payment. They, too, hold their investments until maturity. The third category (more than 15 years) is composed of speculators, hedge funds and individuals, who invest largely for short-term gain purposes. It is said that the secret of the French strips programme's success lies in the existence of these three categories of investors with diverse intentions.

Chapter II

Operationalising a Scheme for STRIPS

The first four Terms of Reference, viz. criteria for choosing securities eligible for stripping and reconstitution, criteria for authorising entities in the matter, operational procedure and changes in the NDS/PDO software, have a direct bearing on operationalizing a scheme for strips.

Criteria for Selecting Securities

Generation of sufficient rupee volume, for each redemption date, in the resulting coupon and principal strips must be one of the key objectives of any scheme that lays down the criteria for selecting securities for stripping; for, if the rupee volumes are not adequate, trading in the instruments will remain inhibited.

For coupon strips, the issue assumes greater importance because their face value is only a fraction of the face value of the parent coupon security / principal strip. A security having an issue size of Rs.1,000 crore and a coupon of 10%, for example, would generate two coupon strips of Rs.50 crore in a year. The cash price, or discounted value, of these coupon strips will be even lower because they are zero coupon, as opposed to coupon, bonds. These volumes may not be sufficient from the market liquidity point of view.

Among the methods issuers of securities employ for creating larger volumes are: consolidation of existing loans, alignment of the coupon dates of different securities, and making different securities' principal and coupon strips fungible with each other (interest strip with interest strip and/ or principal strip with principal strip and/or principal strip with coupon strip).

Consolidation of Loans

Consolidation of loans can be either active or passive. Increasing the borrowing amount through re-issuance or re-opening of an existing loan falls in the second category; this has often been resorted to in our country. Active consolidation, however, bristles with difficulties because it involves the subsuming of one loan into another. These include legal difficulties in consolidating pre-1992 loans with post-1992 loans, absence of call option clauses in loan notifications, bunching of repayments that would result from horizontal consolidations (consolidation of loans maturing in a particular year), etc.

Alignment of Coupon Dates

Aligning coupon dates across loans is not difficult in case of new issuances. However, alignment of coupon dates of existing loans is fraught with difficulties because it means changing the coupon payment dates unilaterally – without a mandate from the investors. The considered view of the RBI Informal Group (IG) on Strips is that it should be possible to generate enough rupee volumes in the stripped securities through passive consolidation alone.

Fungibility of Principal Strips

Whether or not coupon strips should be made fungible with principal strips maturing on the same day is debateable. While fungibility could increase liquidity, it would also give an opportunity to the market to create more of a coupon-bearing gilt, via the reconstitution facility, than had originally been issued. This might be detrimental to the interest of holders of the stock, as the size of an issue would become uncertain. In most countries where an official gilt strips facility has been operationalized, generally neither have the coupon and principal strips been made fungible with each other, nor the principal strips among themselves. The legislation governing strips, the tax regime and the strips scheme are, however, so designed as to ensure that, in case coupon / principal strip fungibility is desired at a future date, it should be possible to undertake the same without any difficulty.

In view of the above, it would be advisable, at least initially, not to make either principal/ principal or principal/ interest strips fungible even if the redemption dates of two strippable stocks fall on the same date. However, the coupon strips derived from two different strippable securities may be made fungible with each other. This is also in line with the recommendation of RBI's Informal Group on Strips.

Recommendation: Neither principal/ principal nor principal/ interest strips may be made fungible even if the redemption dates of two strippable stocks fall on the same date. However, coupon strips derived from two different strippable securities may be made fungible with each other.

Issues in Determining Selection Criteria

There are four other issues, besides volume, that will have a bearing on determining the criteria for selecting securities for stripping. These are: (a) Whether the coupon dates should be evenly distributed throughout the year or should be close to the four advance income tax payment dates; (b) Maturity range of the resulting stripped securities; (c) Whether the securities to be selected are liquid or not; and (d) Whether the number of coupon date pairs needs to be kept small.

Picking gilts with evenly distributed coupon dates for stripping may be suitable for a market that not only has a large number of players but is also experiencing a relatively high level of trading in strips. In the market's formative stages, investors here may prefer maturities closer to the advance income tax payment dates (the 15th of March, June, September and December), and as far as practicable, this should be aimed at. However, the need to provide rupee volumes must remain foremost – the litmus test of success for any scheme.

Ideally, the length of maturity range of the strips instruments to be made available should depend on investor preferences. For gauging that, it may be helpful to look at broken- up maturity periods of, say, 0-5 years, 5-15 years and more than 15 years, and consider the investor class that would be attracted to each category.

In developed markets, financial services companies sell a variety of products with Guaranteed Principal where the investor could potentially earn high returns if the asset management strategy of the company succeeds, but his/her principal remains protected at all times. Companies offering such Guaranteed Principal schemes are the major investors in the 0-5 year category. In our country, strips may offer a good opportunity to such of the mutual funds (MFs) as may wish to popularise a similar product among the investing public; if that happens, MFs may well become the investor class tied to the first investment horizon. However, as of now, MFs prefer to

invest in liquid securities above everything else – regardless of the maturity profile of the investment.

The second category (5-15 years) is ideal for the needs of long-term investors such as insurance companies, provident funds, pension funds, and even corporates and individuals who would like to invest for specific purposes such as children's education, marriage, post-retirement income, etc. Again, many of the insurance companies and provident/pension funds in our country seem to like high current yield more than investment in longer tenure instruments.

The third category (more than 15 years) generally attracts speculators, hedge funds and individuals who invest in such long-dated paper largely for short-term gains. At the current stage of development of our financial markets, it is difficult to visualize too many members in the investor class for this category, but as markets develop, new classes of investors will certainly emerge and be co-opted by the system. In the interim, long-term investors tied to the second category will probably fill the gap.

It is considered that having a maturity universe of 0 to 20 years for the eligible government securities would suffice for the needs of the three investor classes, at this stage. That is to say, our choice may be restricted to securities with the farthest redemption dates up to the year 2022, with the maturity periods of a majority of them falling within the range of 12-15 years.

Recommendation: The choice of eligible securities may be restricted to securities whose redemption dates fall between 0 and 20 years, with a majority of them falling within the 12-15 years range.

In the Indian market, the list of benchmark and liquid government securities keep changing – what is liquid at one point in time may not remain so at another. It is difficult to forecast what securities will be liquid and, once it does become liquid, how long it will remain on the liquid list. For this reason, it is difficult to factor in liquidity as a criterion in selecting eligible securities. Therefore, as in other cases, we may strike a compromise keeping the all-important objective of generating rupee volumes in view.

