

Report of the Working Group on Enhancing Liquidity  
in the Government Securities and Interest Rate  
Derivatives Markets



**Reserve Bank of India  
Central Office  
Mumbai**

August 2012



भारतीय रिज़र्व बैंक  
RESERVE BANK OF INDIA

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Letter of Transmittal

August 10, 2012

Shri H.R. Khan  
Deputy Governor  
Reserve Bank of India  
Mumbai.

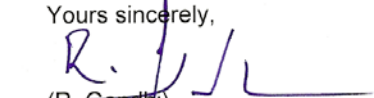
Dear Sir,


**Report of the Working Group on Enhancing Liquidity in Government Securities and Interest Rate Derivatives Markets**


We have great pleasure in submitting the Report of the Working Group on Enhancing Liquidity in Government Securities and Interest Rate Derivatives markets set up vide para 71 of the Second Quarter Review of Monetary Policy 2011-12. The Group had held widespread discussions with various stakeholders to elicit their views. Further, the draft report of the group was posted on the RBI website on May 31, 2012 for eliciting market response. The views received from market participants and general public on the draft Report, were also considered by the Group while finalising the recommendations. We hope the recommendations would be of use to the Bank and be instrumental in enhancing liquidity in the Government Securities and Interest Rate Derivatives markets. We sincerely thank you for entrusting this responsibility to us.


With kind regards.

Yours sincerely,

  
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Chairman

  
(Sankar De)  
Member

  
(K. Venugopal)  
Member

  
(Ajay Marwaha)  
Member

  
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## Contents

Chapter No.	Title	Page No.
I	Background	01
II	Introduction	04
III	Government Securities Market	07
IV	Retail Participation in the G-Sec Market	24
V	Interest Rate Derivatives Market	31
VI	Summary of Recommendations	40
Annex I	Composition of the Group and its Terms of Reference	i
Annex II	Experts and institutions consulted by the Group	iii
Annex III	Consultation with experts/institutions – Questionnaire	iv
Annex IV	Cross-Country Experience (A) Summary of Liquidity Indicators (B) G-Sec market (C) Retail Participation	v vi xi
Annex V	Model Plan on Consolidation of GoI Dated securities	xvi
Annex VI	References	xix

## Abbreviations

AFI	All-India Financial Institution
AFS	Available For Sale
BR Act	Banking Regulation Act, 1949
CBLO	Collateralized Borrowing and Lending Obligation
CBS	Core Banking Solution
CCIL	Clearing Corporation of India Limited
CCP	Central Counter Party
CMB	Cash Management Bill
CROMS	CCIL Repo Order Matching System
CRR	Cash Reserve Ratio
CSGL	Constituent SGL
CTD	Cheapest To Deliver
DAD	Deposit Accounts Department, RBI
Demat	Dematerialized
DSB	Designated Settlement Bank
DTL	Demand and Time Liabilities
DvP	Delivery Versus Payment
EPFO	Employees' Provident Fund Organisation
FEMA	Foreign Exchange Management Act, 1999
FII	Foreign Institutional Investor
FIMMDA	Fixed Income Money Market and Derivatives Association of India
FRA	Forward Rate Agreement
FRBM Act	Fiscal Responsibility and Budgetary Management Act
FX	Foreign Exchange
GoI	Government of India
GS Act	Government Securities Act, 2006
G-Sec	GoI dated Securities
HFC	Housing Finance Company
HFT	Held For Trading
HNI	High Net worth Individual
HTM	Held To Maturity
IDL	Intra Day Liquidity
IFRS	International Financial Reporting Standard
INBMK	Indian Benchmark
IRD	Interest Rate Derivatives
IRDA	Insurance Regulatory and Development Authority
IRF	Interest Rate Futures
IRS	Interest Rate Swaps
IT	Information Technology

LAF	Liquidity Adjustment Facility
MF	Mutual Fund
MIBOR	Mumbai Inter Bank Offer Rate
MIFOR	Mumbai Interbank Forward Offer Rate
MMS	Multi Modal Settlement
MTM	Mark To Market
NBFC	Non-Banking Financial Company
NBFC-ND-SI	NBFC - Non-Deposit taking - Systemically Important
NDS	Negotiated Dealing System
NDS-OM	Negotiated Dealing System - Order Matching
NPS	National Pension Scheme
NSC	National Savings Certificate
NSE	National Stock Exchange
OTC	Over The Counter
PD	Primary Dealer
PDO	Public Debt Office, RBI
PDO-NDS	Public Debt Office – Negotiated Dealing System
PF	Provident Fund
PFRDA	Pension Fund Regulatory and Development Authority
RRB	Regional Rural Bank
SCB	Scheduled Commercial Bank
SCRA	Securities Contract Regulation Act, 1956
SDL	State Development Loan
SEBI	Securities Exchange Board of India
SGL	Subsidiary General Ledger
SLR	Statutory Liquidity Ratio
STP	Straight Through Processing
T-Bills	Treasury Bills
UCBs	Urban Cooperative Banks
WG	Working Group
YTM	Yield To Maturity
ZCYC	Zero Coupon Yield Curve

# Chapter I

## Background

The reform of the G-Sec market has been a part of the economic reforms process undertaken by India to attain high growth and support the nation's socio-economic objectives. A well-developed G-Sec market plays a critical role in the overall economic development of the country by ensuring stable funding to the Government through effective channelization of the savings in the economy, improving the effectiveness of monetary policy through availability of additional channels and instruments and providing a benchmark in terms of instruments and infrastructure for broader development of the financial/capital market and robust management of financial risks. Finally, a well-developed G-Sec market improves the resilience of the economy to the possible domestic and external shocks.

1.2 An assessment of the reform process in the G-Sec market in India would reasonably conclude that this market has been able to meet the growing funding requirement of the Government, as a consequence of high economic growth, at reasonable costs and with minimal risks. This has been achieved by the development of a robust and efficient market microstructure that encompasses the primary market, secondary market and clearing and settlement infrastructure. The institutional framework that supports this market, i.e., PD system, CCIL, FIMMDA, etc. is well entrenched and is evolving continuously to meet future needs and challenges.

1.3 While the G-Sec market effectively supports the Government borrowing and aids the transmission of monetary policy, its role as an effective benchmark for the debt market can be further enhanced. Credit risk being the major driver of the cost of debt capital, the availability and use of 'credit-risk free' cost of capital is the most efficient way of pricing other debt instruments. However, the pricing of non-sovereign debt instruments including loans and advances are not efficiently or rather effectively linked to the G-Sec yields. Further, the lack of secondary market liquidity in a broad range of G-Sec further accentuates the problem of price discovery. The fact that about 80% of the G-Sec are valued and held on the basis of 'model-price' induces 'basis-risk' when the same are liquidated before maturity.

1.4 Thus, there is an urgent need to address the issue of secondary market liquidity in the G-Sec market by looking at various factors that affect the same. Against this backdrop, the Reserve Bank had announced, in the Second Quarter Review of

Monetary Policy 2011-12, “to set up a Working Group comprising representatives from various stakeholders to examine and suggest ways for enhancing secondary market liquidity in the G-Sec and the interest rate derivatives markets” (para 71). Accordingly, a Working Group comprising of market experts, officials of the Reserve Bank and other stakeholders was constituted under the Chairmanship of Shri R. Gandhi, Executive Director. The composition of the group and its terms of reference are listed in *Annex I*.

### **Approach**

1.5 The group held ten meetings in Mumbai between December 2011 and August 2012. Apart from the deliberations among the members of the group, consultations (through pre-designed questionnaire) were undertaken with SEBI and other market experts to elicit their views. Further, responses were also received from market participants and general public, which were also considered by the group while finalising the recommendations. The draft report was placed on RBI website on May 31, 2012 for public comments. The report has been finalised after taking into account the feedback received from various market participants and individuals.

### **Acknowledgements**

1.6 The Working Group acknowledges with gratitude the guidance provided by Deputy Governors of RBI Dr. Subir Gokarn and Shri H.R. Khan. The Group also expresses its gratitude to Executive Directors of RBI Shri V.K. Sharma, Shri D.K. Mohanty and Shri G. Padmanabhan for their valuable comments. The Group is grateful for the guidance provided by the members of the Technical Advisory Committee (TAC) on Money, Foreign Exchange and Government Securities Markets.

The Group acknowledges the various inputs received from Smt. Shyamala Gopinath, ex-DG, RBI, Shri Arun Kaul, CMD, UCO Bank, Professor G. Apte, IIM Bangalore, Shri T. Rabi Sankar, Director, Middle Office, Ministry of Finance, Government of India, Shri Srinivasan Varadarajan, Executive Director, Axis bank, Shri V. Srikanth, Joint CFO, Reliance Industries Ltd and Shri Arjun Parthasarathy, Columnist. The Group also benefitted from the suggestions received from Securities Exchange Board of India, Institute of Insurance and Risk Management, Hyderabad, Centre for Advanced Financial Research and Learning, Association of Mutual Funds in India, Life Insurance Council, Mumbai, National Federation of Cooperative Banks, Asia Securities Industry & Financial Markets Association (ASIFMA), ICICI bank, SBIDFHI PD, ICICI Securities Primary Dealership Limited, Indian Association of

Investment Professionals, Circon Research & Consultancy Services Pvt. Ltd and Infrastructure Development Finance Company Ltd.

The Group places on record its sincere appreciation for Member Secretary, Shri K.K. Vohra, CGM, Internal Debt Management Department, RBI, for effectively coordinating the proceedings of the Group. The Group would also like to acknowledge the contribution of officers of Internal Debt Management Department of RBI namely Shri Vivek Aggarwal, General Manager, Shri N.R.V.V.M.K. Rajendra Kumar, Deputy General Manager, Shri P.K. Pati, Deputy General Manager, Shri N. Senthil Kumar, Deputy General Manager, Shri Sunil Kumar, Assistant Adviser, Shri Vivek Singh, Assistant General Manager and Shri Shekhar Chaudhary, Assistant General Manager, who provided background and logistical support, gathered information/data and undertook basic/preliminary analysis which the Group found very useful. Their assistance facilitated the making of the report immensely. The Group also acknowledges the contribution made by Shri Puneet Pancholy, Deputy General Manager, Department of Banking Operations and Development, RBI.

### **Structure of the Report**

1.7 The Report is organised as follows:

- Chapter II introduces and discusses the concept of 'liquidity' and identifies the issues germane to liquidity.
- Chapter III examines the issues relating to liquidity in G-Sec Market and ways to enhance the same.
- Chapter IV discusses measures to promote retail participation in G-Sec.
- Chapter V focuses on the interest rate derivatives and ways to promote liquidity in the same.
- Chapter VI gives a summary of the various recommendations on enhancing liquidity in the G-Sec and IRD markets and on promotion of retail participation in the G-Sec market in India.

\* \* \*



## Chapter II

### Introduction

Liquid financial markets are very important for development of a healthy and safe financial system. A liquid market offers the comfort to the investors in terms of ease of transaction (liquidity) thereby making financial instruments attractive investments and helps in maturity transformation. Further, a liquid financial market facilitates the use of indirect monetary instruments<sup>1</sup> by the Central Bank and is also critical for the effectiveness of the monetary transmission mechanism.

2.2. Liquid markets generally have low transaction costs (bid-ask spread), have efficient trading, clearing and settlement systems, are broad (abundant orders for buy/sell above and below the traded price), deep (minimal impact cost for executing large orders) and resilient (ability of the market itself to quickly correct any deviation of prices from their fundamental value).

2.3. 'Liquidity', per se, has a wider connotation and can be used to refer to asset liquidity, an asset's market liquidity, financial market's liquidity and an institution's liquidity. Asset liquidity refers to how quickly and easily an asset can be converted to cash; asset market liquidity refers to the ease with which, in the absence of new information that can affect the fundamental price of the asset, large volumes of the asset can be bought or sold quickly at reasonable price; financial market's liquidity refers to substitutability among the various assets traded in the market and how liquid these assets are; and, institution's liquidity refers to how an institution can transact in the financial market, manage its asset-liability mismatches and settle its obligations. The focus of the Working Group was on 'asset market liquidity', and how to broad base this liquidity across maturity spectrum in case of G-Sec and interest rate derivatives and in the process address related issues including creating an enabling environment for retail investors in the G-Sec market.

2.4. The generally accepted indicators of liquidity aim to measure tightness, immediacy, depth, breadth and resilience of the market and these are further categorized into transaction cost measures, volume-based measures, equilibrium price-based measures and market-impact measures. Considering the structure of the Indian G-Sec market and the availability of data, the group decided to measure the liquidity of the G-Sec market based on the following indicators: Volume traded,

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<sup>1</sup> G-Sec is the preferred, if not the only, instrument for open market operations by the Central Banks.

turnover ratio, outstanding amount of the security, availability of a price, time span of reissuance of a security, bid-ask spread and impact cost. While the identified liquidity indicators for the G-Sec market are discussed below, a comparison of these indicators among select countries is provided in *Annex IV (A)* to make a comparative assessment of liquidity in Indian G-Sec market vis-à-vis other emerging countries/markets. The comparison indicates that the Indian G-Sec market is the largest (in terms of debt outstanding) and has one of the lowest bid-ask spread for on-the-run securities (1 bps). However, the secondary market volume in the Indian market is substantially lower than countries like Mexico, Brazil and Korea with the turnover ratio among the lowest in the peer-group.

2.5. A comparison of the select indicators of liquidity between years 2006-07 and 2010-11 is tabulated below (Table 1). As can be noticed from the data, secondary market liquidity in the G-Sec market has grown substantially (in absolute terms) during the past 5 years. However, the turnover ratio has improved only marginally indicating that the increase in volume is due to the increase in the stock of G-Sec and not due to rise in trading interest in the market.

<b>Table 1: Qualitative indicators of liquidity</b>		
	<b>2006-07</b>	<b>2010-11</b>
Volume traded (₹ in crore)	10,21,536	28,70,952
Turnover Ratio <sup>2</sup>	0.9	1.2
Outstanding amount <sup>3</sup> (₹ in crore)	9,72,801	20,82,036
Impact cost <sup>4</sup> % (liquid securities)	7	15
Availability of price on any day (no. of securities vs. total number of securities)	10; 102	10; 91
Bid-ask spread (on-the-run G-Sec) in bps	1 - 2	0.5 – 1
Bid-ask spread (off-the-run G-Sec) in bps	5 - 6	4 – 5

2.6. The bid-ask spread, which indicates the round-trip cost for the liquidity provider, has come down to 0.5 - 1 bps for on-the-run securities. This indicates the availability of liquidity for on-the-run securities and at the same time reflects the low transaction cost involved in dealing in G-Sec. However, the bid-ask spread for off-the-run securities was noted in the range of 4 – 5 bps in 2010-11 due to the limited liquidity in these securities (consequently a higher illiquidity premium). Another point to note is the increase in the impact cost for liquid securities that has gone up from 7% to 15% during the past 5 years, which indicates that the market has become shallower during this period. Finally, secondary market trading in G-Sec is limited to about ten

<sup>2</sup> Turnover ratio = Settlement volume ÷ Outstanding securities.

<sup>3</sup> End-March.

<sup>4</sup> Impact Cost: Additional cost incurred over the prevailing price for putting through a trade of ₹25 crore.

securities out of a total number of ninety securities, which indicates the absence of a secondary market in about 89% of the G-Sec outstanding thereby highlighting the need to bring in secondary market liquidity to a larger number of G-Sec across the yield curve.

