

# A Newsletter of **Finance Lab**

March, 2013

Volume 1, Issue 8

# a₹tha



Indian Institute of Management Calcutta

## Editorial

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**Prof. Ashok Banerjee**

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The Finance Minister has promised, in his budget speech, to strengthen Indian capital market regulator by making necessary amendments to the SEBI Act. The amendments will also include simplification of various rules under the present act. For example, it is mentioned that SEBI will simplify the procedures and prescribe uniform registration and other norms for entry of foreign portfolio investors. Similarly, it is suggested that SEBI will converge the different KYC norms and adopt a risk-based approach to KYC to make it easier for foreign investors to invest in India. The Finance Minister has also simplified the distinction between foreign direct investment (FDI) and foreign institutional investment (FI) following international practice. There are a few other prescriptions in the budget targeting flow of foreign capital (e.g., FI's ability to participate in the exchange traded currency derivative segment, permission to use investment in corporate bonds and Government securities as collaterals to meet their margin requirements). There are enabling provisions in the budget to develop the debt market. Banks and primary dealers will act as proprietary

trading members on the debt segment of the stock exchange. Insurance companies, provident funds and pension funds will be permitted to trade directly in the debt segment with necessary approvals. We hope that these measures will help establish a reasonably liquid secondary debt market. There is some good news for SME segment too. Small and medium enterprises, including start-up companies, will be permitted to list on the SME exchange without any obligation to make an initial public offer (IPO). There are certain tax benefits for the structured finance markets. Any Securitization trust, set up as a special purpose vehicle to securitise assets, will be exempt from income tax, except in case of distribution of income. A major provision in this year's budget has been the introduction of commodity transaction tax (CTT) in the lines of security transaction tax.

Much has been analysed and written about this year's budget. However, lot has not been written about the potential impact of CTT on volatility, liquidity and returns. It may be interesting to examine whether CTT will curb speculative trading. The lessons from the equity market in connection with the impact of the securities transaction tax may be useful. The first piece in this issue, therefore, looks at the introduction of CTT in India and points out the significance of any such tax as well as shows immediate market reaction to imposition of such tax. The second article discusses the status of Indian government securities market. The author argues that there is a need to encourage smaller co-operative banks, pension funds that are GAH (Guilt account holders) and currently participating through brokers or Primary Members to avail of the NDS-OM (anonymous trading platform for government securities) web avenue to directly manage their positions and also to reduce their transaction costs. Unfortunately, due to unavoidable reasons, the present edition does not carry any piece on credit market.

I hope you'll enjoy reading this edition. Please offer suggestions for further improvement to [ashok@iimcal.ac.in](mailto:ashok@iimcal.ac.in)

Editor

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## Commodity Transaction Tax

### Prof. Ashok Banerjee



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The Budget for fiscal 2013-14 has introduced Commodity Transaction Tax (CTT) of 0.01 per cent of the price of the trade on non-agri futures traded on the bourses. The rate is same as similar tax on equity futures. Incidentally, the rate of security transaction tax (STT) on equities is lowered to bring parity with CTT rate. Therefore, a section of the analysts feels that equity trading would become relatively cheaper and hence introduction of CTT may see trading volume shifting from commodities to equities. Another fallout could be that arbitrage profits on non-agricultural commodity futures would dry out and volume can shift to low-cost agricultural futures. Whether increased trading activity in agricultural futures would bring back the ‘ghost’ of alleged speculative behaviour leading to high food prices is anybody’s guess.

However, the Finance Minister has provided one relief- the budget mentions that ‘commodity derivatives will not be considered as a speculative transaction and CTT shall be allowed as deduction if the income from such transaction forms part of business income’. It may be mentioned that the present Finance Minister had announced CTT of 0.017 per cent while presenting the 2008-09 Budget. However that was never operationalised. Two immediate concerns on imposition of such taxes (similar apprehension was aired when the STT was announced) are that trading costs will go up and hence volume of trading will go down. Some traders opined that the CTT will affect MCX more than NCDEX as the former commodity exchange trades mostly non-agricultural commodities. It may be noted that excluding agri-futures from the CTT is not of much respite to the commodity traders as more than 85% of commodity futures trades happen on bullion, metal and energy items.