The fourth important issue is the number of coupon date pairs to be aimed at. More number of coupon date pairs would increase investor choice but reduce the outstanding amount of each coupon strip for any given quantity of strippable stock, and so might reduce liquidity. Available evidence suggests that, at least at the introductory stage of the STRIPS programme, other countries also found it necessary to have only a small number of coupon dates. In view of the foregoing, we are inclined to recommend that we follow the same practice and choose a relatively small number of coupon date pairs for our strips programme.

An analysis of the outstanding government securities and their evaluation along the above three considerations – viz. distribution of coupon dates, maturity range and the need to keep the number of coupon date pairs small – threw up the result that the selection criteria would get optimized if the following two sets of coupon dates are selected for enlisting the securities eligible for stripping: March and September 25 that would cover four securities, with redemption maturities ranging from 2004-2008 and an aggregate half-yearly coupon amount of Rs.642.12 crore; and May and November 30, also covering four securities with redemption maturities ranging from 2011-2021 and an aggregate half-yearly coupon amount of Rs.1990.37 crore. The details of the securities and their outstanding amounts is furnished in **Annexure – I**.

One of the suggestions was that, instead of endeavouring to optimise the selection criteria, we could consider specifying a certain minimum outstanding amount, say, Rs.10000 crore (or a certain minimum coupon amount per interest payment date, say Rs.500 crore) as the criterion for making a security eligible for stripping. As already noted, this has been one of the most important criteria in our optimization formulation; but making the selection 'automatic' may lead to fragmentation of liquidity and is therefore not considered a feasible solution.

Recommendation: Keeping volume as a major factor (minimum volume of Interest coupons to be Rs.500 crore), the selection criteria will be optimized if the following two sets of coupon dates are selected for enlisting the securities eligible for stripping: (A) March and September 25, that would cover four securities, with redemption maturities ranging from 2004 to 2008 and the aggregate half-yearly coupon volume amounting to Rs.642.12 crore; and (B) May and November 30, also covering four securities, with redemption maturities ranging from 2011 to 2021 and the aggregate half-yearly coupon volume amounting to Rs.1990.37 crore. In order to build up the volume, future issuances of securities may, to the extent feasible, be aimed at the above coupon dates. The minimum strippable amount may be stipulated as Rs.10,000/-.

Criteria for Authorising Entities

The question of stipulating criteria for authorising entities to undertake stripping and reconstitution is inextricably linked with the following issues: (a) What entity(ies) should be permitted to undertake stripping / reconstitution; (b) Whether the actual stripping / reconstitution in electronic form is to be carried out at RBI/PDO or at the authorized entity's end; and (c) Whether the entity concerned should be authorized to undertake stripping and reconstitution only on its own account or also on behalf of its client.

In both the U.K. and the Republic of South Africa (RSA) models, only some of the Primary Dealers (PDs) are authorized to undertake stripping and reconstitution. An authorised PD requests the gilt issuing office for stripping (reconstitution), providing client member and other details such as the ISIN numbers of the securities involved, the amount of the coupon gilt to be stripped (strips to be reconstituted), settlement date (under the U.K. scheme, a request can be made up to 1 month ahead of the intended settlement date), priority to be assigned to the request (in case there are several requests in the queue on account of the PD concerned), etc.

In the French model, however, the Government's Treasury Department has given a mandate to GIE, an institution of the PDs themselves, to undertake stripping / reconstitution in association with the central clearinghouse, Euroclear (France). GIE, in turn, has given the mandate to Euroclear (France) to manage the accounting for stripping / reconstitution on its behalf. In this scheme of things, GIE performs the role of a controller for all stripping and reconstitution transactions and Euroclear (France), as the depository, maintains the accounts of the stripped, as well as the eligible coupon bonds, on behalf of the Republic of France. In the books of Euroclear (France), only the aggregate amounts of the stripped and eligible coupon bonds (in France, government bonds with maturing on either on April 25 or October 25 are eligible for being stripped) issued and remaining outstanding appear.

In the U.K. and the Republic of South Africa (RSA) models, an authorised PD can request the gilts issuing office for stripping / reconstitution either for its own account

or on behalf of its clients; in the French model, a PD can make such a request on its own account only. All PDs are authorised to request stripping / reconstitution and have the obligation for market making in strips as well as the eligible securities.

In France, the only way a non-PD investor can convert a piece of coupon gilt owned by it into strips (or vice versa) is by undertaking a sell / buy transaction – selling the coupon gilt (strips) to a PD and buying the strips (the coupon gilt) either from the same, or another, PD. In U.K. and South Africa, a non-PD investor has the option to either undertake such a sell / buy transaction or request an authorised PD to undertake the stripping (reconstitution) on its behalf. In the U.S., any financial institution, government securities broker or government securities dealer can request conversion of a treasury security into strips, or vice versa.

In our country, some of the largest holders of gilts are banks and financial institutions such as LIC, GIC, etc. Therefore, a point for consideration is whether, in addition to the PDs, they should also be allowed to undertake stripping / reconstitution, either on their own behalf or on behalf of their clients.

The reason why, in most countries, it is the PDs (or, some among them) that have been selected for undertaking stripping / reconstitution is that they are the specialized institution for trading in gilts; they are also the only intermediary obliged to do market making and offer two-way quotes to market participants. Moreover, stripping / reconstitution of securities being a somewhat sensitive and technology-driven operation, it would be only appropriate to restrict it to a select few among them that show a willingness to undertake the obligation and have the necessary wherewithal.

If banks were to be included among the authorized entities for undertaking stripping / reconstitution, it would be difficult to restrict the total number. Since, currently, banks do not generally make a market in gilts, they do not have a case for claiming such authorization; if they started retailing, including market making in gilts as well as strips, they could then qualify for becoming authorized entities.

Since RBI is the debt manager for the Government, the Bank has the responsibility of maintaining the accounts of all government securities, including the stripped ones, and perform all corporate action connected therewith. Therefore, unless the Bank chooses to mandate some other institution for undertaking the activity on its behalf and maintaining the relevant accounts in dematerialized form, etc., RBI/PDO will continue to be responsible for this. As detailed in the next section, however, the actual operationalization of the scheme may take one of two forms – RBI/PDO may either undertake all activities on its own, or outsource a part of the job (that of maintaining all the strips accounts, as also the individual investors' ownership accounts in respect of both strips as well as of the strippable securities) to CCIL. Through the mechanism of its Constituent Subsidiary General Ledger (CSGL) account with RBI/PDO, CCIL could, operating like a depository participant, intermediate between the former and the PDs, relieving RBI/PDO of the burden to directly handle the PDs' requests and to maintain individual investors' accounts. The latter model would be somewhat akin to the French model discussed above.