\* \* \*

## Chapter III

### Government Securities Market

#### A. Developments and Status

The reform process that began in 1992 was aimed at building an institutional framework to facilitate the evolution and smooth functioning of the G-Sec market. The setting up of infrastructure for demat holding of G-Sec, electronic platforms for auction, trading & settlement, establishment of the PD System, setup of CCIL as CCP for guaranteed settlement and a strong legal framework through amendments to existing laws (SCRA, Reserve Bank Act, 1934 etc.) and passing of new laws (FRBM Act, 2003, GS Act, 2006) have provided a solid foundation for the development of the G-Sec market. Some of the important measures aimed at improving the secondary market for G-Sec by developing the market microstructure are highlighted in the following paragraphs.

3.2. The development of the primary market for G-Sec had been important part of the reform process as it was essential for discovery of price through an efficient market mechanism. Prior to the reforms period, the G-Sec market was characterized by administered interest rates and captive investors. Such administered rates affected the yield structure of financial assets in the system, and led to a high interest rate environment. The automatic accommodation to Central Government by the Reserve Bank, through *ad hoc* Treasury Bills, led to an increase in the volume of Government debt, particularly short-term debt. The introduction of auction process for primary issuance, abolition of *ad hoc* treasury bills, withdrawal of Reserve Bank from the primary market (as a consequence of the FRBM Act) have been instrumental in the development of the primary market for G-Sec that gradually led to an efficient process for price discovery and consequently, encouraged the development of a secondary market for these securities. Along with these measures, the gradual reduction in the prescriptions for CRR and SLR also aided the price discovery mechanism in G-Sec market. Another important contributing factor towards secondary market liquidity has been the passive consolidation undertaken by the Reserve Bank since 1999.

3.3. NDS was operationalized in February 2002 and soon after (in April 2002) guaranteed settlement of trades in G-Sec was provided by CCIL. The settlement of G-Sec trades on DvP-III basis was introduced in April 2004 and the electronic platform for anonymous trading in G-Sec (NDS-OM) was launched in August 2005. The setting up of NDS and NDS-OM brought in pre-trade and post-trade

transparency in the G-Sec market that led to efficient price discovery. The electronic platform with net settlement of trades (on DvP-III basis) and CCP guarantee have played an important role in positively impacting the secondary market volumes in G-Sec. The standardization of market conventions like settlement cycle, computation of accrued interest, etc. was also instrumental in improving trading volumes.

3.4. During the last two decades, the size of the G-Sec market has grown from ₹76,908 crore (in 1991-92) to ₹25,93,328 crore (2011-12) – an almost 34 fold increase; recording a compounded annual growth of over 19% (Table 2). The average maturity of the outstanding G-Sec has risen from 5.50 years (in 1996-97) to 12.66 years (2011-12) with issuances ranging from 2 years to up to 30 years in maturity. Consequently, we have a sovereign yield curve that stretches up to 30 years thereby providing a benchmark for issuances by the non-sovereign issuers.

	<b>1992</b>	<b>2005</b>	<b>2012</b>
Outstanding stock (₹ crore)	76,908	7,58,995	25,93,328
Outstanding stock as ratio of GDP (per cent)	11.75	23.41	28.88
Weighted average cost of the securities issued during the year (Per cent)	11.78	6.11	8.52
Min. and max. maturities of stock issued during the year (Years)	N.A.	5-30	5-30
Average maturity of the securities issued during the year (Years)	--	14.13	12.66
Secondary market volume (₹ crore)	--	8,62,820	30,99,107
Volume / GDP (per cent)	--	26.61	34.51
Volume / Outstanding Stock (per cent)	--	113	120

3.5. Trades in the G-Sec market have been characterised by high volumes recorded during phases of 'bull-runs', with the same tapering-off during 'bear-phases'. In order to encourage market participants to trade freely during 'bear-phases' and to express negative views on the interest rate, intraday short selling in G-Sec was permitted in 2006, which was extended to 5 days in 2007 and to 3 months in 2011. Activity in short selling, at present, is restricted to banks and PDs in view of the risks involved in running short positions and the obligation to deliver securities against short positions to settle the 'short' transitions through reverse repo. Further, participant-level quantitative limits have also been prescribed on the amounts that can be short sold to obviate risk of 'squeeze' in the securities and to cap the overall risk in the market due to short selling. Short selling activity was tepid during the initial phase but it has been observed that the same has been high during 'bear-phases'. Of late, however, it has been noticed that short sale volumes have been gradually rising

indicating the presence of 'bears' along with the 'bulls' in the market at all times, which is a sign of a maturing market.

3.6. The role and importance of a well-developed derivatives market for the development of the financial markets in general (including G-Sec market) and market volume in particular is well recognized. IRDs in the OTC market (IRS) were permitted in 1999 and exchange traded IRFs were introduced in 2003 and reintroduced in 2008 with modifications to the product design, valuation mechanism, etc. (10-year IRF). Over a period of time the market for IRS has evolved into a reasonably active market especially for institutional participants like banks and PDs. In this direction the Reserve Bank has taken steps to improve transparency and market microstructure and obviate the associated risks. Reporting of all interbank OTC trades in IRS to CCIL was introduced in August 2005 and non-guaranteed settlement was introduced in 2008. The non-interbank trades, i.e., trades between banks and their clients are being reported on a weekly-basis to the Reserve Bank since Oct 2009. Thus, the Reserve Bank has exercised close oversight over the OTC market for IRDs where all trades are being captured by the regulator and the same is also being disseminated across the market to promote post-trade transparency and efficient price-discovery. Attempts are on to activate the market for IRFs through changes to the settlement mechanism (cash-settled contracts) and introduction of short-tenor contracts but the activity in this segment has remained subdued due to various factors that have been examined separately in this report.

3.7. While the market for G-Sec has grown since 1992, the liquidity in secondary market has not been high and commensurate with the growth in the economy, size of the market, widening of institutional investor-base, etc. In spite of passive consolidation through reissuance of G-Sec, the number of outstanding securities has remained high (92 Gol dated securities as of Jan 2012). This has led to fragmentation of liquidity in the secondary market. The objective of the issuer to elongate the maturity profile of outstanding debt, keeping in view the redemption pressures and to minimize rollover risk, has resulted in lack of primary issuances in the short-end of the yield curve, i.e. tenors below 5 years.

3.8 The annual settlement volumes of outright trades in Gol dated securities have increased from ₹ 8,62,820 crore in 2004-05 to ₹ 30,99,108 crore in 2011-12 (Table 3). The average daily volumes during this period have increased from about ₹ 3,400 crore to over ₹ 10,000 crore.

3.9 However, a closer look at the trade data reveals a not so encouraging picture of the secondary market. The settlement volume has shown a secular rising trend since 2005-06 and has more than trebled since then but the growth in volume during the last few years has not matched the same during the period 2005-10. The turnover ratio in the G-Sec market averaged little over 1 during the period 2004-12 and has not crossed 1.5 during this period. In fact, the turnover ratio declined in 2010-11 vis-à-vis 2009-10 and has remained constant in 2011-12 as the trade volume could not keep pace with the rise in the outstanding stock of G-Sec. While there are signs of fall in trading interest of late, albeit marginal, the secondary market volume is not broad-based across securities and tenors.

<b>Table 3: Secondary market activity in GoI Dated Securities</b>					
<b>Year</b>	<b>Settlement Volume (₹ Cr)</b>	<b>Turnover Ratio</b>	<b>Share in volume traded</b>		<b>Avg. tenor of Top security (yrs)</b>
			<b>Top 5 securities</b>	<b>Top security</b>	
2003-04	14,58,665	2.1	39%	11%	14
2004-05	8,62,820	1.1	50%	29%	11
2005-06	6,57,213	0.8	64%	31%	11
2006-07	8,83,248	0.9	75%	36%	9
2007-08	14,67,704	1.3	66%	36%	10
2008-09	19,55,412	1.5	61%	44%	10
2009-10	24,80,850	1.4	61%	36%	9
2010-11	25,52,181	1.2	72%	39%	11
2011-12	30,99,108	1.2	86%	51%	10

The share of the top 5 traded securities in total volume has increased from 39% (in 2003-04) to over 86% (in 2011-12), which indicates that the entire trade volume is concentrated in a few securities. In fact, a more serious issue is that the share of a single security averages about 35% during this period (and is at 51% during 2011-12). Trading is predominant in the 9-11 year segment of the yield curve leaving the other segments of the yield curve illiquid. With the total number of G-Sec at 92, the availability of market-determined prices is restricted to 5 securities thereby resulting in a scenario where the remaining securities have to be priced/valued on derived prices, based on a model, which may not reflect the true price of the security. The other important outcome of this skewness in secondary market is the lack of benchmark yields for pricing of non-sovereign debt across the maturity spectrum (excluding the few liquid securities).

3.10 The repo market in G-Sec, which is critical for funding of positions by the traders, has also witnessed considerable growth during the last 10 years (Table 4). The leverage of technology and the availability of a robust clearing and settlement mechanism have been instrumental in the migration of the repo market from a pure OTC market to an electronic environment where order-matching systems are available for standard basket repos as well as 'special' repos.

Year	Dated Securities	T-Bills	SDLs	Total	CBLO
2002-03	4,03,971	64,238	20	4,68,229	-
2003-04	8,74,438	59,222	9,530	9,43,190	-
2004-05	12,62,149	2,86,955	8,803	15,57,907	9,76,789
2005-06	13,69,411	2,77,687	47,411	16,94,509	29,53,132
2006-07	21,26,634	3,79,165	50,677	25,56,475	47,32,272
2007-08	35,69,960	3,23,984	54,807	39,48,751	81,10,828
2008-09	34,75,348	5,83,335	35,603	40,94,286	88,24,784
2009-10	52,33,295	8,12,537	26,996	60,72,828	1,55,41,378
2010-11	32,53,965	8,32,632	12,688	40,99,284	1,22,59,745
2011-12	21,86,877	15,54,121	22,878	37,63,876	1,11,55,428

The CBLO, since its introduction, has come to occupy an important place in the repo market. The tripartite nature of the instrument has been an attractive feature of this lending/borrowing instrument and this is reflected in the dominance of the CBLO in the collateralized market. The annual value of repo trades in G-Sec has increased from ₹4,68,229 crore (in 2002-03) to ₹37,63,876 crore in 2011-12 (Table 4) with the annual volume transacted through CBLO in 2011-12 at ₹1,11,55,428 crore. Correspondingly, the annual volume of repo trades in CROMS was ₹25,67,038 crore (during 2011-12).

## **B. Observations**

3.11 The ability of participants to run short positions aids the adjustment of market prices of G-Sec when the same are perceived to be overvalued. Thus, the ability to short sell has a direct impact on secondary market liquidity. While running short positions in G-Sec beyond intraday<sup>5</sup>, participants resort to borrowing of the shorted Security from the repo market to meet settlement obligations arising out of the short sale. Thus, the ability to obtain G-Sec in the repo market has a direct bearing on the desirability to short sell those G-Sec. In this regard, some of the members were of the view that permitting participants who maintain 'HTM Portfolio' to 'borrow' G-Sec

<sup>5</sup> Reserve Bank permitted intraday short selling in G-Sec in Feb 2006; the period of short sale was increased to 5 working days in Jan 2007 and the same was further extended to 3 months in Dec 2011.



from its own HTM portfolio (instead of borrowing the same through market repo with another counterparty) to deliver against its short sale would enhance the capability of the participants to short sell thereby improving the ability of the market to align market prices to equilibrium levels quickly and in the process also enhance secondary market liquidity. However, a contrarian view was also expressed by some members of the group who felt that 'borrowing' from one's own HTM portfolio and using the security to meet the delivery obligation of a short sale trade would tantamount to outright sale of the security and would be contrary to the concept of short sale. Further, such a delivery will militate against the concept of 'Held to Maturity'.

3.12 While the recommendation of the Group (Para 3.22) to permit sale/repo of securities acquired under a repo and the available dispensation to carry a short position in G-Sec up to three months would have a positive impact in encouraging term-repo transactions, the Group was of the view that further fillip should also be provided to encourage term-repo market. In this regard, a section of the Group was of the view that the exemption provided to banks to not include their interbank repo borrowings while computing their DTL may be withdrawn (i.e. such borrowings should attract CRR and SLR requirements). Thereafter, a graded DTL exemption on interbank repo borrowing, based on the tenor of the repo may be put in place by the Reserve Bank after consulting various stakeholders i.e. the level of exemption would go up as the tenor of the repo goes up. However, another section of the Group felt that such a measure could have an unintended and adverse impact on the overnight money market.

3.13 Eligible participants accessing the RBI LAF for borrowing funds through repo have to repay the funds and redeem their securities the next day (settlement of the forward-leg of the repo) before they can borrow under LAF once again. Since the forward-leg of the previous day's repo is settled before the settlement of the ready-leg of the day's repo, participants in need of funds on consecutive days would have to first repay the previous day's obligation before they can borrow from RBI. As the necessity to borrow once again is presumed to arise because the participant is in need of funds, the participant needs to obtain funds (invariably through RBI IDL facility) to settle the forward-leg of the previous day's repo. Thereafter, they get back their securities and submit the same to RBI for borrowing once again through repo under LAF. Hence, operations undertaken by participants on the lines indicated above imply "double collateralization". In order to permit participants to make effective use of their collateral under LAF, a section of the Group was of the view

that roll-over of LAF positions (by netting the forward leg of previous day's repo with the ready-leg of the day's repo) should be permitted. This, it was felt, would lead to freeing of additional G-Sec that needs to be provided as collateral and thereby promote liquidity in the G-Sec market to that extent. However, another section of the Group was of the view that since LAF repo is an overnight facility, it is essential for the entity borrowing under LAF to fulfil its obligation to repay the borrowed amount independent of its requirement/desire to borrow once again under LAF. It was also expressed that automatic roll-over of LAF positions would impinge upon RBI's discretion to accept/reject bids under LAF repo.

3.14 The HTM classification available to banks is generally assumed as a facility provided by the Reserve Bank to enable banks to meet their SLR requirement. However, prior to 2004, while investments to be held by banks under HTM were capped at 25% of their total investments, banks were free to hold any eligible investment under HTM subject to the cap. Post 2004, while the cap of 25% remains, banks are allowed to classify fresh investments in SLR securities under HTM but with an additional caveat that the total amount of SLR investments in HTM portfolio should not exceed 25% of their DTL. However, and most importantly, under the extant Reserve Bank guidelines, banks can still classify certain eligible investments<sup>6</sup> under HTM subject to the cap that investments classified under HTM cannot exceed 25% of total investments.

### **C. Recommendations**

3.15 Considering the objective of the WG, i.e. to enhance secondary market liquidity, the group felt that there was a need to undertake consolidation of the G-Sec outstanding for which a framework needs to be prepared for the next 3-4 years. The process should begin with the issuance of securities at various maturity points in conjunction with further steps like buyback and switches. The framework should outline the various objectives proposed to be achieved through the exercise, various constraints that need to be taken into account in the process and the buyback program should be long drawn. The process should lead to the consolidation of the Gol's market borrowings to a fewer securities and fresh borrowings through a limited number of securities thereby increasing the outstanding amount of each security, which would have a direct bearing on the secondary market trade volumes. To create the framework for this exercise, the group has prepared a model-paper on active consolidation of G-Sec that is enclosed at *Annex V*, the highlights of which are indicated below:

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<sup>6</sup> Para 2.1 (V) of Reserve Bank Master Circular DBOD.BP.BC.13/21.04.141/2012-13 dated July 2, 2012.

- a. Issuance of securities at various maturity points; to begin with, in the 2-10 year segment (especially near 2 year and 5 year);
- b. Issuance of benchmark securities over a longer time-horizon;
- c. Buyback or switch operations to retire/extinguish G-Sec with small outstanding amounts; and
- d. Management of bunching through switch operations or buyback with minimal cash-impact to the issuer.