Is STT or CTT something unique in India? The answer to this question is a ‘no’. These taxes are not new. Famous economist and Nobel Laureate James Tobin had suggested a currency transaction tax way back in 1972. The very idea behind imposition of such tax is to reduce underlying volatility through lesser participation of speculators in the trade. Apart from India, countries like China, Indonesia, Italy, South Africa, South Korea, and the U.K. tax purchase and/or sale of company shares. For example, the U.K. has long charged a 0.5 percent fee (or "stamp duty") for both buying and selling stock. In January 1984, Sweden had introduced a 0.5% tax on the purchase or sale of an equity security. It may be noted that India taxes equity futures and options as well as the underlying shares. In September 2011, the European Union (EU) Commission tabled a proposal to tax a broad base of tradable financial instruments. The European Union (EU) was contemplating imposition of a financial transaction tax (FTT) to raise ‘new’ revenues and curtail speculative trading. The proposed rate of FTT is 0.01 per cent of the notional value for derivatives and 0.1 per cent of the market value for other financial instruments. The EU expects the tax to raise nearly €60bn across the region every year! The FTT in the EU region is going to be effective from 2014. The FTT proposal of EU is operationally more complex as it is based on the ‘residence principle’ whereby one of the parties to the transaction needs to be established in a member state.

Is this fear valid that such taxes would witness flight of capital from Indian bourses to bourses of other countries where no such tax exist? The ‘stamp duty’ tax in the UK raises more than \$4 billion a year as revenue, amounting to about 0.2 percent of Britain’s GDP. Still traders have not fled from London- it remains the trading capital of Europe. There is a contrary example too. Six years after the imposition of FTT in Sweden, it was observed that more than 50% of all Swedish trading moved to London. Sweden had since abolished STT. Therefore, it cannot be denied that CTT or STT in India may see flight of capital to other markets/commodities.

### Impact on Revenue

One of the reasons for introducing FTT is to enhance revenue. The following table shows the revenue (percent of GDP) from STTs in selected G20 and other countries over the past two decades. It is clear that FTTs do not contribute significantly to the revenue of the exchequer. In fact, FTTs should not be seen as an instrument to enhance revenue. It is suggested these taxes are imposed to curb speculative behaviour. However, it is extremely difficult to distinguish between liquidity trader and speculative ‘noise’ trader and hence if the rates of these taxes are high, it would severely penalize the liquidity trader and may dry up liquidity in the market. Therefore, the rate of any type of FTT should be kept low.

Table 1: Revenue (% of GDP) from STTs in selected G20 and other countries

Country	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
France	0.05	0.01	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Germany	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hong Kong	na	Na	na	Na	na	na	na	na	na	na	2.10	1.32
India	na	Na	na	Na	na	na	0.02	0.07	0.12	0.19	0.10	na
Italy	0.08	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Japan	0.18	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
South Korea	0.12	0.18	0.62	0.37	0.45	0.32	0.26	0.41	0.43	0.58	na	na
South Africa	na	Na	na	0.34	0.36	0.36	0.46	0.54	0.58	0.49	0.51	na
Switzerland	0.56	0.38	0.85	0.67	0.50	0.46	0.47	0.44	0.46	0.46	na	na
Taiwan	na	Na	na	0.65	0.77	0.72	0.85	0.65	0.79	1.07	0.77	na
UK	0.12	0.17	0.45	0.27	0.23	0.22	0.22	0.27	0.28	0.29	0.22	na

Source: Cited in Thornton Matheson, “Taxing Financial Transactions: Issues and Evidence” IMF Working paper (WP/11/54), 2011

### Impact on Return of a Day-trader

It is said that the main motivation of STT or CTT in India is to curb high frequency trades by adversely impacting returns of day traders. An FTT motivated by HFT prevention presumes that HFT has no economic or social value when, in fact, there is no real consensus on the interaction between the FTT, drops in liquidity and consequential changes in volatility and price discovery, or the economic and social returns these interactions yield<sup>1</sup>. It is difficult to distinguish high frequency trading (HFT) from other forms of short-term trading.

Let us take an example to see the impact of CTT on a day-trader’s returns. A "day trader" tries to exploit extremely short-term price runs of the MCX gold futures. The gold mini (GoldM) futures (near month contract) have a value of 29600 on 26 March 2013 at MCX. If the trader expects an upward run, he will

<sup>1</sup> Anita Milar, 2012, ‘A Financial Transaction Tax – Review of Impact Assessments’, International Regulatory Strategy Group, London



buy a contract for which he has only to deposit ₹ 1480 as margin (we assume for simplicity a margin rate of 5%). If the Gold M futures increase by 0.5%, then the trader cashes in ₹ 148 (0.5% of ₹ 29600), this is 10% of his cash investment. At a rate of 0.01%, the CTT would amount to ₹ 3, roughly 2% of the speculative profit.