As regards the question whether the authorized entity should be allowed to undertake stripping and reconstitution only on its own account or also on behalf of its client, it is felt that the former choice would incentivise the PDs and encourage them to take their market making role more seriously. At any rate, in the beginning at least, the number of requests for stripping / reconstitution from individual non-PD investors is not going

to be too large. It is therefore recommended that the PDs be allowed to undertake stripping and reconstitution only on their own account. Non-PD investors intending to strip a coupon-bearing gilt, or reconstitute strips into one, may enter into a sell / buy or buy / sell transaction (selling the coupon-bearing security and buying the strips, or vice-versa), respectively, with PDs. Therefore, it must be made mandatory for PDs to do market making in a certain minimum number of strips and strippable securities.

Besides willingness to undertake the activity, the criteria for selecting PDs authorized to carry out stripping and reconstitution may include the following: net owned funds; turnover; age and experience; IT infrastructure, system support for risk management; ability to hold sufficient inventory of securities; market-making capability; organisational structure including availability of skilled personnel, management, parentage, etc.

Recommendations: (a) Only select PDs should be authorized to undertake stripping and reconstitution.

(b) RBI/PDO may either undertake all the activities on its own, or allow CCIL to intermediate in the process by undertaking the stripping and maintaining the strips, individual accounts at its end. However, preference was expressed by some for the former model as in the latter case, the market participants will have to maintain their accounts with CCIL (within the ambit of CCIL's CSGL account with RBI).

(c) The selected PDs may be allowed to undertake stripping and reconstitution only on their own account. It must be made mandatory for them to do market making in a certain minimum number of strips and strippable securities.

(d) The criteria for selecting PDs may include the following: net owned funds; turnover; age and experience; IT infrastructure, system support for risk management; ability to hold sufficient inventory of securities; market-making capability; organisational structure including availability of skilled personnel, management, parentage, etc.

Operational Procedure

As mentioned above, the operational procedure for stripping and reconstitution may be based either on the U.K. model under which case all the activities pertaining thereto are carried out at the RBI-PDO end, or on the French model under which CCIL becomes an intermediary and maintains all the strips accounts, as well as the accounts of individual owners (of strips as well as strippable securities) at its end. The operational procedure followed in the U.K. and South Africa Models is outlined in **Annexure II & III**.

RBI-PDO Model

Transactions take place at two levels: (i) Between PD and its client; and (ii) Between PD and RBI-PDO.

Transactions between a PD and its client are buy / sell transactions, and take place strictly on a DVP (Delivery Versus Payment) basis. For example, if the client intends to strip its holding of a strippable bond, it sells the strippable bond stock to the PD for

a given consideration and the PD, either from its own inventory or after getting the stock stripped, sells a series of zero coupon bonds (principal and coupon strips) having identical cashflows and same principal amount (face value), again for an agreed consideration, to the client.

Since the transaction between a PD and its client (investor) is only a buy / sell transaction, PDs cannot recover stripping charges separately. These have to be factored in the sale / purchase prices. However, RBI may levy a charge for stripping which will have to be borne by the PD. Transactions between PDs and their clients will always be on DVP basis. In case of reconstitution, similar buy / sell transactions take place between the client and the PD, with the client getting back a coupon-bearing existing strippable stock of same principal amount (face value) in lieu of a series of zero coupon bonds (principal and coupon strips). In both cases, the transaction between the PD and RBI takes place strictly on a DVD (Delivery Versus Delivery) basis, and is completed electronically within minutes. Short selling, in the stripped securities is not permitted as per the current guidelines in force.

The step-by-step procedure to be followed for the second-level transaction between the PD and RBI-PDO is as follows:

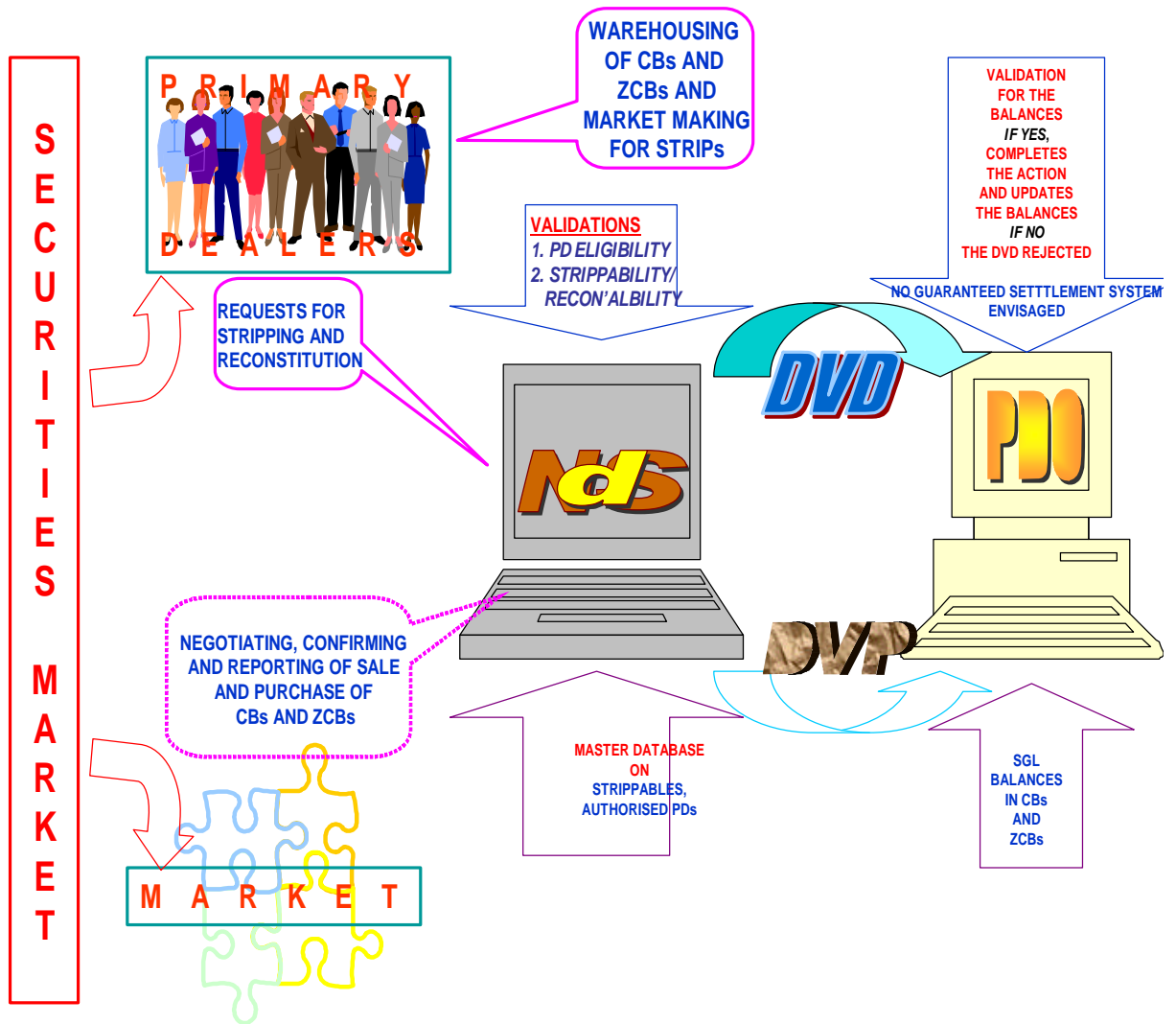
1. PD requests RBI-PDO electronically, via NDS, to strip its holding of a strippable bond, giving its SGL account number and the ISIN of the security concerned. The system automatically generates a reference number for the transaction and attaches the same to the request.
2. At the PDO, the Securities Settlement System (SSS) performs validation checks regarding eligibility of the stock for stripping, eligibility of the PD for making the request, whether the stock offered satisfies the minimum lot condition stipulated if any, and whether the requisite amount (face value) of the strippable security stock is available in the SGL account of the PD.
3. Upon successful validation, the PD's SGL account in the strippable bond offered for stripping is debited by the amount of principal (face value), and new zero coupon bonds (principal and coupon strips), with appropriate face values, are created.
4. The face values of the principal and coupon strips so created are credited to the PD's SGL account.
5. The outstanding balance in the strippable bond's (asset) account maintained at the PDO is reduced by posting a credit for the principal amount (face value).