3.16 Widening of investor-base and promotion of 'trading' activity are important to promote 'liquidity' in the G-Sec market. This needs to be addressed through a two-prong strategy, i.e., on the one-end, introduce measures to bring in new classes of investors as well as encourage further investments in G-Sec by existing investors and at the other-end, direct attention on attracting 'trading' investors into the G-Sec market. The holding-pattern of GoI securities in March 2012 indicates that banks (including cooperative banks, etc.) and insurance companies together hold about 70% (of the stock. This, including the share of the Reserve Bank, swells the overall holding to 85%. The fact that over 85% of the G-Sec is held by just 3 investor-categories emphasizes the need for expanding the investor-base in G-sec. The share of G-Sec holding by PFs is only 7.45% whereas that of MFs is a meagre 0.17%. In the case of MFs, there is an urgent need to address the tax anomaly that exists between 'equity-oriented' MF and 'debt-oriented' MF to encourage 'debt-oriented' MFs. While the introduction of the NPS will lead to the emergence of Pension Funds as a potential investor for G-Sec in the medium to long term, there is a need to attract institutions like Pension Funds, PFs (especially Private PFs), MFs and Trusts. Further, the importance of corporates as a category of investors and their investment-interest in G-Sec was highlighted during the interaction of the group with 'market experts'. Finally, there is a need to 'scale-up' the operations of PDs (holding of 0.1% in 2012) as they are the 'natural' market-makers in the G-Sec market. Accordingly, the group recommends that the Reserve Bank may:

- a. Examine ways to simplify access for investors like Trusts, Corporates etc. to the G-Sec market;
- b. Encourage long-term gilt funds through appropriate incentives (like tax-breaks, liquidity support, etc); and
- c. Suggest to other regulators like IRDA, PFRDA, EPFO etc. to review their regulations/guidelines from the perspective of facilitating a more dynamic management of the G-Secs portfolio held by the entities regulated by them.

3.17 Market-makers are critical to market liquidity as they are expected to create 'market' in securities they transact in. In order to provide two-way quote in securities, market-makers need to hold sufficient stock of a wide number of securities at all times (to back up their offers) and at the same time need an efficient, deep and liquid repo market to acquire securities (to back up their bids) and to fund their positions. Recognizing the importance of market-makers and the specialized function of market-making, the Reserve Bank had designated PDs as market-makers due to their special status/role in the G-Sec market. However, due to the issuance of a large number of G-Sec (presently 90), PDs are unable to effectively discharge this role. Accordingly, concomitant with the recommendation to undertake active consolidation of securities either through 'buyback' or 'switch' operations and ensuring continuous issuance of specific G-Sec over a longer time-duration, PDs are required to be active market makers in the G-Sec market. The Group recommends that one of the ways of achieving this is to consider allocating specific securities to each PD for market making in them and if required, rotate the stock of securities among the PDs, by turn, at periodic intervals. This should ensure continuous availability of prices for a select group of securities that could be in the range of 15-20 securities spread across various maturities. Along with this responsibility, it is also important to provide an enabling environment for PDs to voluntarily expand their market-making activity beyond the identified securities in the longer-term. Accordingly, the Reserve Bank may evolve a suitable framework for assessing the performance of PDs vis-à-vis market-making (provide two-way quotes) and consider providing incentives like refinance/IDL based on these performance measures.

3.18 (a) In terms of extant investment guidelines for banks, banks can hold up to 25% of their total investments in their HTM portfolio. However, this ceiling can be exceeded by banks subject to the condition that the excess holdings comprises only SLR securities, i.e. GoI dated securities, T-Bills and SDLs, and that total SLR securities held in the HTM portfolio should not exceed 25% of their DTL as on the last Friday of the second preceding fortnight. As HTM classification enabled banks to hold securities, without having to mark them to market, banks have used this dispensation available to them to the fullest extent, which has a direct impact on the amount of floating stock that is available for trading in the secondary market. Further, to facilitate banks to operationalize any change in their overall investment strategy, banks are permitted to review their HTM portfolio and shift securities from HTM to AFS/HFT or vice-versa once a year. The option of selling from the HTM portfolio that was actively pursued by banks to benefit from a 'bull-run' in the G-Sec

market is still available to banks but the same is subject to restrictions/conditions<sup>7</sup> when the amount sold exceeds 5% of the book value of investments held in HTM portfolio. The proportion of SLR securities held in the HTM portfolio by banks vis-à-vis total SLR securities has increased from about 15% in March 2004 to over 77% in December 2011.

3.18 (b) While it is not in the fitness of things for the WG to recommend that banks should reduce their holdings in HTM portfolio, the group feels that the same needs to be reviewed especially in the light of the proposed implementation of IFRS-9. To this end, the group recommends that Board/ALCO of banks should be encouraged to periodically review their HTM portfolio (preferably at quarterly intervals) to assess the need, rationale and cost-benefit in maintaining G-Sec in the HTM portfolio and their preparedness for effectively dealing with the proposed transition to IFRS-9.

3.18 (c) The group also recommends that the Board of banks/PDs may evolve the performance assessment framework for their investment portfolio based on an appropriate set of return parameters, like 'holding period return'<sup>8</sup>, total return etc. that would give a better picture of the actual performance of the portfolio across the various categories of the investment portfolio to the Board. This would encourage investment managers to actively manage their portfolio including hedging of the same thereby bringing in additional liquidity to the market.

3.18 (d) HTM is not a regulatory compulsion but a forbearance available to banks. However, the HTM facility is being used by a majority of banks to the fullest extent and this has a direct bearing on secondary market liquidity of G-Sec. Additionally, the dispensation to sell from HTM also provides a leeway to banks to overcome the constraints of 'HTM' principle. While the accounting standard for financial instruments, i.e., IFRS-9 is yet to take its final shape, it is fairly certain that the dispensation to hold investments under 'HTM' category would continue to be available to banks under IFRS-9. In the light of the above, it becomes necessary to gradually bring down the upper-limit on the HTM portfolio. Reserve Bank may accordingly lay down a roadmap in this regard. While doing so, it would also be pertinent to keep in view the possible impact of reduction in the limit on HTM portfolio on the balance sheet of banks/PDs and measures aimed to address this

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<sup>7</sup> In terms of RBI circular dated Nov 1, 2010, if the value of sales and transfers of securities to/from HTM category by a bank exceeds 5 per cent of the book value of investments held in HTM category at the beginning of the year, the bank should disclose the market value of the investments held in the HTM category and indicate the excess of book value over market value for which provision is not made.

<sup>8</sup> The total return received from holding an asset or portfolio of assets. Holding period return/yield is calculated as the sum of all income and capital growth divided by the value at the beginning of the period being measured.

issue should be taken to make such transition non-disruptive for all the stakeholders.

3.19 FIIs play an important role in providing liquidity to the G-Sec market. However, the uncertainty and volatility attached to these investments, as seen in different countries during various crisis leads to concerns on capital flows. Accordingly, in India, FII investment in debt securities is restricted (subject to an overall cap) and the same is reviewed from time to time. The investment limit for FIIs in G-Sec is presently capped at USD 20 billion of which USD 10 billion is reserved for investment in securities with residual maturities of not less than 3 years. FIIs, by being global players, can provide much needed diversity of views in the market thereby providing more opportunities for trading. Thus, the group is of the view that there is a need to encourage FIIs as an investor class in the G-Sec market. Considering the possible effects of sudden exit of investors on capital flow and on market volatility, the Group recommends that the investment limit for FIIs in G-Sec may be increased in gradual steps. The increase in the investment limit can be reviewed on a yearly basis keeping in view the country's overall external debt position, current account deficit, size of GoI borrowing program, etc.

3.20 Globally, the countries that aim to widen investor-base and promote secondary market liquidity look to encourage foreign investors' participation in domestic securities markets. Some of the key issues that serve as bottleneck and the elimination of which can lead to increased participation by FIIs thereby boosting secondary market liquidity are detailed in the following paragraphs. It is recommended that efforts should be made to overcome these bottlenecks.

- a. Withholding tax has been cited as a major roadblock for FII participation in local currency bond markets since withholding tax reduces the investment yield and complicates accounting and transactions procedures for many investors, especially real-money investors. In this regard, the issue needs to be examined comprehensively by the GoI since elimination of withholding tax will lead to long-term benefits for the financial market by improving market efficiency.
- b. The extant SEBI guidelines requiring FIIs to surrender their limits in debt securities (including G-Sec), on sale or maturity of the same needs to be reviewed as it impedes the ability of the FII concerned to actively manage its portfolio, thereby affecting liquidity in the secondary market.
- c. Under present regulations, FIIs are required to transact in G-Sec through brokers (exchange) and cannot buy directly from the counterparties. This has restricted their freedom to transact in the primary auction (through PDs) and in

the secondary market (through NDS-OM). Since most of G-Sec transactions are undertaken on NDS-OM and the OTC market, the Reserve Bank, in consultation with SEBI, may consider amending the related guidelines/notification prescribing transactions of FIIs only through exchange brokers.

- d. As a consequence of the recommendation at (c) above, and to meet the requirement of reporting FII activity in G-Sec to SEBI, capability may be built in NDS-OM/CCIL in the form of suitable reports so that the respective custodians can submit the required information to SEBI.

3.21 The WG recognizes the excellent trading and settlement infrastructure that has been developed by the Reserve Bank for the G-Sec market. In this regard, the role of CCIL too deserves special mention. Today, market participants can trade and fund their positions in a totally paperless environment that comprises trading platform, clearing & settlement system and depository that are seamlessly integrated, which help them manage their investments in an efficient and easy manner. In order to further leverage on the available infrastructure and to improve market efficiency the group recommends the following:

- a. Review the time-window for bidding in the primary auction with an aim to truncate the same. The reduction in the auction timing will reduce the price risk for the bidders to a large extent and also facilitate the completion of auction at a shorter duration thereby providing a longer time-window for secondary market trading in the auctioned securities.
- b. In order to obviate price risk, if any, to the successful bidders, and also provide additional time for secondary market trading on the day of auction, the Reserve Bank may consider truncating the time gap between the dissemination of the results of the primary auctions on the newswires and the auction system. Alternatively, dissemination of the auction results first on RBI website may be examined by the Reserve Bank.
- c. Primary auctions in G-Sec may be conducted as a mix of both uniform-price and multiple-price formats to promote bidding earnestness and pricing efficiency depending on market conditions.
- d. As securities cannot trade during shut-period, a longer shut-period can directly impact the liquidity of the securities. The reduction of the shut-period in G-Sec to one business day had a positive impact on the tradability of the G-Sec. Moving ahead, and considering the demat holding of G-Sec, the Reserve Bank may consider reviewing the shut-period for G-Sec and consider removing the same for G-Sec in SGL form, if feasible.

- e. The extension of DvP-III benefit to transactions undertaken by the gilt account holders (excluding transactions undertaken between two gilt account holders of the same custodian, as permitted in July 2011), promotes trading in G-Sec by them. However, the benefit of DvP-III does not accrue to the gilt account holders (for transactions between the gilt account holder and his custodian and those between two gilt account holders of the same custodian) since such trades do not flow through CCIL for settlement . Accordingly, it is recommended that a suitable solution to ensure that the benefit of DvP-III is available to the gilt account holders for transactions involving the gilt account holder and his custodian and between two gilt account holders of the same custodian may be provided by the Reserve Bank.
- f. The SGL balances of securities maintained at the Reserve Bank are not synchronized automatically upon liquidation of LAF repo, IDL availments, etc. In order to facilitate participants to manage and monitor their balances efficiently, it is recommended that the Reserve Bank may consider putting in place a suitable IT-based solution for overcoming this operational problem viz., reviewing the need for continuation of the current 'Interim SGL account' structure such that securities and funds follow the DvP principle.
- g. Presently, initiation of short sale transactions is permitted only on NDS-OM primarily due to monitoring constraints thereof. The WG recommends that an appropriate technological solution may be implemented, such that short sale transactions could be undertaken in the OTC market also.
- h. Currently OTC outright and repo trades concluded directly by market participants (including by their Gilt Account Holders) are reported on the PDO-NDS system and flow to CCIL for settlement. However, there is a lag between the time that the trade is reported on PDO-NDS and when the respective information is available at CCIL for post-trade processing, i.e. for margin requirement, etc. This is ostensibly due to these trades flowing in batches to CCIL. Further, since most of the secondary market trades take place on NDS-OM and CROMS, the stock balances maintained in these systems need to be reconciled after reckoning the outright trades reported on PDO-NDS. Hence, the migration of reporting of OTC trades in G-Sec (outright and Repo) to these systems would enable better risk management and control for all outright and repo transactions at the participants' end. An alternative solution to achieve the same objective is to have a mechanism for online/immediate flow of trade from PDO-NDS to CCIL as and when a trade is concluded on the PDO-NDS.
- i. The Reserve Bank may consider reissuance/fungibility of T-Bills (i.e., 91 DTB, 182 DTB and 364 DTB with identical maturity dates) in the trading and



settlement systems. This would consolidate the volume of such T-Bills thereby increasing the prospect of trading on the same in the secondary market. Further, the fungibility could also be extended to CMBs.

- j. In order to bring about standardization and improve market efficiency, the settlement cycle of primary auction in T-Bills may be reduced from T+2 to T+1.
- k. Secondary market liquidity in SDLs is affected by the fragmentation of issuances due to the present policy of issuing 10-year securities at every issuance across all the State Governments. In order to improve the secondary market liquidity in SDLs, the group recommends that State Governments may consider reissuance of existing securities to increase the outstanding stock of securities, subject to acceptable rollover risk and redemption pressure. Though such a measure would bring down the weighted average maturity of the outstanding stock for the State Governments, the same would lead to pricing efficiencies in the long-run that may lead to lower borrowing costs.
- l. In terms of the extant Reserve Bank guidelines, unquoted SDLs are to be valued at a spread of 25 basis points over the GoI dated securities of an equivalent tenor. This spread of 25 bps was arrived at, on the basis of the then-prevailing auction spread differential between the two categories of instruments. Over a period of time, this differential has widened considerably and in one of the recent auctions, the spread had touched a level of 50 to 90 bps. Despite the widening of the spread, the SDLs are continued to be valued at a spread of 25 bps rendering the entire valuation mechanism far removed from reality. Given the dynamic nature of the spread, the WG is of the view that the valuation of SDLs should be based on the prevailing auction spreads. Accordingly, in order to bring in a better representative character of market reality, it is recommended that the applicable spread for valuing unquoted SDLs may be based on the weighted average of the spreads emerging in the last few auctions. A suitable framework may be developed in this regard, which may be reviewed periodically.
- m. STRIPS in G-Sec have been permitted by the Reserve Bank since January 2010 but activity in the same has been very low. Since STRIPS are essentially zero coupon bonds, the same can be an attractive investments for retail/individual investors and to active traders. In order to give a fillip to STRIPS in G-Sec the group is of the view that STRIPS may be made tradable on the NDS-OM to encourage trading interest in them. Further, as the capital-intensive nature of stripping in G-Sec is a major stumbling block for participants interested in trading in STRIPS, the Reserve Bank may also consider stripping G-Sec and selling the STRIPS in the secondary market to kick-start secondary market activity in this instrument.

n. At times of need, PDs and banks resort to IDL facility from RBI to meet their funding obligations arising out of their participation in the primary auctions. This is due to the fact that the settlement of primary auction is independent of the settlement of secondary market transactions (outright and repo). In order to reduce the reliance of participants on IDL to meet obligations arising from primary auctions, the Reserve Bank may consider narrowing the settlement window for primary auctions and secondary market transactions (outright and repo).