How did the commodities futures markets in India react to the budget announcement of CTT? Table 2 shows short-term announcement effect of CTT in two commodities- Crude Oil and Gold Mini. The futures contracts of MCX are used for these two commodities. Returns are calculated around the budget day (i.e., 28 February) in 2012 and 2013. Data for 2012 are used to show market reaction without CTT effect. One day return indicates return for one day after budget and similarly weekly return denotes 5-day cumulative return after the budget day. Results show that unlike apprehensions of many traders, the short-term reaction of the market has been mixed. It may be noted that short-term market reactions to budget announcements should be used with caution as these contain lot of sentiments.

Table 2: Short-term Returns

Product	Window	2012	2013
Gold Mini Futures	One-day	-3.16%	0.33%
	One-week	0.10%	0.60%
Crude Oil Futures	One-day	-1.84%	-1.30%
	One-week	2.22%	-1.40%

Source: Bloomberg

### Impact on Volatility

Higher transaction costs are usually found to decrease trading volume- an indicator of market liquidity. The theoretical relationship between an STT and short-term price volatility is ambiguous. In general, if an STT reduces trading volume, it may decrease liquidity or, equivalently, may increase the price impact of trades, which will tend to heighten price volatility. However, the net effect of an STT on volatility depends on market microstructure and the composition of trading<sup>2</sup>. We have looked into the short-term volatility and liquidity of the two commodity futures contracts mentioned above. Table 3 shows four-week volatility of the futures prices in 2012 (without CTT) and 2013 (with CTT). Results are not conclusive.

Table 3: Short-term Volatility

Product	Window	2012	2013
Gold Mini Futures	Before	0.65%	0.72%
	After	0.83%	0.46%
Crude Oil Futures	Before	1.07%	0.58%
	After	0.79%	0.83%

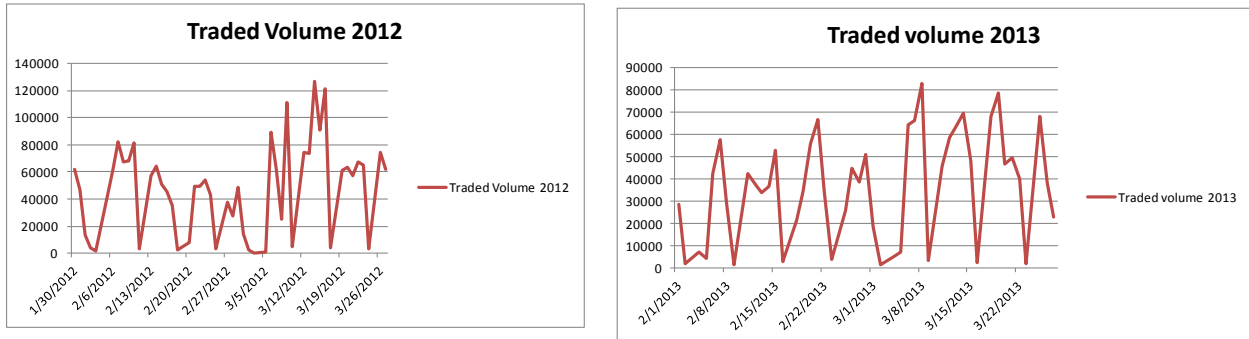
Author's estimate. "Before" and "After" denote before and after budget announcement respectively.

The graphs on trading volume did not also show much variation between 2012 and 2013. Thus, it cannot be said that CTT is expected to reduce volatility and liquidity. However, this assertion can be better examined after CTT becomes operational. The author wishes to revisit the results after some time.

<sup>2</sup> Thornton Matheson, 'Taxing Financial Transactions: Issues and Evidence' IMF Working paper (WP/11/54), 2011