All accounting entries are passed and the necessary validations performed, automatically, by the system. The system also automatically generates new ISINs for the coupon and principal strips created – separately for the two categories. The software will also have a provision for levying charges for stripping / reconstitution on the PD.

The reverse procedure is followed in case of reconstitution, with the system debiting the PD's SGL accounts in principal and coupon strips with the amount of their aggregate face value, creating a reconstituted strippable bond stock of appropriate face value in its book and crediting the same to the PD's SGL account.

A schematic of the RBI-PDO Model is shown overleaf.

A SCHEMATIC OF THE RBL-PDO MODEL



The CCIL Model

Stipulations regarding transactions at the first level, between a PD and its clients, remain valid even under this Model.

The difference, though, is that here CCIL acts as a depository, maintaining the details of Members' holdings of individual strips in its CSGL account. At the RBI-PDO end, in line with the current practice, only the aggregate movements are posted, and the balance held by CCIL at any point in time worked out and reflected in CCIL's CSGL account; the details of individual holdings are not maintained at RBI-PDO.

The step-by-step procedure for stripping may be delineated as follows:

1. PD sends the request, via NDS, to CCIL for stripping; simultaneously, it also sends a request to RBI-PDO to transfer the designated strippable bond stock from its (the PD's) SGL account to CCIL's CSGL account.
2. CCIL performs the validation checks, and if the same is successful, then the balance of the coupon-bearing gilt in the PD's account is reduced by the face value of the stock offered for stripping and new accounts for the relevant principal and coupon strips are created.
3. The PD's CSGL account with CCIL is credited with the face value of the principal and coupon strips.
4. CCIL then sends the details of the PD's stripping request, along with the details and the balances of the newly created principal and coupon strips, to RBI-PDO, electronically, for confirmation.
5. The RBI-PDO system carries out the stripping at its end, independently, reducing the outstanding balance in the strippable bond's asset account maintained at its end, as well as in CCIL's CSGL account. If the outstanding balances arrived at by the RBI-PDO system independently match with those reported by CCIL, then a confirmation is sent electronically to CCIL.
6. Upon receiving the confirmation from RBI-PDO (including the ISIN numbers in respect of the new securities), CCIL confirms the stripping to the PD.

The reverse procedure is followed in case of reconstitution, with the CCIL system debiting the PD's CSGL accounts in principal and coupon strips with the amount of their aggregate face value, crediting the PD's CSGL account in reconstituted strippable bond with appropriate face value, and requesting RBI-PDO for confirmation regarding CCIL's CSGL account balances in principal and coupon strips and in the reconstituted strippable bond accounts. Upon receiving the confirmation from RBI-PDO, CCIL confirms the reconstitution to the PD.

The CCIL Model for stripping/ reconstitution has the following advantages over the RBI-PDO Model:

- (a) It leverages the CSGL system for saving the bother of maintaining individual investors' holdings in strips instruments at the RBI-PDO level; post-stripping, all buy and sell transactions, and settlement thereof, are carried out at the CCIL end without any entry in its SGL account with RBI-PDO; and
- (b) It insulates RBI-PDO from all front-end activities related to the stripping and

reconstitution transactions.

However, this would require that all market participants maintain their accounts with CCIL (within the ambit of CCIL's CSGL account with RBI).

Because of this, some of the members favoured the RBI-PDO Model.

Some of the other related issues in stripping / reconstitution which were debated by the group are:

- (a) Stripping / reconstitution may be allowed only in respect of un-encumbered securities (the draft Government Securities Act permits pledge of / marking of lien on g-secs in others' favour);
- (b) The face value of a security may be the basis for stripping / reconstitution; and
- (c) All secondary markets quotes should be in terms of yield.

Recommendations: (a) Either the RBI-PDO Model or the CCIL Model may be used for operationalising the scheme for stripping and reconstitution, and the interface with NDS/PDO may accordingly be worked out as detailed in the Report.

(b) Stripping / reconstitution may be allowed only in respect of un-encumbered securities.

(c) The face value of a security may be the basis for stripping / reconstitution.

(d) All secondary markets quotes for STRIPS should be in terms of yield.