3.22 The repo market for G-Sec has witnessed good growth over the past decades, aided by CBLO and CROMS. However, the repo market predominantly remains 'overnight' in nature with the near absence of 'term-repo' market. The per cent of repo trades in the overnight to 3 day tenor bucket has increased from 85% in 2003-04 to about 97% in 2010-11. The high proportion of the overnight repo indicates the virtual absence of a term-repo market. The development of the term-repo market is critical for the development of the IRD market. In this regard, the extension of period of short selling in G-Sec to three months should promote activity in the term-repo market. However, restrictions on the use of securities received in a repo (such as the same cannot be sold unless used for delivery against short sale and cannot be repoed further) are a major constraint in the development of the term-repo market. The availability of an electronic environment with STP between trading, clearing and settlement systems and DvP-III based settlement (with CCP guarantee) would facilitate participants to sell/re-repo the securities acquired under repo in a seamless and secure manner and at the same time ensure availability of proper audit trail for appropriate oversight. However, permitting selling/repo of securities acquired under repo would also enable participants to increase their 'leverage'<sup>9</sup> by entering into multiple sale/repo transactions with the same quantum of cash. While the benefits of permitting sale/re-repo of G-Sec acquired under repo for the development of the term repo market are justified, the downside risk to the system due to the ability to 'leverage' needs to be addressed appropriately. To this effect, suitable cap on the ability of the participant to 'leverage' may be imposed by the Reserve Bank. This cap can be either aggregated at the level of 'transaction-type', i.e., for repo/reverse repo or at the balance sheet level. In this regard, the Reserve Bank may consider the proposal of BCBS under Basel III norms to introduce a leverage ratio under Pillar 1. Accordingly, the group recommends that the restrictions on selling/repo of

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<sup>9</sup> Leverage allows a financial institution to increase the potential gains or losses on a position or investment beyond what would be possible through a direct investment of its own funds.

securities acquired under market repo may be reviewed with a view to promote the term-repo market with suitable restrictions on 'leverage'.

3.23 International markets for collateralized borrowing (Repo markets) have moved to a tripartite framework to reduce costs and improve operational efficiency without any additional risks (counterparty credit risk, settlement risk, etc.). In the present context though CBLO plays the role of a tripartite repo, the same is not a true tripartite repo. Accordingly, the group is of the view that an appropriate tripartite repo may be introduced as the same would be more comforting from the capital adequacy and exposure view point for banks. The Group also believes that the introduction of tripartite repos would enable the market to gradually develop a term repo market with security (collateral) substitutions etc. being possible, thus overcoming a major current impediment i.e., the inability to raise collateralised funds against G-Sec beyond 6 months.

3.24 In terms of extant Reserve Bank guidelines<sup>10</sup> on repo transactions in G-Sec, all SGL account holders are eligible to enter into repo transactions in G-Sec. However, in case of participants who access the G-Sec market through the 'CSGL route', the access to repo market is restricted to scheduled banks, non-scheduled UCBs, PDs, NBFCs, MFs, HFCs, Insurance Companies, listed companies (having gilt account with a SCB) and unlisted companies<sup>11</sup>. Further the various restrictions placed on repo transactions are:

- a. SGL account holder may not enter into a ready forward contract with its own constituent;
- b. Any two gilt account holders maintaining their gilt accounts with the same custodian (i.e., the CSGL account holder) may not enter into ready forward contracts with each other;
- c. Cooperative banks may not enter into ready forward contracts with the non-banking financial companies;
- d. The minimum period for Reverse Repo (lending of funds) by listed companies is seven days. However, listed companies can borrow funds through repo for shorter periods including overnight;
- e. The counterparty to listed as well as unlisted companies for repo/reverse repo transactions should be either a bank or a Primary Dealer maintaining SGL Account with the Reserve Bank; and

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<sup>10</sup> RBI circulars IDMC/PDRS/3432/10.02.01/2002-03 dated Feb 21, 2003, IDMD/PDRS/4779 /10.02.01/2004-05 dated May 11, 2005 and IDMD.DOD.No.334/ 11.08.36/ 2009-10 dated Jul 20, 2009.

<sup>11</sup> Companies that have been issued special securities by the Government of India and having gilt account with a scheduled commercial bank.

- f. The eligible unlisted companies can enter into ready forward transactions as the borrower of funds in the first leg of the repo contract only against the collateral of the special securities issued to them by the Government of India.

In view of the development of the repo markets during the last decade, the availability of a robust trading, clearing and settlement infrastructure with CCP guarantee, the Reserve Bank may undertake a review of the above guidelines.

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## Chapter IV

### Retail Participation in G-Sec Market

#### A. Developments and Status

The market for G. Sec. has evolved into an institutional market with major participation by banks, insurance companies and PDs. This is justifiably so since sovereign securities issued in domestic currency are risk-free and are available for longer tenors that match the requirement of financial institutions especially those with long-term liabilities. Further, diversity of investors plays an important role in diversification of financial risks, effective intermediation of savings, and development of an efficient market. While the institutions described above are the top-tier participants, efforts have been made by the Reserve Bank to promote the participation of mid-level players, i.e., small and medium sized financial institutions like cooperative banks, regional rural banks, MFs (including gilt funds), non-banking finance companies, private PFs , etc. and the individual investors. In this regard, various measures that have been undertaken in the past to promote wider access to the G-Sec market and to encourage non-institutional and individual investors are detailed in the following paragraphs.

4.2 Reserve Bank had introduced a “Scheme of Non Competitive Bidding” in January 2002 to enable non-institutional investors like firms, companies, corporate bodies, PFs, trusts and individuals to participate in the primary auction of G. Sec. without taking the price risk in auctions. Considering the objective of the scheme and its target-group, the Scheme was open to investors who did not have current account or SGL account with the Reserve Bank. Further, RRBs and UCBs have also been permitted under this Scheme in view of their statutory obligations to invest in G-Sec and the lack of financial expertise.

4.3 While direct access to the NDS-OM is restricted to participants who hold a SGL account with the Reserve Bank, a two-tier system of holding and trading in G-Sec was put in place through the CSGL route to permit non-institutional investors and individuals who do not hold SGL account with the Reserve Bank to access the G-Sec market. Under the CSGL framework, institutional participants like banks and PDs were allowed to open and maintain an additional SGL account (called CSGL account) with the Reserve Bank to hold G-Sec on behalf of their clients who in turn maintained gilt accounts with them as ‘custodians’. Thus, the beneficial ownership of the securities held in the CSGL account by the ‘custodians’ resided with the gilt account holders of the ‘custodian’. Under the CSGL-route, gilt account holders

transact in the G-Sec market through their 'custodians' and such transactions are reflected in the CSGL account maintained at Reserve Bank and the gilt accounts maintained by the 'Custodian'.

4.4 In parallel with the improvements in the infrastructure to promote participation of retail investors in the G-Sec market through NDS and NDS-OM, trading of G-Sec has also been permitted on stock exchanges since 2003. Participants desirous of trading in G-Sec on the stock exchanges are required to hold their holdings of G-Sec in demat form with the depositories of the stock exchanges.

4.5 In order to extend the benefit of electronic platform (NDS-OM), i.e., anonymity, pre-trade and post-trade transparency to non-institutional investors, an odd-lot segment was introduced in the NDS-OM (in May 2007) where trades in odd-lots (with a minimum face value of ₹ 10,000/- and ₹ 25,000/- for dated securities and T-Bills respectively) can be undertaken by participants. This was in addition to the facility available for non-institutional and individual investors in the OTC market to trade in lot sizes of ₹ 10,000/-. Direct access to NDS-OM was initially extended to the Banks and the PDs and later to other entities like Insurance Companies, MFs and larger PFs for their proprietary deals. To widen the reach of the NDS-OM, indirect access through the CSGL route was extended (in May 2007) to certain qualified entities, viz., deposit taking NBFCs, PFs, Pension Funds, MFs, Insurance Companies, Cooperative Banks, RRBs and Trusts maintaining gilt account with 'Custodian'. Such indirect access was further extended, in November 2007, to NBFC-ND-SI and to other investors, i.e., other non-deposit taking NBFCs, Corporates and FIIs in May 2008. Since November 2011, licensed UCBs and NBFC-ND-SI have been extended direct access to NDS-OM subject to certain conditions<sup>12</sup>.

4.6 A system of 'Multi Modal Settlement' (MMS) in G-Sec market was introduced in June 2008 to facilitate settlement of G-Sec transactions undertaken by eligible entities that do not maintain a current account with the Reserve Bank. Under this arrangement, the funds leg of the transactions are settled through the fund accounts maintained by these entities with select commercial banks chosen as 'Designated Settlement Banks' (DSB). This obviated the need for entities that maintain a SGL account but are not eligible to maintain a current account with the Reserve Bank to access the G-Sec market through the CSGL route.

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<sup>12</sup> Please refer Reserve Bank circular IDMD.DOD.13/10.25.66/2011-12 dated November 18, 2011.

4.7 The introduction of DvP-III mode of settlement (in April 2004) has been instrumental in promoting trading activity in the G-Sec market. In order to promote trading activity of retail/individual investors, DvP-III based settlement was further extended to transactions undertaken by gilt account holders (except those transactions undertaken between the gilt account holders of the same custodian).

4.8 Access of the G-Sec market to retail/individual investors is critical to promote investment interest of the retail investors. To this effect, the Reserve Bank has introduced a web-based solution for direct participation of all gilt account holders in the primary auction for G-Sec as well as the secondary market transactions.

4.9 However, the measures outlined above have not led to tangible results in terms of encouraging retail participation in G-Sec market. While examining the causes and possible solutions, it is important to put the issue in perspective. The sovereign debt market is primarily a wholesale market and comprises institutional investors like banks, PDs, insurance companies, pension funds, etc. In view of the status and requirement of the issuer, i.e. 'the sovereign', the size of the market is very large and the amounts transacted are typically quite large. Accordingly, the market for sovereign debt is predominantly OTC with electronic platforms available for dealer-to-dealer transactions. Generally, sovereign debt securities are not traded on stock exchanges. Thus, the market for G-Sec is not suited to retail/individual investors who trade in small amounts and are generally buy-and-hold investors. Due to the reasons cited above, retail/individual normally participate in sovereign debt market through MFs.

4.10 Fixed-income securities generally are not attractive speculative instruments for individual investors since the scope of making significant gains depend on the capability of the investor to leverage his investments. Since volatility in prices of fixed-income securities is low vis-à-vis equity, investors generally gain through small changes in prices of debt instruments by committing large amounts. While institutional investors, by nature, are big players who transact in large amounts and also have access to funding markets both collateralized and un-collateralized, they are in a better position to transact in this market. Due to a lack of similar facility to individual investors, they are not in a position to trade in these instruments. Thus, speculative interest of retail investors is minimal in G-Sec. As buy-and-hold investments, G-Sec can be an attractive alternative especially since these are sovereign securities. However, yields of G-Sec are relatively lower than interest

rates offered by small saving instruments like NSC, PPF, etc. that make G-Sec investments unattractive.

4.11 Notwithstanding the factors cited above, and considering the importance of G-Sec as an asset-class for retail/individual investors and the potential of G-Sec to tap into private savings, the group was of the view that specific focus must be bestowed on promoting retail investors in the G-Sec market. Further, in case the interest rates offered on various small savings instruments are aligned<sup>13</sup> with the rates yields of G-Sec of comparable tenors then G-Sec may turn out to be attractive financial investments for the individual investors.

## **B. Recommendations**

4.12 There are two approaches to address the issue of retail participation, (i) create a parallel framework for retail participation by issuing specific long-term G-Sec targeted at retail/individual investors that are competitive in-terms of returns vis-à-vis small saving instruments to tap into retail savings; and (ii) re-examine the existing framework for G-Sec to provide an enabling environment for retail/individual investors to invest in G-Sec. In this regard, the group was of the view that there must be a two-pronged approach that incorporates both the options.

4.13 The existing infrastructure for G-Sec with all the IT systems (NDS, NDS-OM, etc.) is concentrated in Mumbai. Similarly, the depository for the G-Sec is also located in PDO of the Reserve Bank, Mumbai and all transactions in G-Sec settle through the SGL a/c and fund a/c maintained at PDO and DAD, Mumbai respectively. This has led to the concentration of treasury activities of banks in Mumbai. Further, most of the PDs are located and operate out of offices located in Mumbai. Catering to retail investors located across the country, requires establishment and maintenance of a wide distribution network. Banks, by having an existing network of branches spread across the country and on a CBS platform, and Post Offices with a wide geographical presence are well placed to offer investment services to retail investors in the G-Sec. Accordingly, the Reserve Bank may examine utilizing the services of banks and Post Offices (if possible at a later stage and in consultation with GoI) as a distribution channel and nodal point for interface with individual investors.

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<sup>13</sup> The committee on Review of National Small Savings Fund (Chairperson: Smt Shyamala Gopinath) has recommended that the secondary market yields on Central government securities of comparable maturities should be the benchmarks for the various small savings instruments.



4.14 Lack of liquidity is a critical factor that needs to be addressed for ensuring participation by retail investors in the G-Sec market. Secondary market liquidity in G-Sec is limited to a few securities and hence it is difficult to find a market for a large number of G-Sec. Due to the lack of secondary market liquidity, investors, especially retail/individual investors end up paying large illiquidity premium when they try selling the illiquid (off-the-run) securities. NDS-OM, by having different market segments for the standard and odd lots, has pre-empted the small investors from benefiting from the liquidity and better pricing that is available in the standard market segment. Consequently, transactions involving an amount less than ₹5 crore (that can be put through in the odd-lot segment of the NDS-OM) carry a higher illiquidity premium. Further, the availability of a separate standard market segment with minimum trade lot size of ₹5 crore has fulfilled the requirements of institutional investors like banks and PDs and consequently, there has been a lack of interest from these participants in making market in the odd-lot segment. To effectively address this issue, a suitable mechanism for market-making by PDs in the odd-lot segment may be put in place by the Reserve Bank. To make this process effective, PDs may be assigned specific securities in which they need to provide simultaneous buy/sell quote on NDS-OM (odd-lot segment). Since fulfilling such a role would require PDs to maintain balances in specific securities on a continuous basis, such securities can be permitted to be maintained under HTM category or alternatively in HFT but not subjected to the 90 days churning rule. Further, in case PDs are unable to offload or trade in the small lots of G-Sec held by them, as a last resort, Reserve Bank can consider buying these securities from the PDs after expiry of a specified holding period through its regular OMOs, switches, etc.

4.15 Along with efforts to promote market making in the retail market through PDs, the Reserve Bank may also consider, in the long-term, having a centralized market maker for retail participants in G-Sec who would quote two-way prices of G-Sec for retail/individual investors and leverage on existing and possible infrastructure for reaching retail/individual investors.

4.16 Transaction costs for retail investors (those who operate through gilt account) remain high and vary from bank/PD to bank/PD who act as custodian for these investors. Further, some 'custodians' charge an account-opening fee, which is one-time in some cases and annual in other cases. Typically, the transaction costs for investors comprise settlement charges levied by CCIL (all transactions settle through CCIL), the cost incurred by the bank/PD in servicing the investor (which also include settlement margins posted by the custodian bank/PD) and a margin.

Standardization of transaction costs can lead to tangible benefits in promoting retail investments since such a move would bring in much needed transparency and induce competition among custodian bank/PDs, which will be beneficial to the retail investors in the long run. Accordingly, Reserve Bank may consider prescribing uniform charges for opening and maintaining of gilt accounts and for putting through each transaction. As an additional measure to ease the burden of transaction cost on individual investors, Reserve Bank may, in consultation with CCIL, consider waiving off the settlement charges for all retail transactions (i.e., transactions whose face value is capped at a certain amount) that are put through either NDS or NDS-OM.