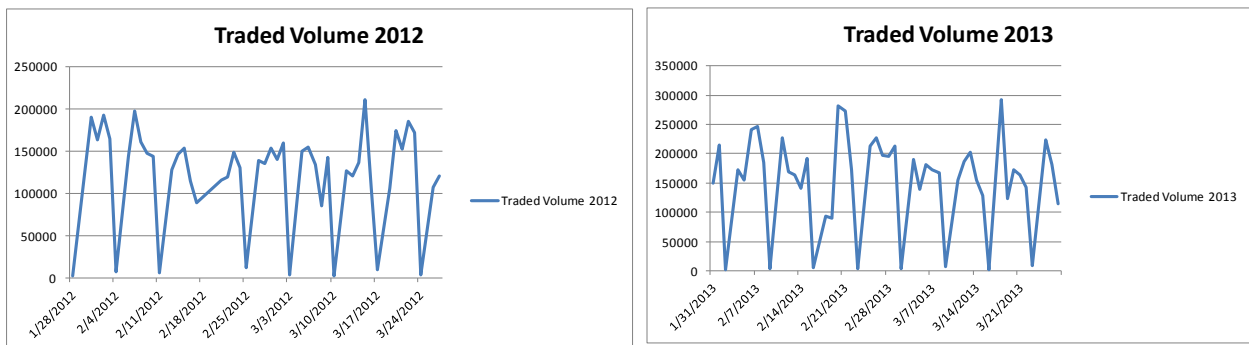
To conclude, the rationale and efficacy of STT or CTT is not empirically established. There is unanimity in one area- the rate should be very low. Empirical evidence is mixed on the impact of STT on trader’s return, market liquidity and asset price volatility.

Figure 1: Daily Traded Volume of Gold Mini Futures in MCX



Source: Bloomberg

Figure 2: Daily Traded Volume of Crude Oil Futures in MCX



Source: Bloomberg

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## Constituent Deals in the Indian Government Securities Market\*

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The Indian government securities market has witnessed reasonable growth during the past two decades after the implementation of the broad financial sector reforms. Average daily volumes have increased from around ₹ 3,623 crore in 2002-03 to ₹ 25684 crore as of 2012-13 (upto Jan'13). The trading, clearing and settlement infrastructure made available in this market makes it one of the safest financial markets to do business. India is one of the rare few countries which put in place a Central Counter Party (CCP) System in OTC market in 2002. The market has grown in the past one decade or so due to availability of different kind of products, regulatory supports, availability of transparent systems to do transaction, proper audit trail, etc.

Participation in the government securities market from a historical and a regulatory perspective is largely institutional, limited to banks, primary dealers, insurance companies, etc. The scope of the market has now extended to other types of investors like Provident Funds, Mutual Funds, Non-Banking Finance Companies, Pension Funds, etc. Retail participation in this market has been negligible. Effort has been made to improve the breath of this market by introducing newer investors like Foreign Institutional Investors (FIIs) with various limits to invest in Government securities. A diverse investor base with different perspectives of risk and trading horizons could further deepen the market leading to more liquidity and lower borrowing costs.

Various measures have been undertaken during the reform process to encourage retail participation in the government securities market. A portion of the total issuance is ear-marked for retail participation (5% of the issue size). The Government Securities Act provides to use the security as collateral against loans, facilitates nomination facility to ease the holding of securities by individuals, etc. In the primary market, non-competitive bidding mechanism is there to enable small investors to participate in the government securities auctions. In the secondary market measures like odd lot trading with minimum market lot at ₹ 10,000 for G-Secs and ₹ 25,000 for T-bills has been enabled to build small investor interest in this segment of the financial market. One important feature which helps smaller investors to trade in this market is the Constituent Subsidiary General Account (CSGL), which is an SGL account opened and maintained with RBI by an agent on behalf of the constituents of such agent, i.e. a second SGL account opened by an agent with the RBI to hold the securities on behalf of their constituents. Enough mechanism is in place to ensure that proprietary positions are not clubbed with constituent positions.

*\*Personal views of the author and not the view of his organization*



## **CSGL Accounts**

CSGL accounts are a demat form of holding government securities with the RBI, to the credit of the holder in the Subsidiary General Ledger account (SGL) maintained in the books of RBI. These accounts are typically bankruptcy remote accounts – if the agent goes bankrupt, the securities are still available with RBI for making it good for the constituent. When these securities are held by the investor through an agent like Primary Dealers (PD) or Bank, the agent holds another SGL account with RBI for keeping the government securities owned by its customers. This second account is called the Constituent Subsidiary

General Ledger account (CSGL) and is a segregated SGL account for keeping securities on behalf of customers by banks and PDs. The constituents are known as the Gilt Account Holders (GAHs). Entities like a licensed bank and primary dealer are eligible to open and maintain a CSGL account with the RBI on behalf of their constituents i.e. GAHs. In case of State Co-operative Banks (StCBs), the additional requirement of being a scheduled bank with net worth of ₹ 100 crore or more is also applicable. In addition to this, entities like NSDL, CDSL, CCIL or Clearing Corporations as approved by the Central Bank, SHCIL, and NABARD etc. can open and maintain a CSGL account with the RBI. GAHs' comprises of entities like corporates, Foreign Institutional Investors (FIIs) – registered with SEBI/RBI, Provident Funds, smaller Co-operative banks, Trusts and Individuals.