Chapter III

Issues in Investment Classification & Valuation, Legal Changes & SLR Eligibility

Currently, the investment portfolios of banks in our country are subject to RBI Guidelines (as codified in the “Master Circular - Prudential Norms for Classification, Valuation and Operation of Investment Portfolios by Banks” No. BP.BC.3/21.04.141/2002-2003 of July 11, 2002) that prescribe norms for income recognition and valuation in respect of the different categories of investments. The Central Board of Direct Taxes (CBDT) Circular No. 2/2002 of February 15, 2002 lays down the tax treatment in respect of deep discount bonds (DDB) and STRIPS. There are certain differences in the approach to income recognition and valuation of securities in the two sets of guidelines that may have a direct bearing on the attractiveness, or otherwise, of strips to the market participants in general, and banks in particular.

The RBI Guidelines mandate that, based on the intended holding period, all investments be classified into one of three investment categories – Held To Maturity (HTM), Available For Sale (AFS) and Held For Trading (HFT). They also stipulate certain restrictions on the aggregate rupee value of holdings, the period for which investments may be held, the flexibility to transfer investments from one category to another, and the method of valuation to be followed be subject to, depending on the category to which investments belong.

Thus, the aggregate value of investments held in the HTM category cannot exceed 25% of a bank’s total investments, an investment held in the HFT category must be sold within 90 days, an investment can be shifted to/from the HTM category only once a year and only with the approval of the Board of Directors, etc. For the main points of RBI’s Investment Classification and Valuation Guidelines, please see the Annexure IV.

There are two stipulations that characterise HTM investments – one, such investments do not need to be marked to market; and two, they have to be carried at cost in the books of the bank. (Any premium paid for acquiring the securities concerned is, however, allowed to be amortised over the period remaining to maturity.) The AFS and HFT investments are required to be marked to market at the year-end or more frequently, and at monthly intervals or more frequently, respectively. By implication, both net appreciation and net depreciation in market value are allowed to be carried to the profit and loss account in case of HFT investments, only net depreciation is allowed to be taken to the income account in case of AFS investments.

CBDT’s latest guidelines on the tax treatment of deep discount bonds and STRIPS, (please see Annexure V for the salient features) were issued in order to remove certain anomalies noticed in the tax treatment applicable to such instruments earlier. The anomalies, essentially, were two: (1) The entire income received from a deep discount or zero coupon bond in the year of redemption was eligible for tax in the same year, which resulted in a sudden and huge tax liability in one year whereas the value of the bond actually increased progressively over the period of holding; and (2) If the bond was redeemed by an intermediate purchaser (other than the original subscriber), such person became liable for tax on the entire difference between the bid price and the redemption price (the difference being treated as his interest income), since he was not allowed to deduct his cost of acquisition from such income.

The new guidelines seek to correct these anomalies by stipulating that: (1) Each bond in the portfolio be marked to market as on March 31 every year and the difference between the market values on any two successive dates be offered for taxation as interest income in that year; and (b) For computing the amount of capital gains in case of sale of the bond at any time before the maturity date or the amount of interest income, in case of redemption by an intermediate purchaser, to be offered for taxation, the cost to be taken into account may be the aggregate of the cost for which it was acquired by the transferor (or by the intermediate purchaser) and the income already offered to tax by such transferor (person redeeming the bond) up to the date of transfer.

By laying down that the process of stripping of a normal interest bearing bond into its components will not amount to a transfer within the meaning of the Income-Tax Act as it merely involves the conversion of the unstripped bond into the corresponding series of STRIPS, nor will the process of reconstitution of STRIPS to form a coupon-bearing bond, the new guidelines have cleared the roadblocks to stripping and reconstitution. To the non-corporate, retail investors holding such bonds up to an aggregate face value of Rs.1 lac, the guidelines give the choice of either following the old guidelines (paying tax on the entire holding period's interest (discount) upon redemption by the investor, no deduction of cost of acquisition upon redemption by an intermediate purchaser, etc.) or the new one.

Issues in Valuation Norms

Upon introduction of strips in the market, banks may face certain issues in implementing the RBI Guidelines on Classification and Valuation Norms.

A strict reading of the RBI Guidelines may indicate that in the case of HTM investments, a bank is ordained to carry the investments in its books at cost but must pay tax, every year, on the difference in valuations between the last two valuation dates. Thus, even as the bank is obliged to pay tax on the interest accrued on such investments every year, it is obliged to carry the stock at cost only. In the case of AFS investments, too, while the net depreciation is allowed to be carried to the profit and loss account, the net appreciation is not. Such treatment may make sense in case of coupon bonds (in whose case the bank keeps receiving interest at periodical intervals that gets booked as income) but is iniquitous in its application to zero coupon securities. This is so because a zero coupon bond keeps accruing interest up to maturity and, in its case, a secular increase in value with the passage of time is to be expected.

However, as far as the HTM investments are concerned, a bank following the mercantile system of accounting may be perfectly within its rights to book the accrued interest as income because the RBI Guidelines do not specifically disallow this. Our enquiries, in fact, reveal that certain banks are already doing so.

However, for the AFS category of investments, there is a specific injunction in the RBI Guidelines that the net appreciation in value be ignored. Again, while such a stipulation may be suitable for coupon bonds, for the reason adduced above, the same may not be appropriate for zero coupon securities.

Banks wishing to keep the zeros and strips in their portfolio over an extended period of time may get positively discouraged because the extant valuation norms are not designed for instruments with peculiar interest-accruing characteristics. Therefore,

the valuation norms for the HTM and AFS categories of investments in STRIPS and other zero coupon bonds need to be revised permitting the booking of interest income (difference between the valuations on the last two valuation dates) in the former case, and the taking of the lower of the two amounts – the net appreciation in value or the interest accrued during the year – to the bank’s profit & loss account in the latter case.

Recommendations: The RBI Guidelines on Prudential Norms for Classification, Valuation and Operation of Investment Portfolios may allow banks to:

- (a) Recognize the interest accrued on their HTM investments in STRIPS and other zero coupon securities during the year as income for the year; and**
- (b) Take both the net depreciation and the net appreciation in value (in case of the latter, the lower of the two amounts – the net appreciation in value or the interest accrued during the year), on account of their AFS investments in STRIPS and other zero coupon securities, to their profit & loss account.**

Ready availability of a zero-coupon yield curve, at appropriate intervals, will be necessary so as to enable investors to value their portfolios of STRIPS. Both FIMMDA and CCIL have the necessary systems and infrastructure in place for doing so. Accordingly, the Reserve Bank may formally take up the matter with FIMMDA and CCIL for publishing the zero-coupon yield curve at periodical intervals, for valuation purpose.