4.17 Even though G-Sec are available for trading in the stock exchanges, secondary market activity in G-Sec on the exchanges have been negligible. Considering the reach and familiarity of the exchange platforms, promotion of trading in G-Sec on the exchanges can be a means of activating retail interest in G-Sec. Some of the factors that inhibit activity in the exchanges are the absence of banks/PDs from the exchanges and the operational difficulty in converting G-Sec from SGL form to demat form. Accordingly, the group recommends that the Reserve Bank may

- a. simplify operational procedures for seamless movement of securities from SGL form to demat form and vice versa to promote trading of G-Sec on stock exchanges; and
- b. permit banks and PDs to obtain limited membership of stock exchanges for undertaking proprietary trades in G-Sec on the exchanges.

4.18 The recommendations detailed above are aimed at improving the existing framework for investment in G-Sec to promote retail participation in the G-Sec market. In addition, there is a need to also tap the private savings of the country through special Govt bonds aimed at individual investors. In this regard, the existing infrastructure for issuance of G-Sec may be leveraged to issue special retail bonds thereby minimizing additional costs that may have to be incurred to promote these bonds. To make a beginning, and since inflation affects the poor and middle class significantly, Govt may consider issuing inflation-indexed bonds specifically for retail/individual investors. Such bonds may be subject to suitable investment cap to pre-empt them from being available to HNI and institutional investors. Future issuances of such retail bonds may be considered based on experience and

appetite for such investments. In this regard, creating alternate channels of distribution<sup>14</sup> (E-Distribution Channels) could be explored.

4.19 To conclude, the group was of the view that the mid-retail segment may be targeted more vigorously and the process may be made simpler for retail segment.

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<sup>14</sup> Countries like Japan and Singapore facilitate purchase of G-Sec through bank ATMs

## Chapter V

### Interest Rate Derivatives Market

#### A. Developments and Status

Derivatives on commodities are reported to have been existent since early 17<sup>th</sup> century. This was followed by the evolution of currency derivatives in the 1960s (though they became popular in the post-Bretton Woods era of floating exchange rates, i.e., 1970s). IRDs help to limit or manage exposure to fluctuations in interest rates or to acquire a lower interest rate than an entity would otherwise be able to obtain. These derivatives have come a long way since the first appearance of interest rate futures in 1975<sup>15</sup>. Interest rate swaps evolved in the 1980s from the success of the currency swaps and have come to occupy an important space in the derivatives markets.

<b>Instrument</b>	<b>1998</b>	<b>2001</b>	<b>2004</b>	<b>2007</b>	<b>2010</b>
FRAs	74	129	233	258	601
IRS	155	331	621	1,210	1,275
Exchange-traded derivatives	1,381	2,188	4,524	6,099	8,142

BIS Triennial Central Bank Survey 2010

The average daily turnover of IRS has increased from USD 155 billion in 1998 to USD 1,275 billion in 2010 but the rapid growth witnessed during the 2004-07 period has not been sustained during 2007-10 (Table 5). On the contrary, exchange-traded derivatives have been recording consistent growth in activity during the last two decades with the average daily turnover at USD 8,142 billion (almost 7 times that of IRS). The global credit crisis and the role of the 'opaque' OTC markets that raised regulatory activism towards exchange-traded vis-à-vis OTC derivatives has been an important factor in the slowing down of the IRS market activity.

5.2 The popularity of the exchange-traded interest rate futures is attributed to the lower capital requirement, ability to short the asset freely without need to borrow the same, daily settlement and a CCP framework that eliminated counterparty credit risk. The high-level of standardization of the contracts also attributed to the high degree of liquidity in the futures market. However, as can be noted from the derivatives volume traded, the OTC market has registered faster rates of growth than the futures exchanges during 1998 – 2007 but the same has stagnated

<sup>15</sup> Interest rate futures were first traded on the Chicago Board of Trade (CBoT) in October 1975 and were based on US mortgage bonds.

thereafter. The possibility to enter into bespoke<sup>16</sup> contracts to exactly hedge one's position in a financial asset, and the benefit IRS offers in exploiting comparative advantages among borrowers in the debt markets are some of the reasons attributed to the success of IRS. A critical feature of the global OTC interest derivatives market has been the concentration of the market with over 50% of the transactions taking place among some 60 institutions. Further, less than 10% of the OTC transactions in interest rate derivatives are conducted with end-customers outside the financial sector.

5.3 Futures market enables participants to leverage and short sell securities thereby making futures an attractive hedging instrument. At the same time, these characteristics also facilitate speculative transactions in the underlying. Thus, market players can hedge more cost-effectively or contract speculative positions more easily by using derivatives than by investing in debt. However, these factors do not impact adversely the liquidity in the cash market. This is so because, notwithstanding the inherent advantages of futures highlighted above that may encourage participants to move from the cash market to the derivatives market, futures market creates new trading opportunities in the underlying cash market. Thus, a well-developed derivatives market can have a positive impact on the underlying cash market in the long run.

5.4 (a) In the Indian context, OTC interest rate derivatives (FRAs and IRS) were introduced in 1999 to enable banks, PDs and AFIs to hedge their interest rate risk arising out of asset-liability mismatches. Further to promote liquidity in the market, market making was also permitted for the eligible entities subject to internal prudential limits. With the market for OTC derivatives beginning to gain foothold, Reserve Bank decided to introduce (in August 2007) a mechanism for ensuring post-trade transparency and centralized trade processing to promote efficient price discovery and ease of transacting and managing trades in OTC interest rate derivatives. Accordingly, banks and PDs were mandated to report all inter-bank/PD trades in FRAs and IRS to the reporting platform developed by CCIL within 30 minutes of the conclusion of the trade. The market information, i.e., rate, notional amount, etc. related to these trades were disseminated to market participants through CCIL's website. A year later, in November 2008, CCIL started to offer settlement of the trades reported on its reporting platform on a non-guaranteed basis. As the settlement of OTC trades through CCIL is not mandatory on the part of the participants, i.e., banks and PDs, outstanding trades in FRAs and IRS are being

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<sup>16</sup> Custom-made to suit the buyer's need.

settled either bilaterally or centrally through CCIL. The scope of reporting of OTC trades in interest rate derivatives was further extended to client-level transactions, i.e., transactions entered into between banks/PDs and their clients in October 2009 to enable Reserve Bank to have a complete picture of the OTC interest rate derivatives market. A framework for accrediting and regulation of brokers (including electronic broking platforms) in the OTC interest rate derivatives has been put in place (in August 2011) and the responsibility for the same has been delegated to FIMMDA. This is expected to provide a fillip to the liquidity in the OTC market for interest rate derivatives as brokers provide the desired pre-trade anonymity to participants who transact in this market.

5.4 (b) Another important development in the OTC market for IRDs has been the introduction of portfolio compression<sup>17</sup> exercise undertaken by CCIL, duly authorized by the Reserve Bank, in the IRS market. The first such exercise was undertaken in July, 2011 wherein a compression of 94.30% of the submitted trades was achieved. The second cycle of compression was carried out in March 2012 with a compression of 90.31%.

5.5 A parallel development during this period has been the efforts undertaken by the Reserve Bank to establish a sound legal framework for OTC derivatives in FX and interest rates. The amendment of SCRA (Sec.18 A) in 1999 resulted in ambiguity regarding the legality of OTC derivatives such as FRAs and IRS that were permitted by the Reserve Bank in 1999. Recognising the crucial role of OTC derivatives in reallocating and mitigating risks and the adverse impact the ambiguity regarding the legal validity of OTC derivatives can have on the growth and stability of the market for such derivatives, suitable amendments were carried out to the Reserve Bank of India Act, 1934 (RBI Act) that came into effect from January 2007. Accordingly, Section 45V of RBI Act, 1934 {inserted vide Reserve Bank of India (Amendment) Act, 2006} lays down that notwithstanding anything contained in SCRA or any other law for the time being in force, transactions in such derivatives, as may be specified by RBI from time to time, shall be valid, if at least one of the parties to the transaction is RBI, a scheduled bank, or such other agency falling under the regulatory purview of RBI under the RBI Act, BR Act, 1949, FEMA, 1999, or any other Act or instrument having the force of law, as may be specified by RBI from time to time. It also provides that transactions in such derivatives, as had been specified by RBI from time to time, shall be deemed always to have been valid.

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<sup>17</sup> Portfolio compression reduces the overall notional size and number of outstanding derivatives contracts in the portfolio without changing the overall risk profile of the portfolio.

Further, Section 45W gives powers to the Reserve Bank to determine the policy relating to interest rates or interest rate products and give directions in that behalf to all agencies or any of them, dealing in securities, money market instruments, foreign exchange, derivatives, or other instruments of like nature as the Bank may specify from time to time. Further, the enactment of the Payment and Settlement Systems Act, 2008, provides legality to multi-lateral netting of contracts and legislative authority to the Reserve Bank to regulate and supervise payment and settlement systems in the country.

5.6 As can be inferred from the above, the OTC derivative markets in India have evolved within a tight regulatory framework that comprises a strong legal footing, broad specification of products permitted, nature of participants in the markets, distinct responsibilities for market makers and users, effective reporting to capture systemic information and focus on developing market infrastructure for post-trade clearing and settlement.

5.7 (a) The market for OTC interest rate derivatives is predominated by IRS with no activity in FRAs. The total outstanding in terms of notional amounts as of end-March 2012 was ₹19,71,859 crore (MIBOR swaps), ₹2,93,310 crore (MIFOR swaps) and ₹25,910 crore (INBMK swaps).

<b>Table 6: Outstanding volume in IRS for various benchmarks</b> (₹ in cr)						
<b>Period</b>	<b>MIBOR</b>		<b>MIFOR</b>		<b>INBMK</b>	
	<b>Notional amount</b>	<b>No. of Trades</b>	<b>Notional amount</b>	<b>No. of Trades</b>	<b>Notional amount</b>	<b>No. of Trades</b>
Mar-08	36,55,600	61,665	6,11,600	16,528	13,700	368
Mar-09	13,94,000	23,732	4,68,000	11,803	18,700	461
Mar-10	17,48,800	29,853	3,26,900	8,201	20,400	450
Mar-11	26,45,709	43,197	2,70,080	6,357	26,910	542
#Mar-12	19,71,859	27,541	2,93,310	6,348	25,910	520

# up to Mar 22, 2012

The notional amounts outstanding in various products have come down substantially during the past year (from ₹29,42,699 crore as at end-March 2011 to ₹22,91,079 crore as at end-March 2012). This, to a large extent is due to the two compression exercises undertaken by CCIL.

5.7 (b) Of the IRS contracts, MIBOR-based swaps have been most preferred by the participants, which account for about 90% of the total trades in IRS in terms of

notional amount. Another aspect of the market, which is not unique only to India, has been the concentration of market participants (share of foreign banks is about 80% of the total market volume with virtual absence of nationalized banks). Activity in the IRS market is concentrated in the 1-yr, 2-yr and 5-yr tenors with these segments accounting for 55%, 7% and 20% respectively of the total trades in terms of notional amounts. However, activity is also witnessed in the 6-month, 9-month, 3-yr and 4-yr tenors. Thus, activity in the IRS market is fairly spread across the swap curve between 1-10 years. There are no swap trades beyond 10 years.

5.8 In case of exchange-traded interest rate derivatives, IRFs were first introduced in June 2003 when NSE launched three IRF contracts viz. futures on 10-year notional G-Sec with a coupon of 6%, 10-year notional zero-coupon G-Sec and 91-Day T-Bills. However, these contracts did not attract enough market interest since its introduction and soon became defunct. The use of ZCYC to determine the daily settlement price and for MTM of the contract resulted in large basis risk<sup>18</sup> for participants trying to hedge their cash market positions through the futures market thereby making the futures contract unattractive, if not risky. Further, the prohibition of banks from taking trading positions in the futures market had resulted in very low/negligible liquidity in this market. Attempts to revive the IRF market once again led to the setup of the WG in 2008 (Chairman Shri VK Sharma) to review and recommend ways for activating the futures market. Based on the recommendations of the WG, a delivery-based futures contract on 10-year notional G-Sec with a coupon of 7% was reintroduced in August 2009. This was followed with the introduction of cash-settled futures on 91-day T-Bills whose settlement price was based on the weighted average cut-off determined in the primary auction of 91-day T-Bills and the permission to introduce cash-settled futures on 2-year and 5-year notional G-Sec with a coupon of 7% (announced in December 2011). However, there has not been much activity in the futures market since reintroduction. The lack of activity in IRF needs to be viewed in the context of structural factors like lack of liquidity in the underlying cash market, SLR prescriptions and HTM facility. Other factors normally cited for the lack of market activity are (a) banks and MFs have a portfolio duration of less than 5 yr; (b) IRF contract cannot be used as a perfect hedge; (c) the market hesitancy to take a view on long-term interest rates; and (d)

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<sup>18</sup> The risk that offsetting investments in a hedging strategy will not experience price changes in entirely opposite directions from each other. This imperfect correlation between the two investments creates the potential for excess gains or losses in a hedging strategy, thus adding risk to the position.



lack of significant buy side interest in a rising interest rate cycle and over supply of G-sec.

## **B. Observation**

5.9 Trading activity in futures market tend to be high when market participants have well-defined but heterogeneous expectations of future interest rates. On the contrary, ill-defined and unclear expectations of participants will lead to bids/asks that may never match thereby pre-empting trading among them. Thus, it is important to have participants who have diverse views on future outcome to facilitate trading. One of the characteristics of derivatives market in India has been the predominantly unidirectional view of the participants that inhibits liquidity especially in the futures market. To obviate this problem, it is important to widen the investor-base and encourage participation of investors with diverse views. In this regard, some of the members of the group felt that FIIs must be permitted to take up trading positions in the IRF market. However, another view of a section of the group was that since FIIs are not permitted to take short position in the underlying cash market for G-Sec, permitting FIIs to take trading positions in the IRF market would enable them to take short position in the G-Sec market through IRFs.

## **C. Recommendations**

5.10 The market for IRS has evolved over the past decade and is fairly liquid though activity is concentrated at few tenor points and among few participants. The average daily volume traded in IRS during 2010-11 was at ₹9,554 crore, which is comparable with the volume traded in the G-Sec market. The experience of having an electronic trading platform in the G-Sec market highlights the importance of such a platform, which provides both pre-trade and post-trade anonymity coupled with price dissemination, in enhancing secondary market liquidity. Accordingly, the group is of the view that an electronic swap execution facility (electronic trading platform) should be introduced for the IRS market. Along with the setup of the platform, Reserve Bank may also consider introducing a CCP who may provide guaranteed settlement of trades executed through the electronic platform. The introduction of the electronic trading facility and the CCP in IRS would enhance transparency (common MTM values for the swaps), reduce counterparty credit risk and obviate the need for bilateral agreements thereby improving market comfort/confidence that can have a direct bearing on the level of participation (i.e., encourage participation by a larger section of the market).

5.11 While an electronic platform will certainly provide a fillip to trading in the IRS market, the role of the OTC market in providing liquidity cannot be totally ruled out. Envisaging a scenario where electronic market coexists with the OTC market, it is desirable to standardize inter-bank IRS contracts to facilitate centralized clearing and settlement of these contracts.

5.12 Though IRS market is comparatively very liquid, participation in IRS is skewed and more than 70% of trades are among foreign banks. Insurance companies with their long-term liabilities may be natural receivers of fixed interest rate and payers of floating rate in the rupee IRS market. On the other hand, banks, with their significant fixed rate SLR holdings and relatively shorter-term DTL, could be natural receivers of floating rate and payers of fixed rate in the rupee IRS market. As such, IRS activity may increase significantly if insurance companies participate in IRS for hedging interest rate risk in their portfolio. Similarly, more participation of other financially sound entities may also increase liquidity in the IRS market. As such, insurance companies, PFs and other financially sound entities may be permitted to participate in IRS market.