Being a government bond, there is no reason why STRIPS should not qualify as a security for extending Liquidity Adjustment Facility (LAF) to eligible market participants, and why investment in STRIPS not be eligible as Statutory Liquidity Ratio (SLR) investments. An issue that will arise for examination is the basis of valuation of the security for such purposes. In the interest of uniform valuation for balance sheet and SLR purposes, it is considered that the RBI Guidelines on Prudential Norms for Classification, Valuation and Operations of Investment Portfolios, as modified in terms of the above recommendations so as to suit the requirements of strips and zero coupon bonds, and the yield curve published by either CCIL or FIMMDA may be the basis for computing the values of STRIPS securities for both SLR and LAF purposes.

The method of valuation under the LAF Scheme will also need to undergo a change, with appropriate norms for valuation and haircuts being introduced, for strips so that the market risk is adequately factored in.

Recommendations: (a) The Reserve Bank may formally take up the matter with FIMMDA and CCIL for publishing the zero-coupon yield curve at periodical intervals.

(b) RBI Guidelines on Prudential Norms for Classification, Valuation and Operation of Investment Portfolios by banks, as modified in terms of the above recommendations to suit the requirements of strips and other zero coupon bonds, and the yield curve published by either CCIL or FIMMDA may be the basis for computing the values of STRIPS securities for both SLR and LAF purposes.

(c) The method of valuation of STRIPS for the purpose of LAF must take into account market price with appropriate haircuts, so that the market risk is adequately factored in.

Legal Issues

The issue whether any legal changes were required for making gilt strips eligible for SLR investments was considered. We are of the opinion that no legal changes would be necessary and that a notification from RBI would be sufficient.

The proposed Government Securities Act specifically provides for issue of STRIPS. As such, once the bill is passed by parliament, there will be no legal hurdle in stripping or reconstitution of gilts.

TDS on gilts has already been abolished, and therefore, no TDS will be applicable on gilt strips.

Recommendation: With the proposed changes in the Government Securities Act, the available legal provisions are considered sufficient and no other legislative changes may be required.

Issue in Taxation

As noted above, the new CBDT Guidelines have removed the anomalies in the tax treatment of income arising from investment in strips and deep discount bonds. It is claimed that the revised framework is in line with international practice.

However, it appears that there is scope for improvement. As compared to the system in France, for instance, the framework of computing interest / business income for taxation purposes, with its associated burden of marking to market the zeros using the zero coupon yield curve of an authorised institution, is quite cumbersome.

Instead of mark-to-market valuations at the year-end, the French system is based on the principle of taxing the holder of a zero coupon bond, every year, on his Notional Taxable Income which is given by the following formula:

$$\text{Notional Taxable Income} = (\text{Taxable Asset}) * (\text{Original Yield}),$$

where the value of Taxable Asset at the end of a period equals its value at the beginning of the period plus the Notional Taxable Income for the year. The computation will be clear from the following illustration:

Example

Purchase of a three-year zero coupon bond at a yield of 5% p.a.

Year	Taxable Asset		Yield	Taxable Income
	Beginning Balance	Ending Balance		
0	-	86.38	5.00%	4.32
1	86.38	90.70	5.00%	4.54
2	90.70	95.24	5.00%	4.76
3	95.24	100.00	-	-

The beauty of the French system lies in its simplicity. Since the value of a zero coupon bond will always be equal to its par value at maturity, over the holding horizon, the algebraic sum of the incomes offered for taxation and the losses claimed,

in different years, based on the principal of marking to market would always be equal to the aggregate of the relevant years' Notional Taxable Incomes computed on the basis of the original yield formula.

The essential difference between the mark-to-market and the original yield methods is that, while the taxable incomes for all future years are certain and determinable in advance in the latter case, the same would vary from year to year, depending on the interest rate in the market as reflected in the zero curve, in case of the former method.

The only reason why tax authorities may view the original yield method with disfavour is that it may be subjected to abuse by market manipulators who may show arbitrary buy and sell prices in order to influence the value of the original yield. All that they would be able to achieve by doing so, however, would be possible deferments of tax – by varying the taxable income amounts in different years. Even so, the tax authorities may be cagey about allowing a shift from the mark-to-market method to the original yield method for regular market participants.

There is a good case for switching from the mark-to-market to the original yield method in the case of retail investors, though. Burdening such investors with marking to market their investments etc. would, for obvious reasons, be counter-productive. The original yield method is a simple and elegant solution for them. Since retail investors would be able to buy or sell gilt strips only through an authorised market maker, they would not be able to perpetrate manipulations of the original yield.

Moreover, the concession given to the retail investors in the latest CBDT Guidelines are rather tentative – they have been given the option to compute the taxable income from their investments in strips and other zero coupon bonds either on the basis of the earlier provisions (bearing the entire income tax burden on interest accrued over the years in the year of redemption, etc.) or on the basis of the new mark-to-market guidelines. In view of the foregoing, we may recommend that the matter of changing the tax treatment from the mark-to-market to the original yield method, for the retail investors alone, be taken up with the tax authorities.

Recommendation: In order to simplify the procedure, tax authorities may consider changing the tax treatment, for the retail investors, from the mark-to-market valuation method as currently applicable, to the original yield valuation method.

Chapter IV

Developing a Market in Strips

Going by the experience in other markets, formulating a scheme for stripping and reconstituting gilts may not be too difficult but developing a market in the same is certainly going to be a daunting task.

As alluded to in the first Chapter of this Report, developing a market in STRIPS is a link in the chain of vital instrumentalities needed for developing a deep, liquid and efficient government securities market. Such a market is the backbone of fixed-income markets and facilitates creation of a benchmark for efficient pricing of the various debt instruments.

The last few years have seen determined action being taken on various fronts which has brought our country's securities market closer to the goal, though a lot remains to be achieved. The proposed Government Securities Act that will recognise the electronic form of record maintenance, provide additional protection to beneficial owners through CSGL accounts, enable lien marking and pledge of securities and liberalise the procedure for nomination and legal representation is another step forward.