5.13 INBMK swaps are rupee swaps where the floating rate is benchmarked to the 1 Year INBMK (G-Sec) Rate. These contracts can be developed into effective hedging instruments for G-Sec by developing the market for INBMK swaps. To achieve this objective, efforts may be made to standardize these contracts. In this regard, the group feels that there could be a FIMMDA determined standard benchmark on which INBMK swaps can be based so that fragmentation of the market can be avoided. Further, the pricing of illiquid bonds by FIMMDA may be reviewed so that basis risk to participants in the INBNK swaps can be reduced.

5.14 At present, prudential limit for exposure to derivatives is prescribed in terms of gross PV01 and the same is set at 0.25% of the net worth for all non-option Rupee derivatives. In view of the expanding universe of non-option rupee derivatives and to permit banks/PDs to monitor risks in a disaggregated manner, the group is of the view that the reserve Bank guideline on risk limits for derivatives exposures should be reviewed periodically.

5.15 (a) While welcoming the decision of Reserve Bank and SEBI to introduce cash-settled 2-yr and 5-yr futures, the group felt that success for these products may continue to be elusive until liquidity in the underlying cash market is improved drastically. The group also was of the view that the concerned regulators should

follow a 3-stage approach in promoting participation in the IRF market, which is detailed in the following paragraphs.

**Stage 1:**

5.15 (b) Enhance liquidity in the underlying G-Sec – Efforts may be made to enhance liquidity in the basket of securities underlying the 2-yr, 5-yr and 10-yr IRF contracts. This would minimize illiquidity premium on the CTD security. To this effect, Reserve Bank should consider issuance of securities close to these maturities (2yr, 5yr and 10yr) on a continuous basis through primary auction to promote efficient price discovery and consequently, secondary market liquidity.

**Stage 2:**

5.15 (c) Introduction of new products – Parallel with the efforts to infuse liquidity/trading interest in existing IRF contracts, stake holders should be encouraged to introduce futures contracts that have high probability of attracting participant interest subject to regulatory approval. In this regard, futures contracts linked to money market rates/instruments may be considered for introduction. To begin with, IRF based on overnight call borrowing rate can be considered. This product has been recommended by various WGs that have examined interest rate derivatives market in India. Considering the liquidity that is available in the MIBOR OIS market, IRF based on overnight call borrowing rate can generate interest of participants who are active in the IRS market.

5.15 (d) The underlying in a money market futures contract is the overnight interest rate, which is a function of the Reserve Bank's policy rate. Thus, this rate is closely monitored by the Reserve Bank and the related market, i.e., call money market is limited to banks and PDs that are regulated by the Reserve Bank. Due to the factors highlighted above, the probability that the market for the underlying would be driven by the futures market would be very low in case of IRF based on overnight rate. While banks and PDs can be natural players in the overnight futures segment due to their presence in the underlying market, the presence of FIIs in this market, who are currently not permitted in the money market (call, repo, etc.), would add to the liquidity in the futures market. The presence of FIIs would prevent the futures market from becoming unidirectional since domestic liquidity conditions would place a majority of the banks and PDs on the same side of the market (either as borrowers or lenders) whereas FIIs may be on the other side. Accordingly, the group recommends that the Reserve Bank may consider allowing FIIs to take trading positions in IRF based on overnight rate (call-money rate) in a calibrated fashion, i.e., in terms of timing, entry norms, limits, etc. The position limits for FIIs, linked to

the net open interest in the contract, may be capped at a level lower than that applicable for domestic players and may be progressively calibrated higher.

5.15 (e) Further, it was felt that, cash-settled 10-year futures contract can address the fear of the participants ending up with an illiquid CTD bond in the delivery based 10-year IRF. However, there are apprehension/concerns that the cash-settled 10-year futures may adversely impact the price discovery process of the 10-year G-Sec, which may have a signalling effect on the entire G-Sec market thereby affecting the primary issuance program. A few members of the group expressed their apprehensions about the possible impact of the 10-year cash-settled IRF on the volatility in the yields in the underlying cash market, which may affect the cost of borrowing of the Gol. Hence, Reserve Bank may consider permitting cash-settled 10 year IRF subject to appropriate regulations like restricted participation, entity-based open position limit, price band, etc.

5.15 (f) Along with the efforts to introduce cash-settled 10 year IRF, Reserve Bank may also consider fine tuning the product design of the delivery-based 10-year IRF by permitting single-bond contracts, larger contract size, etc.

### **Stage 3**

5.15 (g) Popularization of the product – While exchange-traded derivatives are quite popular globally and is preferred over OTC derivatives, the same is not the case in India. While issues related to product design and market microstructure are important and being addressed by the concerned regulators, it is also important to promote awareness for the product among the participants. In this regard, stock exchanges should take the lead in simplifying futures products and explain trading and arbitrage strategies that can be implemented through futures to encourage such activity among participants. These measures though appear peripheral are important in developing a new/nascent market.

5.16 With the trade lot size in the standard market segment of NDS-OM at ₹ 5 crore, the contract size of ₹ 2 lakh in the IRF market has been a reason for the lack of interest among participants. Under the existing scenario, participants trying to execute trading or hedging strategies involving the cash market may incur a higher impact cost in the futures market. Accordingly, in order to address this issue, the group recommends that the contract size for IRF may be reviewed and set at suitable levels.

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# Chapter VI

## Summary of Recommendations

### A. G-Sec Market

1. Undertake consolidation of the G-Sec outstanding for which, a framework may be prepared for the next 3-4 years. The process should begin with the issuance of securities at various maturity points in conjunction with further steps like issuance of benchmark securities over a longer term horizon, buybacks and switches. [Para 3.15]
2. Examine ways to simplify access for investors like Trusts, Corporates etc. to the G-Sec market. Encourage long-term gilt funds through appropriate incentives (like tax-breaks, liquidity support, etc.), and suggest to other regulators like IRDA, PFRDA, EPFO etc. to review their regulations/guidelines from the perspective of facilitating a more dynamic management of the G-Secs portfolio held by the entities regulated by them. [Para 3.16]
3. Consider allocating specific securities to each PD for market making in them and if required, rotate the stock of securities among the PDs, by turn, at periodic intervals. [Para 3.17]
4. Evolve a suitable framework for assessing the performance of PDs vis-à-vis market-making (provide two-way quotes) and consider providing incentives like refinance/IDL based on these performance measures. [Para 3.17]
5. Board/ALCO of banks should be encouraged to periodically review their HTM portfolio (preferably at quarterly intervals) to assess the need, rationale and cost-benefit in maintaining G-Sec in the HTM portfolio and their preparedness for effectively dealing with the proposed transition to IFRS-9. [Para 3.18 (b)]
6. Board of banks/PDs may evolve the performance assessment framework for their investment portfolio based on an appropriate set of return parameters, like 'holding period return', total return etc. that would give a better picture of the actual performance of the portfolio across the various categories of the investment portfolio to the Board. [Para 3.18 (c)]
7. Reserve Bank to come up with a roadmap to gradually bring down the upper-limit on the HTM portfolio. While doing so, it would also be pertinent to keep in view the possible impact of reduction in the limit on HTM portfolio on the balance sheet of banks/PDs and measures aimed to address this issue should be taken to make such transition non-disruptive for all the stakeholders. [Para 3.18 (d)]
8. Investment limit for FIIs in G-Sec may be increased in gradual steps. The increase in the investment limit can be reviewed on a yearly basis keeping in

view the country's overall external debt position, current account deficit, size of Gol borrowing program, etc. [Para 3.19]

9. The issue of withholding tax for FIIs needs to be reviewed comprehensively by the Gol. [Para 3.20 (a)]
10. The extant SEBI guidelines requiring FIIs to surrender their limits in debt securities (including G-Sec), on sale or maturity of the same need to be reviewed. [Para 3.20 (b)]
11. Reserve Bank, in consultation with SEBI may consider amending the related guidelines/notification prescribing transactions of FIIs in G-Sec only through exchange brokers. Consequently, consider building capability in NDS-OM/CCIL in the form of suitable reports to be submitted for FII reporting requirements to SEBI [Para 3.20 (c) & (d)]
12. Review the time-window for bidding in the primary auction with an aim to truncate the same. [Para 3.21 (a)]
13. Consider truncating the time gap between the dissemination of the results of the primary auctions on the newswires and the auction system. [Para 3.21 (b)]
14. Primary auctions in G-Sec may be conducted as a mix of both uniform-price and multiple-price formats. [Para 3.21 (c)]
15. Consider reviewing the shut-period for G-Sec and removing the same for G-Sec in SGL form. [Para 3.21 (d)]
16. Provide a suitable solution to ensure that the benefit of DvP-III is available to the gilt account holders for transactions involving the gilt account holder and his custodian and between two gilt account holders of the same custodian. [Para 3.21 (e)]
17. Consider putting in place a suitable IT-based solution for overcoming the operational problem of continuing with the current 'Interim SGL account' structure such that securities and funds follow the DvP principle. [Para 3.21 (f)]
18. Consider an appropriate technological solution, such that short sale transactions could be undertaken in the OTC market. [Para 3.21 (g)]
19. Consider migration of secondary market reporting of OTC trades in G-Sec (outright and Repo) from PDO-NDS to NDS-OM and CROMS respectively. Alternatively, a mechanism for online/immediate flow of trade from PDO-NDS to CCIL as and when a trade is concluded on the PDO-NDS may be considered. [Para 3.21 (h)]
20. Consider reissuance/fungibility of T-Bills/CMBs (with identical maturity dates) in the trading and settlement systems. [Para 3.21 (i)]
21. Consider changing the settlement cycle of the primary auction in T-Bills to T+1. [Para 3.21 (j)]

22. State Governments may consider reissuances of existing securities to increase the outstanding stock of these securities, subject to acceptable rollover risk and redemption pressure. [Para 3.21 (k)]
23. Consider linking the applicable spread for valuing unquoted SDLs on the weighted average of the spreads emerging in the last few auctions. In this regard, a suitable framework may be developed for valuation of SDL securities, which may be reviewed periodically. [Para 3.21 (l)]
24. STRIPS may be made tradable on the NDS-OM. [Para 3.21 (m)]
25. Consider narrowing the settlement window for primary auctions and secondary market transactions (outright and repo). [Para 3.21 (n)]
26. The restrictions on selling/repo of securities acquired under market repo may be reviewed with a view to promote the term-repo market with suitable restrictions on 'leverage'. [Para 3.22]
27. Consider introducing an appropriate tripartite repo in G-Sec. [Para 3.23]
28. Review the extant Reserve Bank guidelines on repo in G-Sec, especially the various restrictions applicable on such transactions. [Para 3.24]

## **B. Retail Participation**

29. Examine utilizing the services of banks (and Post Offices if possible at a later stage and in consultation with GoI) as a distribution channel and nodal point for interface with individual investors. [Para 4.13]
30. Make efforts to put in place a suitable mechanism for market-making by PDs in the odd-lot segment of NDS-OM. If needed, Reserve Bank may consider buying the illiquid securities from the PDs after expiry of a specified holding period through OMOs, switches, etc. [Para 4.14]
31. Examine the possibility of having a centralized market maker for retail participants in G-Sec in the long-term who would quote two-way prices of G-Sec for retail/individual investors. [Para 4.15]
32. Reserve Bank may consider prescribing uniform charges for opening and maintaining of gilt accounts and for putting through each transaction. As an additional measure to ease the burden of transaction cost on individual investors, Reserve Bank may, in consultation with CCIL, consider waiving off the settlement charges for all retail transactions (i.e., transactions whose face value is capped at a certain amount) that are put through either NDS or NDS-OM. [Para 4.16]
33. Simplify operational procedures for seamless movement of securities from SGL form to demat form and vice versa. [Para 4.17 (a)]

34. Permit banks and PDs to obtain limited membership of stock exchanges for undertaking proprietary trades in G-Sec on the exchanges. [Para 4.17 (b)]
35. GoI may consider issuing inflation-indexed bonds specifically for retail/individual investors. In this regard, creating alternate channels of distribution (E-Distribution Channels) could be explored. [Para 4.18]

### **C. Interest Rate Derivatives Market**

36. Consider an electronic swap execution facility (electronic trading platform) for the IRS market, and consider introducing a CCP who may provide guaranteed settlement of trades executed through the electronic platform. [Para 5.10]
37. Standardize IRS contracts to facilitate centralized clearing and settlement of these contracts. [Para 5.11]
38. Insurance companies, PFs and other financially sound entities may be permitted to participate in IRS market. [Para 5.12]
39. Consider developing INBMK swap market, and, evolve a standard benchmark (FIMMDA determined) on which INBMK swaps can be based. [Para 5.13]
40. The Reserve Bank guideline on risk limits for derivatives exposures, for banks/PDs should be reviewed periodically. [Para 5.14]
41. Efforts may be made to enhance liquidity in the basket of securities underlying the 2-yr, 5-yr and 10-yr IRF contracts. [Para 5.15 (b)]
42. Consider introducing futures contracts that have high probability of attracting participant interest subject to regulatory approval. To begin with, IRF based on overnight call borrowing rate can be considered. [Para 5.15 (c)]
43. Consider allowing FIIs to take trading positions in IRF based on overnight rate (call-money) in a calibrated fashion. [Para 5.15 (d)]
44. Consider permitting cash-settled 10 year IRF subject to appropriate regulations like restricted participation, entity-based open position limit, price band, etc. [Para 5.15 (e)]
45. Consider fine tuning the product design of the delivery-based 10-yr IRF by permitting single-bond contracts, larger contract size, etc. [Para 5.15 (f)]
46. Stock exchanges may take the lead in simplifying futures products and explain trading and arbitrage strategies that can be implemented through futures to encourage such activity among participants. [Para 5.15 (g)]
47. The contract size for IRF may be reviewed and set at suitable levels. [Para 5.16]



## D. Categorization of Recommendations

<b>G-Sec Market</b>	
<b>Essential Recommendations</b>	<ul style="list-style-type: none"> <li>• Consolidation of the G-Sec outstanding [Para 3.15]</li> <li>• Market-making in specific securities by PDs [Para 3.17]</li> <li>• Framework for assessing the performance of PDs vis-à-vis market-making [Para 3.17]</li> <li>• Board/ALCO of banks to periodically review their HTM portfolio to assess the need, rationale, etc. in the context of migration to IFRS-9 [Para 3.18 (b)]</li> <li>• Increase in the investment limit for FIIs in G-Sec [Para 3.19]</li> <li>• Review of the restrictions on selling/repo of securities acquired under market repo [Para 3.22]</li> </ul>
<b>Desirable Recommendations</b>	<ul style="list-style-type: none"> <li>• Simplify access for investors like Trusts, Corporates etc; encourage long-term gilt funds and suggest to other regulators to review their regulations/guidelines from the perspective of facilitating a more dynamic management of the G-Secs portfolio held by the entities regulated by them [Para 3.16]</li> <li>• Board of banks/PDs to evolve the performance assessment framework based on an appropriate set of return parameters, like 'holding period return', total return etc. [Para 3.18 (c)]</li> <li>• Reserve Bank to come up with a roadmap to gradually bring down the upper-limit on the HTM portfolio.[Para 3.18 (d)]</li> <li>• Review of the issue of withholding tax for FIIs [Para 3.20 (a)]</li> <li>• Review of SEBI guidelines requiring FIIs to surrender their limits in debt securities (including G-Sec), on sale or maturity of the same [Para 3.20 (b)]</li> <li>• Amendment of the guidelines/notification prescribing transactions of FIIs in G-Sec only through exchange brokers [Para 3.20 (c)]</li> <li>• Build capability in NDS-OM/CCIL in the form of suitable reports to be submitted for FII reporting requirements to SEBI [Para 3.20 (d)]</li> <li>• Truncating the time gap between the dissemination of the results of the primary auctions on the newswires and the auction system. [Para 3.21 (b)]</li> <li>• Primary auctions in G-Sec to be conducted as a mix of both uniform-price and multiple-price formats. [Para 3.21 (c)]</li> <li>• Reissuance/fungibility of T-Bills/CMBs [Para 3.21 (i)]</li> <li>• Reissuances of SDLs [Para 3.21 (k)]</li> <li>• Review of the valuation mechanism for unquoted SDLs [Para 3.21 (l)]</li> <li>• Narrow the settlement window for primary auctions and secondary market transactions [Para 3.21 (n)]</li> <li>• Introduction of tripartite repo in G-Sec. [Para 3.23]</li> <li>• Review of repo guidelines [Para 3.24]</li> </ul>

<b>G-Sec Market</b>	
<b>Operational Recommendations</b>	<ul style="list-style-type: none"> <li>• Review the time-window for bidding in the primary auction [Para 3.21 (a)]</li> <li>• Review of the shut-period for G-Sec and removing the same for G-Sec in SGL form. [Para 3.21 (d)]</li> <li>• Extend the benefit of DvP-III to the gilt account holders for transactions involving the gilt account holder and his custodian and between two gilt account holders of the same custodian [Para 3.21 (e)]</li> <li>• Provide an IT-based solution for managing the 'Interim SGL account' structure such that securities and funds follow the DvP principle. [Para 3.21 (f)]</li> <li>• Short sale transactions to be permitted in the OTC market. [Para 3.21 (g)]</li> <li>• Migrate secondary market reporting of OTC trades in G-Sec (outright and Repo) from PDO-NDS to NDS-OM and CROMS respectively. Alternatively, a mechanism for online/immediate flow of trade from PDO-NDS to CCIL as and when a trade is concluded on the PDO-NDS may be considered. [Para 3.21 (h)]</li> <li>• Change the settlement cycle of the primary auction in T-Bills to T+1. [Para 3.21 (j)]</li> <li>• STRIPS to be made tradable on the NDS-OM. [Para 3.21 (m)]</li> </ul>

<b>Retail Participation</b>	
<b>Essential Recommendations</b>	<ul style="list-style-type: none"> <li>• Banks and Post Offices as distribution channels [Para 4.13]</li> <li>• Market-making by PDs in the odd-lot segment of NDS-OM [Para 4.14]</li> <li>• GoI to issue inflation-indexed bonds specifically for retail/individual investors [Para 4.18]</li> </ul>
<b>Desirable Recommendations</b>	<ul style="list-style-type: none"> <li>• Have a centralized market maker for retail participants in G-Sec in the long-term [Para 4.15]</li> <li>• Uniform charges for opening and maintaining of gilt accounts and for putting through each transaction; waiving off the settlement charges for all retail transactions [Para 4.16]</li> <li>• Banks and PDs to obtain limited membership of stock exchanges Para 4.17 (b)]</li> </ul>
<b>Operational Recommendations</b>	<ul style="list-style-type: none"> <li>• Enable seamless movement of securities from SGL form to demat form and vice versa. [Para 4.17 (a)]</li> </ul>

<b>Interest Rate Derivatives Market</b>	
<b>Essential Recommendations</b>	<ul style="list-style-type: none"> <li>• Electronic swap execution facility (electronic trading platform) for the IRS market [Para 5.10]</li> <li>• Enhance liquidity in the basket of securities underlying the 2-yr, 5-yr and 10-yr IRF contracts. [Para 5.15 (b)]</li> <li>• Introduce IRF based on overnight call borrowing rate [Para 5.15 (c)]</li> <li>• Fine tune the product design of the delivery-based 10-yr IRF by permitting single-bond contracts, larger</li> </ul>

<b>Interest Rate Derivatives Market</b>	
	contract size, etc. [Para 5.15 (f)]
<b>Desirable Recommendations</b>	<ul style="list-style-type: none"> <li>• Standardize IRS contracts [Para 5.11]</li> <li>• Insurance companies, PFs and other financially sound entities may be permitted to participate in IRS market [Para 5.12]</li> <li>• Develop INBMK swap market; evolve a standard benchmark [Para 5.13]</li> <li>• Review of risk limits for derivatives exposures [Para 5.14]</li> <li>• FIIs to be permitted to take trading positions in IRF based on overnight rate (call-money) [Para 5.15 (d)]</li> <li>• Permit cash-settled 10 year IRF [Para 5.15 (e)]</li> <li>• Stock exchanges to educate investors on IRF to encourage activity among participants. [Para 5.15 (g)]</li> <li>• Review of the contract size for IRF [Para 5.16]</li> </ul>
<b>Operational Recommendations</b>	--

Note:

1. The paragraphs, as indicated in the Summary of Recommendations, have been categorized under three categories, i.e., Essential, Desirable and operational.
2. Essential recommendations are those that address major bottlenecks and can make a significant impact in promoting liquidity. Implementation of these recommendations generally involves major policy changes.
3. Desirable recommendations are those that generally are forward-looking and aim at chartering new path/areas. Incremental gains, in terms of improving liquidity, by implementing these recommendations are not expected to be significant.
4. Operational recommendations are those that address existing operational constraints and do not involve major policy changes.

\* \* \*

**Members of the Working Group on Enhancing Liquidity in the G-Sec and Interest Rate Derivatives Market**

<b>Sl. No.</b>	<b>Name</b>	<b>Designation</b>
1	Shri R. Gandhi Executive Director, Reserve Bank of India, Mumbai	Chairman
2	Prof. Sankar De Clinical Professor and Executive Director, Centre for Analytical Finance, Indian School of Business, Hyderabad	Member
3	Shri K Venugopal Chief General Manager, Global Markets, State Bank of India, Mumbai	Member
4	Shri Ajay Marwaha Executive Vice President & Head – Trading, HDFC Bank, Mumbai	Member
5	Shri Soumyo Dutta Managing Director & Head FX and Local Markets, Citibank, Mumbai	Member
6	Shri C.E.S. Azariah Chief Executive Officer, FIMMDA, Mumbai	Member
7	Shri Pradeep Madhav Chairman, PDAI, Mumbai	Member
8	Shri Ravi Rajan Executive Vice President, CCIL, Mumbai	Member
9	Shri Deepak Singhal Chief General Manager-in-charge, Reserve Bank of India, Department of Banking Operations and Development, Mumbai	Member
10	Shri G. Mahalingam Chief General Manager, Reserve Bank of India, Financial Markets Department, Mumbai	Member
11	Shri Michael D. Patra* Adviser in-charge, Reserve Bank of India, Monetary Policy Department, Mumbai	Member
12	Shri R. N. Kar Chief General Manager, Reserve Bank of India, Foreign Exchange Department, Mumbai	Member
13	Shri K. K. Vohra Chief General Manager Reserve Bank of India, Internal Debt Management Department, Mumbai	Member Secretary

- Dr. Janak Raj was the member of the Group upto July 31, 2012. Thereafter Shri Michael D. Patra joined the Group.

## **Terms of Reference of the Working Group**

- A. Analyse the evolution of the market for G-Sec and Interest rate derivatives;
- B. Study the determining and influencing factors on liquidity of G-Sec and Interest rate derivatives from the perspective of Primary Market, Secondary Market, Interest Rate Derivatives Market and any other factors;
- C. Examine the factors enabling and inhibiting the secondary market liquidity in the G-Sec market, especially across the sovereign yield curve, and suggest ways to strengthen/address them;
- D. Examine the factors enabling and inhibiting the growth of the Interest Rate Derivatives market and suggest ways to strengthen/address them;
- E. Suggest measures for promoting retail participation in G-Sec market;
- F. Examine related issues.

\* \* \*

**Institutions / Experts consulted by the Working Group**

1. Securities Exchange Board of India (SEBI)
2. Centre for Advanced Financial Research and Learning (CAFRAL)
3. Association of MFs in India (AMFI)
4. Life Insurance Council, Mumbai
5. National Federation of Cooperative Banks (NAFCOB)
6. Smt. Shyamala Gopinath, Ex-DG, RBI
7. Shri Arun Kaul, CMD, UCO Bank
8. Shri Srinivasan Varadarajan, ED, Axis Bank
9. Prof. Prakash G Apte, IIMB
10. Shri T. Rabi Sankar, Director, Government of India (Middle Office)
11. Shri V Srikanth, Joint CFO, Reliance Industries Ltd.
12. Shri Arjun Parthasarathy (Columnist)

\* \* \*

**Consultation with experts/institutions - Questionnaire**

**G-Sec Market**

1. What, in your opinion, are the reliable quantitative indicators/measures of 'market liquidity' in India?
2. What, in your opinion, are the qualitative indicators of 'market liquidity' in India?
3. What according to you are the significant enabling and inhibiting factors that affect liquidity in the Indian G-Sec market (both primary as well as secondary market)?
4. How to broaden the investor-class in the G-Sec market? Who, according to you, are the potential investors in the G-Sec market and what would be their investment preference (instrument, tenor/duration, etc.)?
5. How do you assess the existing market infrastructure available for G-Sec transactions? What improvement/alternative do you suggest?
6. Who according to you are the 'retail' investors in the G-Sec market? What is the existing as well as expected role of retail investors in the G-Sec market? What are the ways to encourage retail participation in this market?

**Interest Rate Derivatives Market**

7. What according to you are the significant enabling and inhibiting factors that affect liquidity in the Indian Interest Rate Derivatives market?
8. What, according to you, is the role and relevance of the interest rate derivatives market in the Indian context?
9. In this context, what are the additional measures / products that are required to be taken / introduced to further broaden / deepen the market?

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**Sovereign Debt Market<sup>#</sup>**  
**- Summary of liquidity indicators in select countries**

	Indonesia	Korea	Malaysia	Brazil*	Mexico*
Outstanding amount (USD billion)	95.5	501.2	158.4	548.1	140.9
Bid-ask spread (on the run securities) bps	32.9	0.7	3.3	5.0	3-5
Bid-ask spread (off the run securities) bps	61.9	1.1	5.9	NA	NA
Transaction size (On the run securities) USD million	2.0	8.9	3.7	5.86 - 29.28	3.90 - 7.79
Transaction size (Off the run securities) USD million	1.1	9.8	2.6		NA
Quarterly Trading volume (USD billion)	26.4	552.5	97.9	433.0	696.7
Turnover ratio	0.3	1.1	0.6	0.8	4.9
Maturity Profile:					
Up to 3 Yr	16.3	46.0	30.1	65.8	
Between 3 and 5 Yr	13.6	21.5	20.9	20.0	
Between 5 and 10 Yr	28.3	18.9	35.7	\$17.2	
Beyond 10 Yr	41.8	13.6	13.3		
(as % of total outstanding)					
Source: 2011 Asian Bonds Online Survey Bond Market Liquidity Survey. [Based on Sept 2011 data]					
# Sovereign bonds include bonds issued by central government, local governments, central bank and state-owned enterprises;					
* Based on study report of Jeanneau and Tovar (2006);					
\$ includes all bonds with maturities greater than 5 years;					



## G-Sec Market in select countries

### Indonesia

Government of Indonesia offers debt securities in the form of promissory notes (zero-coupon perpetual obligations of the Government to Bank of Indonesia and are not traded in the market) issued to Bank Indonesia, hedge bonds (non-tradable bonds issued to banks to hedge their net open positions), fixed-rate bonds and variable-rate bonds. A repurchase market for government bonds was established in 2004. Total outstanding amount of G-Sec (domestic debt) has increased from USD 67.01 billion in 2005 to USD 110.37 billion in 2010 and USD 135.96 billion as on February 16, 2012. Trading volume in G-Sec has increased from USD 8.46 billion in March 2005 to USD 26.4 billion in December 2011. The average reported “on-the run” bid–ask spread for the Government benchmark bond (typically a treasury bond) in Indonesia was 32.9 bps, which was highest in the ASEAN countries. The average “off the run” spread stood at 61.9 bps, again one of the highest in ASEAN countries. The average transaction size of “on-the-run” and “off-the run” G-Sec were USD 2 million and USD 1.1 million respectively. Although the trading volume has increased manifold over the years in Indonesia, the turnover ratio still remains below 0.5.

2. Major investors are banks as given in the table below:

<b>Domestic Government Securities Ownership (%)</b>	
Banks	34.46
Bank of Indonesia	2.39
Mutual Funds	7.86
Insurance Companies	12.82
Foreign Investors <sup>19</sup>	30.00
Pension Funds	5.74
Securities Houses	0.04
Others <sup>20</sup>	6.69

3. Indonesia has a Capital Market and Financial Institution Supervisory Board (BAPEPAM-LK) which operates on a 5-year capital market plan. The most recent plan (2010–2014) outlines specific development strategies for various market participants and a general strategy for the capital market including Government securities market.

<sup>19</sup> Foreign holders include banks, financial institution, etc.

<sup>20</sup> Others include individuals, corporates, foundations, etc.

## Republic of Korea

Government bonds are classified into three categories: (i) central government bonds; (ii) central bank bonds; and (iii) finance debentures. Treasury offering and foreign exchange stabilization bonds issued by the Ministry of Strategy and Finance (MOSF) are considered as Central government bonds. Korean Treasury Bonds (KTBs) are issued with maturities of 1, 3, 5, 10, and 20 years. Three-year and five-year tenors KTBs are most liquid.

2. The Bank of Korea (BOK) issues monetary stabilization bonds (central bank bonds) to help absorb liquidity in support of its monetary policy. These bonds are issued at discount and range from 14 days to 2 years. Finance debentures are issued by the Korea Development Bank (KDB) and other financial institutions.

3. PDs are given preferential bidding opportunity in issuance market of government bonds, bidding on behalf of non-competition bidding participants, take-over of government bonds and financial circulation support. PDs act as market maker in the G-sec market and take more than 5% of total government bonds issued.

4. Major investors in G-Sec market include the Government [comprising central government, local government, and social security funds] (24%), Contractual Savings Institutions (23%), banks (18%), Foreign Investors (11%) and Individual Investors (5%) and Central Bank (3%).

5. The bid–ask spread<sup>21</sup> for on-the-run KTBs in 2011 was 0.7 bps and 1.1 bps for off-the-run KTBs. The average trading sizes for on-the-run and off-the-run KTBs in 2011 stood at USD 8.87 million and USD 9.80 million, respectively. As at end of December 2011, the Government bond outstanding stood at USD 501 billion. In the FY 2011, the quarterly turnover ratio ranged between 0.97 and 1.3. As per maturity profile, majority of outstanding securities are in range 1-3 Years (46%) followed by securities in 3-5 Years (21.48%).

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<sup>21</sup> Bid–ask spreads represent the difference between the highest price that a buyer is willing to pay for a security (bid) and the lowest price at which a seller is willing to sell (ask).

## **Brazil**

Government bonds are issued in the domestic market through auctions, public offerings to individuals (Tesouro Direto), and direct issuances for specific reasons. In order to further develop the secondary debt market and provide debt market players with increased liquidity, the National Treasury in Brazil has introduced a new PD system. Two groups of PDs were created as compared with just one previously. The two groups are (i) PDs – a group focusing on primary auctions and money-market operations, comprising up to 9 institutions; and (ii) Specialist Dealers – group of up to 11 institutions that focus on the secondary market. Distinct rules have been prescribed for these two groups with higher weight for participating in National Treasury public auctions for primary dealership, while specialist dealers must trade large amounts of debt in the secondary market. The introduction of specialist dealers encouraged secondary market trading leading to more liquidity in the system.

2. The National Treasury in Brazil has taken measures to ensure smooth operation of auctions of G-Sec with strategy of building benchmarks along the maturity structure by concentrating maturities on well defined dates and giving very specific attention to the volume and liquidity associated to each maturity.