Still, whether the number and the heterogeneity of market participants will be such as to make a market in strips come alive is a moot question. The strips investor categories, in terms of the analytical framework presented in Chapter I, would in their application to Indian conditions perhaps witness enormous gaps. For instance, even if the insurance companies and provident and pension funds start investing in strips, they would probably remain invested in the respective securities. This would only make for illiquidity in those strips. Although, the primary dealers are obliged to offer two way quotes, they are currently far from doing so. As a result, it is difficult to see many traders and arbitrageurs operating in the short-term maturity range of strips (0-5 years). Likewise, it is difficult to visualise individual investors shedding their affinity towards bank deposits and starting to operate in the long-term maturity range of strips (more than 15 years).

Even in a fully developed strips market such as the U.S., illiquidity can strike large swathes of strips segments. How intractable the difficulties can become is illustrated by a recent investigation into the origins and nature of liquidity problems in the U.S. strips market (*"The Treasury Strips Market: The Origins and Nature of Current Strips Liquidity Problem"*) by the Bond Market Association. The roots of the current problems being faced in the strips market go back in time to the early 1990s when a sharp decline in interest rates made it attractive for state and local governments to pre-refund their outstanding high-coupon debt obligations. As a result, short interest and principal strips were frequently purchased by these entities during this period. As the short interest strips were initially purchased by municipalities for defeasance purposes ("defeasance" refers to an advance refunding transaction whereby a new municipal bond is issued and its proceeds are used to purchase treasury securities that provide for the payments on the higher-coupon bond until the first call date), demand for short interest strips became so great that they richened considerably in price and short notes began to be stripped for providing the needed cashflows. The problem was accentuated because even as demand for the stripped securities increased, the supply also got squeezed on account of the U.S. Government having embarked on a programme to buy back gilts since the current account had, in the meantime, been

rendered surplus. Although such a scenario is not exactly visualised for our country, the U.S. example illustrates the liquidity problems that may strike a strips market.

Clearly, in our country, a strips market will have to be actively promoted; it would be idle to pretend that it would evolve on its own. One suggestion worth considering is that, in case trading was inhibited in a certain segment of strips markets and PDs get stuck with small, illiquid coupon or principal strips as a result of uneven demand for various maturities, the Reserve Bank should undertake Open Market Operations in those strips in order to relieve the situation. In order to add to the volumes, the Bank could, in future, also follow the assimilation method for choosing securities eligible for stripping, whereby not only their coupons but also some of the chosen securities' principal payments mature on a given date. This would be particularly helpful after interest / principal fungibility has been introduced.

Recommendations: If, as a result of uneven demand for various maturities, trading in certain segments is inhibited and PDs get stuck with small, illiquid coupon or principal strips, the Reserve Bank may undertake Open Market Operations in those strips in order to relieve the situation.

The Reserve Bank may also consider following the assimilation method in future, whereby securities are chosen for stripping such that not only their coupons but also some of the chosen securities' principal payments mature on a given date.

Development of a market in strips is expected to aid in the development of markets in Interest Rate Swaps (IRS), Forward Rate Agreements (FRAs) and Interest Rate Futures since the price discovery in these instruments is technically dependent on the existence of a zero coupon yield curve. While we have a constraint in the form of the right securities mix (that could provide substantial coupon volumes across continuous maturities) not being available in the market at this point in time, as the zeros get traded in the market across continuous maturities, it will obviate the need to extrapolate yields for intermediate points, thus facilitating the development of a zero coupon yield curve.

Kick-starting retail operations in government securities may of course be the final trick. Moves in this direction have been afoot for sometime now. But the real nettle to be grasped is how to wean the individual investor away from bank and postal account deposits which, in his perception, are as safe as a gilts and which give him a higher return. Merely exhorting commercial banks and/or stock exchange brokers to entice the retail investor would not do. Concrete action in terms of providing an incentive may be necessary.

In this context, the scheme of Individual Retirement Account (IRAs) and Section 401(k) plans in the US that offer tax exemption to the individual investor may be worthy of emulation. The basic premise of these plans is that the investor agrees to keep the investment in these plans locked up till he has attained the age of 65. If he/she wants to withdraw the investment before that time, he/she would have to pay income tax at the same rate at which he/she would have paid at the time of its deferral in the year of investment. The investment itself can be in any instrument. We may consider evolving similar plans for the benefit of retail investors in strips and other gilt instruments.

Recommendation: The authorities may consider providing tax incentives to investors in strips. The incentives may be on the lines of Individual Retirement

Account (IRAs) and Section 401(k) plans in the US that offer tax exemptions provided the investment remains locked up until the investor attains the age of retirement / superannuation, say 60/65 years.

It is felt that incentives would need to be given to both the market maker (PDs) as well as the individual investors. Without such incentives they may not be interested in making the market, or investing, in government securities in general, and strips in particular. It also needs to be remembered that, since the central government is not comfortable with issuing zero coupon bonds (because of its cashflow implications), the instrumentality of the market will be used for generating zero coupon bonds by way of strips. It is therefore only reasonable to expect that the government do its bit by offering appropriate incentives to the PDs as well as to the retail investor.

To this end, authorities may consider permitting PDs to undertake short selling in gilts and gilt strips, as also permitting lending and borrowing in securities (including gilt strips). The incentive to the retail investor may be provided by extending the Section 80L rebate on interest earned to investment in gilts and gilts strips.

Recommendation: The Reserve Bank may consider permitting PDs to undertake short selling in gilts and gilt strips, as also permitting lending and borrowing in such securities, as that may help in their market making obligations.

The authorities may consider extending the Section 80L benefit to the interest earned on individual investors' investments in gilts and gilts strips.

It may be mentioned in passing that, while the market will treat the coupon strips as an instrument for capital investment, in the books of the issuer, their face value would represent interest liabilities, which do not a part of the issuer's debt. Upon redemption of the coupon strips on maturity, the cash outflow in the books of the issuer will be on the revenue account.

Securities Selection Based on Optimisation of Criteria

Table I: March & September 25

Security	Outstanding Amount	Coupon Date	(Rupees in Crore) Half-Yly Coupon Amount
11.75%, 2004	4000.00	March & September 25	235.00
14.00%, 2006	3000.00	March & September 25	210.00
12.50%, 2007	1209.90	March & September 25	75.62
12.15%, 2008	2000.00	March & September 25	121.50
Total			642.12

Table II: May & November 30

Security	Outstanding Amount	Coupon Date	(Rupees in Crore) Half-Yly Coupon Amount
10.95%, 2011	12000.00	May & November 30	657.00
9.81%, 2013	11000.00	May & November 30	539.55
10.00%, 2014	2333.00	May & November 30	116.66
10.25%, 2021	13213.00	May & November 30	677.16
Total			1990.37

**Operational Procedure for Stripping
U.K. Model**

Facility to strip and reconstitute gilts is available to the market through gilt-edged market makers (GEMMs). A non-GEMM participant intending to acquire strips may either purchase them in the market or strip a gilt it owns via a GEMM.