3. Maturity profile of federal public debt as on December 2010 indicates that the maximum outstanding amount (23.9%) was in maturity upto 1 year, followed by 20% in 1-2 year bracket. Only 17.2% of total federal public debt was outstanding for more than 5 Years. To reduce the refinance risk, one of the objectives of public debt management policy was to increase the average maturity profile of outstanding securities.

4. For the FY 2010, banks (37.7%), mutual funds (30.2%), pension funds (14.4%), non-residents (11.6%), and insurance companies (3.8%) were major investors in domestic public debt. Individual investors constituted only 2.4% of total outstanding.

5. Bid-ask spreads [Jeanneau and Tovar (2006)] for the fixed rate government bond market is not particularly tight and the same stood at about 5 basis points. Turnover ratio [Jeanneau and Tovar (2006)] in the Brazilian government bond market stood at 0.79 times the outstanding stock of securities.

## **Australia**

The Australian Office of Financial Management (AOFM) issues Government debt securities to the public in the form of Treasury Bonds (medium to long-term debt securities that carry an annual rate of interest fixed over the life of the security), Treasury Indexed Bonds (medium to long-term securities for which the capital value of the security is adjusted for movements in the Consumer Price Index) and Treasury Notes [short-term debt security issued to assist with the Australian Government's short-term (i.e., within one year) financing task].

2. Liquidity in Government market improved in 2010-11. While the Treasury Bond turnover increased by 27 per cent during the year compared to 2009-10, the turnover of treasury indexed bonds increased by 21 per cent during the same period.

3. Net outstanding of Treasury Bonds (as on June, 2011) stood at \$3 billion and that of treasury indexed bond at \$4.7 billion. The bulk of issuance of treasury bonds during the year was in certain existing bond lines in order to enhance their liquidity and attractiveness. During 2010-11, the treasury had aligned the maturity dates for Treasury Bonds with these revenue collection dates to facilitate the financing of Treasury Bond maturities.

4. The AOFM's securities lending facility allows market participants to borrow Treasury Bonds and Treasury Indexed Bonds for short periods when they are not otherwise available. This enhances the efficiency of the market by improving the capacity of intermediaries to make two-way prices. More settled market conditions resulted in less use of the securities lending facility in 2010-11 compared with the previous year. The facility was used 47 times for overnight borrowing in 2010-11 compared with 60 instances of use in 2009-10. The face value amount lent was around \$1.3 billion compared to \$2.4 billion in 2009-10.

5. For the FY 2011-12, the Government of Australia had planned to maintain liquidity in the Government securities market to support the three and ten year bond futures market. In addition, the Government had planned to continue its support of liquidity in the Treasury Indexed Bond market by maintaining around 10 to 15 per cent of the total securities market in indexed securities.

## **France**

The composition of government debt consists of three categories of standardized government securities: Obligations assimilables du Trésor (OATs, long-term fixed rate debt instruments with maturities from seven to fifty years), Bons du Trésor à intérêts annuels (BTANs, fixed-rate medium-term Treasury notes with maturity of either two or five years) and Bons du Trésor à taux fixe et à intérêts précomptés (BTFs or negotiable fixed-rate discount Treasury bills used to cover short-term fluctuations in the government's cash position). Agence France Trésor (AFT) is tasked with managing the government debt in France.

2. As on December 31, 2011, the negotiable debt outstanding (Government securities) was EUR 1312.98 billion with average maturity of 7 years and 57 days. As at end of second quarter of 2011, non-resident investors held 57%, French insurance companies held 22%, French credit institutions 14%, French money funds 2% and other including retail customers held around 5% of total outstanding of Government securities.

3. With an objective to smoothen the cost of issuance and to provide value and liquidity to off-the-run securities, AFT conducts regular buyback and reverse auctions which makes the French yield curve one of the most regular, if not the most regular, in the Eurozone.

4. During 2011, the daily monthly average volume in G-Sec had varied between EUR 169.17 billion and EUR 213.59 billion. During the same period, number of daily monthly trades had varied from 5947 in February 2011 to 7326 trades in November 2011.

**Retail participation in G-Sec in select countries**

**Indonesia**

- Only Auction Participants (designated by the Ministry of Finance) are allowed to submit bids at auction. Retail investors who want to participate can submit bids through any Auction Participant.
- Retail investors should contact the designated Auction Participants in submitting bids. Application is according to the established procedure of each Auction Participant. Auction Participants normally place bids via Bank Indonesia's Automatic Bidding System (ABS), Reuters Monitoring Dealing System, or other facility with the applicable system announced prior to auction by Bank Indonesia.
- Retail investors are required to open a securities and demand deposit account with Banks or Sub-Registries. Retail investors who bid through money market brokers or securities companies should open an account with any bank for fund settlement.
- A Sub-Registry can be a bank or other custodian institution, appointed by Bank Indonesia, to register securities ownership for client accounts.
- Special bonds called Obligasi Ritel Indonesia (ORIs) are issued by the Government especially for retail investors. These bonds carry higher yields compared to other fixed income options including time deposits and provide monthly coupon payments. These bonds are issued in denomination of Rp 5 million and thus are affordable by retail investors. These bonds can be purchased by only retail investors in the primary market but they can be traded in the secondary market by both retail as well as institutional investors.

**South Korea**

- Investors must apply for an investment registration certificate (IRC), issued by the Financial Supervisory Board.
- Investors need to designate a foreign exchange bank, custodian bank, and hold a standing proxy agreement with a securities firm.
- They then open KRW or foreign currency accounts at their banks for custody and safekeeping. For securities transaction accounts, investors

need to open an account with a securities firm. Fund remittance is transacted through designated correspondent banks.

- With this registration and account structure in place, an investor may buy or sell directly by phone, fax, or telex through securities firms. Investors may also apply through Internet via E\*Trade Korea.
- Interest payments and final settlement are made through fund transfers from the Bank of Korea to the customer's bank accounts and securities firms using the BOK-Wire system.
- The Government in Korea has introduced fungible issue system leading to enhancement of liquidity of bonds by increasing the size of each issue. The STRIPS introduction also helped to considerably increase liquidity. Further, in October 2002, PDs have been mandated to trade benchmark issues of government bonds through the exchange with initial mandatory requirement of 20% which was gradually increased to 40%. Such a mandatory exchange trading requirement helped improve liquidity for secondary markets resulting in increased liquidity for retail investors who could offload their bonds on the exchange.

## **Brazil**

- The *Treasury Direct program*, which allows the purchase of government securities by individuals from the Internet, was implemented by the National Treasury together with the Brazilian Company for Settlement and Custody (CBLC) on January 7, 2002 with the following goals:
  - democratizing access to investments in government securities;
  - encouraging the formation of long-term savings; and
  - facilitating access to information on the administration and structure of the Brazilian Federal Public Debt.
- Minimum investment is \$100.
- Internet based platform for participation by Individuals.
- Security accounts of the individuals are maintained with the authorized banks or brokers with whom the individuals need to register first. In US system, the security accounts are maintained by the Treasury itself.
- Individuals can purchase and sell securities either directly on the website or route their orders through their agent bank/ broker.

## **France**

- Working in partnership with Euronext and PD banks (Spécialistes en Valeur du Trésor or SVT), Agency France Trésor (AFT) has set up a full-fledged secondary market enabling retail investors to purchase and sell OATs as easily as professionals. In 2005, the secondary market for OATs aimed at retail investors was modernised to enable them to carry out all purchase and sale transactions, on each Stock Exchange trading day, on a wide range of OATs listed on Euronext.
- PD banks (SVT) undertake to continuously display a price spread and to act as market-makers for any orders placed. They make the market and contribute liquidity. This organisation system offers investors who purchase OATs the liquidity they are entitled to expect and regular information on prices.
- Retail investors can place orders with the financial intermediaries operating as partners of AFT. They can also be placed via on-line brokers.

## **USA**

- The US Treasury has provided an elaborate and comprehensive infrastructure especially available only to individuals in the form of 'Treasury Direct' system for participation in primary auctions.
- Launched in 2002, Treasury Direct initially offered electronic savings bonds and was later expanded to include marketable Treasury securities for individuals. It currently has more than 270,000 accounts and holds over \$8 billion worth of stock.
- In this system, individuals can directly open securities accounts with the US Treasury while the funds accounts are maintained with any of the banks.
- Members can schedule their purchases in the system as far as five years ahead based on the auction calendar.
- Purchases of marketable issues in Treasury Direct are allowed on a non-competitive basis in increments of \$100. Purchasers receive their securities at the same price and yield awarded to competitive bidders in the auctions.

## **Spain**



- A service called 'Direct Accounts' ("Cuentas Directas") was created by the Bank of Spain and the Treasury in order to make investment in Treasury Securities easier for individuals.
- Any investor resident in Spain, be it a private individual or firm, may open a Direct Account at the Bank of Spain. There is no minimum investment required to have access to Direct Accounts. It is sufficient to acquire security (one Obligación or Bono del Estado or a Letra del Tesoro) for an investment of around €1,000.
- A guarantee deposit of 2% of the face value for purchase needs to be deposited by the investors for participation in primary auction. Deposit gets adjusted towards the settlement of purchases. Deposit is forgone in case of settlement failure and returned in case of non-allotment of securities.
- Only for primary market participation.
- Sale of securities at market value back to the Treasury is allowed.
- Transfer of securities to outside accounts is allowed.

## **UK**

- The 'DMO' has constituted a 'Gilt Purchase and Sale Service' which is completely outsourced to an investment agency called 'Computershare Investor Services PLC'.
- This service is not specific to 'primary market'. Mostly the securities are purchased in the secondary market by the Computershare.
- The system is not internet based. There is an elaborate procedure for becoming a member at Computershare and orders for purchase/ sale are done through post.
- The retail market for UK gilts is shallow.

## **Malaysia**

- All government debt securities (Bank Negara Bills, Malaysian Treasury Bills, Government Investment Issues and Malaysian Government Securities) are offered to Principal Dealers (PDs) via competitive auction. For Government Investment Issues (GIIs), competitive bids are submitted by Islamic banks and PDs with Skim Perbankan Islam (SPI) operations.
- PDs are invited by Bank Negara Malaysia to submit bids directly to Fully Automated System for Tendering (FAST). PDs are financial institutions

appointed by Bank Negara Malaysia to deal in specified instruments as principals and/or agents. They are obligated to participate in the primary tender of securities for a minimum of 10% of the issue. The tenders can be for their own account or on behalf of clients.

- Investors can apply to dealers to bid on their behalf. Interested investors place orders for Government securities through Bank Negara Malaysia-appointed Principal Dealers (PDs), who charge varying fees for their services. PDs normally require investors to maintain a cash account and a securities account for settlement of bond trades.
- Bids submitted must be in amounts that are multiples of MYR1 million.
- There are no online forms investors can use to directly buy government bonds. For primary issues, forms, and other requirements, the Fully Automated System for Tendering (FAST) is used.

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### Model Plan on Consolidation of Government of India Dated Securities

The consolidation of G-Sec, which generally is undertaken to reduce the fragmentation, improve the liquidity in G-Sec market, and lower rollover risk, could be ushered in through active and passive channels. The liquidity in G-Sec market is essential as investors, dealers, and other market participants value liquidity that enables them to convert assets in large size and on narrow bid-ask spreads without much impacting the market prices. Active consolidation entails buyback of the existing illiquid securities, which may or may not be followed by issuing liquid securities of equal amount, while passive consolidation involves issuing few new securities and reissuing them repetitively until they reach a pre-decided upper cap keeping in view the repayment capacity of the Government on a particular day and during the year. However, with active consolidation in place, passive consolidation could be undertaken on a larger scale as fixing of upper limit for a security would not be required or this limit could be fixed at much higher level and rollover risk could be addressed through buyback/switches. In this regard, it is desirable to have a buyback calendar (say on a quarterly or half yearly basis).

#### Market Structure

2. The G-Sec market in India continues to be fragmented with large number of securities having small size and illiquidity. As on Feb 24, 2012, there are 92 Govt dated securities with a total outstanding of ₹25,69,328 crore (excluding special securities of ₹2,05,160 crore). It could be seen in the Table below that there are 53 securities, each security having outstanding below ₹ 20,000 crore and all securities together having outstanding of ₹ 4,81,376 crore.

<b>Profile of Government of India Dated Securities (Excluding special securities)</b> (As on February 24, 2012)					
Sl. No.	Outstanding (₹ cr.)	No. of Securities	Coupon Range (%)	Outstanding Total (₹ cr.)	Outstanding Average (₹ cr.)
1	0 - 5,000	12	6.72 - 10.79	26,788	2,232
2	5,000 - 10,000	15	5.32 - 11.60	1,01,430	6,762
3	10,000 - 20,000	26	5.69 - 12.40	3,53,158	13,583
4	20,000 - 50,000	15	6.49 - 10.25	5,92,466	39,499
5	Above 50,000	15	6.05 - 8.30	14,95,487	62,312

3. Furthermore, out of total 92 G-Sec, only about 10 securities are traded regularly in the secondary market. The turnover ratio has remained almost stagnant (it was 113% in 2005 and 123% in 2011). This shows that Indian G-sec market is fragmented and quite illiquid.

### **Proposal**

4. Against the above backdrop, the WG recommends that active consolidation of Government securities may be undertaken to improve liquidity in G-Sec market, reduce cost of borrowing, and contain rollover risk, etc. The group feels that an action plan may be drawn for active consolidation aiming at bringing down the number of Gol dated securities to below 50 over the next five years. To begin with, 30 illiquid securities with outstanding stock lower than ₹ 20,000 crore may be taken up for buyback/ switching. In this regard, the Group recommends that consolidation of these securities may be undertaken into tenors of 2 yrs, 5 yrs, 7 yrs, 10 yrs, 15 yrs, 20 yrs, 25 yrs, and 30 yrs. Further, the securities may be switched to the closest maturity tenor, i.e., the maturity tenor just 3 to 5 years away from the maturity tenor of the securities selected for switching in order to avoid pricing complication.

5. Active consolidation of G-sec could be undertaken through buybacks and switches. The outright buyback of existing securities is generally undertaken when the fiscal deficit is not huge. In India, Government continues to have huge fiscal deficit and therefore, outright buyback of securities may not be easy in the near future. Further, in a falling interest rate scenario, buyback against issuance of new securities may also involve cash outgo, as the high coupon securities would command a premium and thus, some provision would have to be made in the budget for their buyback. The switches, on the other hand, are cash neutral, as holders of illiquid and low outstanding Government securities selected for switching would give bids to switch such securities in terms of other securities keeping in view the current market yields. Even, the buybacks could be made cash neutral by issuing new security equivalent to the consideration of buybacks (including price and premium/ discount). Both the above options may not have any fiscal implications from budgeting perspective as equal amount of new securities would be issued against the amount of securities bought back, except for the case when government decides not to issue a new security against the premium paid on buybacks. For issuing new securities in lieu of buyback or for conversion, the points along the yield curve (maturity buckets)

need to be identified keeping in view the development of the yield curve and rollover risk.

6. Further, passive consolidation could also be strengthened by elongating the life of on-the-run securities. In this regard, the Group recommends that 8 to 10 new securities, targeting maturity points, say, 2yrs, 5yrs, 7yrs, 10yrs, 13yrs, 15yrs, 20yrs, 25yrs, 30yrs, may be issued and the same may be reissued for a period of 1 to 2 years.

### **Possible Outcome**

7. The active consolidation undertaken through buybacks/switches of the securities would reduce the fragmentation and improve the liquidity in the G-Sec market, which is pivotal for successful completion of government market borrowing at appropriate cost. Further, the buyback/ switches of securities could also be used to manage the duration and redemption pressure. For example, there would be large redemptions from 2014-15 to 2017-18 and this pressure could be reduced through buyback or switches. Further, the active consolidation would relax the constraint of threshold upper limit of securities, enabling passive consolidation at much higher scale and elongation of the life of 'on-the-run' securities.

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