Procedure for Stripping

1. GEMM sends request to Central Gilts Office (CGO), along with details such as intended settlement date, nominal amount of coupon-bearing gilt to be stripped, identifier of the relevant CGO member account, ISIN of stock to be stripped, priority assigned to the request, client identification number, etc.
2. CGO system performs validation checks regarding GEMM's eligibility, stock's strippability and acceptability of the quantity offered.
3. Upon successful validation, the stock accounts of GEMM are updated, provided there is sufficient amount of stock in the GEMM's account, the transaction has reached the top of the stock queue and the intended settlement date has been reached.
4. GEMM can monitor stock postings in its accounts and can withdraw the stripping request at any time prior to its being processed by the system.
5. In case of insufficient stock being available, the request is rolled forward unless and until deleted by the GEMM.

Procedure for Reconstitution

The procedure is similar to that outlined above for stripping. Instead of ISIN of the coupon-bearing gilt, that of the component strips are forwarded to the CGO. The CGO system automatically searches the relevant member account for the requisite strips which need to be held on a single member account. In case all the constituent strips are not held in sufficient quantity the request fails and is kept in a queue until deleted by the GEMM.

**Operational Procedure for Stripping
South Africa Model**

National Treasury provides the facility for stripping, via the Central Depository Participants (CDPs). Only such PDs as have entered into a strip agreement with the National Treasury (four investment banks) are authorised to perform stripping and reconstitution. The authorised PDs' obligation for market making in strips begins after 6 months of operation.

Procedure for Stripping

1. PD sends request for stripping a bond, either on its own behalf or on behalf of a client, to its CDP via the Bond Authorised Trading System (BATS) . In case the PD's request for stripping is on behalf of a client, the client sends a confirmation, via BATS, to its CDP confirming that the PD concerned will be generating a request on its behalf.
2. CDP matches the PD's request details to clients confirmation and verifies the clients holding in the coupon-bearing bond.
3. Upon verification, CDP instructs the Central Depository (CD) electronically to perform the stripping, giving the required details.
4. On receipt of instruction from CDP, CD system performs the usual validation checks and, upon successful validation, reduces the amount of coupon-bearing bond in its book entry system and replaces it with the relevant value of principal and coupon strips.
5. A message confirming completion of the process is sent by CD to CDP.
6. CD maintains an audit trail of transactions processed for reconciliation purposes.
7. National Treasury, using the electronic dematerialisation facility, accesses the CD system to balance with CD's and National Treasury's internal records.

Procedure for Reconstitution

The procedure is similar to that outlined above for stripping, with both the CDP and the CD systems verifying the balances of strips before reconstitution process is begun.

Salient Features of the RBI Guidelines for Classification and Valuation of Investment Portfolios by Banks

Held to Maturity (HTM)

- ? Investment in HTM securities should not exceed 25% of total investments.
- ? Mark-to-market is not necessary.
- ? Investment to be carried at cost, unless
Cost > Face Value,
in which case amortise the premium paid over period remaining to maturity.
- ? Take profit on sale of investment to Profit & Loss Account and thereafter to the Capital Reserve Account.
- ? Take loss on sale of investment to Profit & Loss Account.
- ? May shift investments to / from HTM category with BOD's approval once a year, normally at the beginning of the year. No further shifting during the remaining part of the year.

Held for Trading (HFT)

- ? Securities where the intention is to trade by taking advantage of short-term price / interest rate movements. Decide on the basis of intent, trading strategies, risk management capabilities, tax planning, manpower skills, and capital position.
- ? No restriction on extent of holdings.
- ? Must be sold within 90 days.
- ? Mark-to-market at monthly intervals, or more frequently.
- ? Take net appreciation / depreciation to Profit & Loss Account.
- ? Take profit or loss on sale of investment to Profit & Loss Account.
- ? Shifting to other categories generally not permitted; BOD/ALCO/Investment Committee may approve shifting in exceptional circumstances.

Available for Sale (AFS)

- ? Such securities as do not fall in either HTM or HFT category. Decide on the basis of intent, trading strategies, risk management capabilities, tax planning, manpower skills, and capital position.
- ? No restriction on extent of holdings.
- ? Mark-to-market at year-end or more frequently.
- ? Debit Profit & Loss Account with net depreciation in value, transferring an equivalent amount from Investment Fluctuation Reserve Account to Profit & Loss Account.
- ? Ignore net appreciation, if any.
- ? Take profit or loss on sale of investment to Profit & Loss Account.
- ? May shift investments from AFS to HFT category with the approval of BOD/ALCO/Investment Committee.

**Salient Features of the CBDT Guidelines on Taxation of
Deep Discount Bonds and STRIPS**

1. Mark to market the security at March 31 every year.
2. Treat the difference between Market Values on any 2 successive dates as Interest / Business Income liable for taxation.
3. If acquired during the year by an Intermediate Purchaser (person other than the original subscriber), such Purchaser to treat the difference between Market Value (as on last valuation date) and Cost (at which the security was acquired) as his Interest Income liable for taxation.
4. If transferred before maturity, the seller to treat the difference between Sale Price and Cost (aggregate of the cost for which the security was acquired by the transferor and the income, if any, already offered to tax by such transferor in terms serial No. 3 above) as Capital Gains liable for taxation.

For purposes of computing capital gains, the period of holding is to be reckoned from the date of purchase / subscription, or the last valuation date in respect of which the transferor has offered income to tax, whichever is later. Since such period would always be less than one year, the capital gains will be chargeable to tax as short-term capital gains.

5. If redeemed by the Original Subscriber, such Original Subscriber to treat the difference between Redemption Price and Value on last valuation date as his Interest / Business Income liable for taxation.
6. If redeemed by an Intermediate Purchaser, the difference between Redemption Price and Cost (aggregate of the cost for which the security was acquired by the transferor and the income, if any, already offered to tax by such transferor in terms serial No. 3 above) to be treated as Interest Income liable for taxation.
7. The processes of the stripping and reconstitution do not amount to a transfer within the meaning of the Income-Tax Act.
8. No tax is deductible at source on interest payable on government securities.
9. Small non-corporate investors holding deep discount bonds up to an aggregate face value of Rs.1 lac may, at their option, continue to offer income for tax in accordance with the earlier clarifications issued by CBDT.