Operationalized since October 2000, CSGL accounts have helped entities like smaller co-operative banks, NBFCs, provident funds, FIIs, corporates to trade in the government securities market. They have also enabled entities like Trusts and to some extent individuals to trade in this market. The NDS-OM platform - the anonymous electronic platform for trading in the government securities market facilitates trading by GAH through the respective Primary Members.

To further enhance the access of GAH entities in the government securities market on the NDS-OM platform, RBI introduced the web-based NDS-OM module for trading in the secondary market w.e.f. July 01, 2012. The module permits internet-based access for direct participation of gilt account holders in the secondary market through NDS-OM subject to controls/limits set for it by the respective primary member. Earlier CSGL entities were permitted only indirect access to the NDS-OM system i.e. they could request their Primary Members (PM) to place orders on their behalf on the NDS-OM system. But through the internet based trading module, such entities have direct access to the NDS-OM system. They have access to the same order book and therefore in a position to directly control and manage their activity and access real time live quotes in the market. However, the access is subject to controls by respective Primary Member with whom GAHs have gilt account and current account given that the Primary Member is completely responsible for all actions of the GAH including timely and smooth settlement of the trades by maintaining adequate margins required by CCIL acting as the CCP.

The write-up traces the trading activity by CSGL account holders and the impact of the launch of the internet based module on this segment of the market.

## **Trading Analysis**

Transactions by GAHs constitute a small percent of the total trading in the government securities market. These deals accounted for around 13% of the volumes in this market till January 2013. The constituent deals have retained their market share even though many co-operative banks have been given permission to trade directly by opening SGL account with RBI. This permission has been given to these co-operative banks as they have been advised to invest in Government securities to maintain their SLR (instead of old practice of maintaining deposits with other Banks).

**Proprietary/Constituent Trading Analysis (%)**

Period	Proprietary		Constituent	
	Trades	Value	Trades	Value
2002-03	80.54	87.54	19.46	12.46
2003-04	75.82	85.03	24.18	14.97
2004-05	75.96	81.95	24.04	18.05
2005-06	78.55	85.37	21.45	14.63
2006-07	87.78	90.06	12.22	9.94
2007-08	90.26	90.55	9.74	9.45
2008-09	89.48	88.32	10.52	11.68
2009-10	90.16	90.56	9.84	9.44
2010-11	89.23	89.92	10.77	10.08
2011-12	90.81	88.35	9.19	11.65
2012-13 (Upto January 2013)	89.81	86.92	10.19	13.08

Source: CCIL

The launch of the NDS-Order Matching platform in August 2005 brought a new dimension in trading of government securities. The anonymity and transparency resulted in a major chunk of the trading in this market shifting to this platform in a very short span of time and now trading on this platform comprises around 80% of the trading. However, the GAHs have been reluctant to embrace this market despite a provision on the NDS-OM platform since May 2007 to enable CSGL trading. It has been observed that till 2011-12 around 95% of the CSGL transactions in the government securities market were undertaken through the OTC route. However, since the launch of the web based platform, the NDS-OM has succeeded in attracting such entities. During 2012-13 (till January 2013) the trading activity in terms of value of GAHs on the NDS-OM platform increased to 30% from an average of 5% over the past 5 years. This indicates that this new trading platform has been enthusiastically accepted by the CSGL entities.

**Trading Platform Analysis of CSGL Transactions (%)**

Trade Source Analysis	NDS		NDS-OM	
	Trades	Value	Trades	Value
2007-08	95.18	96.59	4.82	3.41
2008-09	92.31	95.69	7.69	4.31
2009-10	87.74	92.33	12.26	7.67
2010-11	89.65	93.12	10.35	6.88
2011-12	89.80	95.35	10.20	4.65
2012-13 (Upto January 2013)	63.00	69.89	37.00	30.11

Source: CCIL

The shift in market preference to trade on the NDS-OM platform resulted in most direct institutional deals being dealt on this platform. Thus the OTC transactions were restricted mostly to transactions by CSGL account holders. They comprised more than 50% of the transactions in the OTC market, while they had a share of less than 1% on the NDS-OM platform. The operationalization of the NDS-OM web based module has brought about a significant change in the transactions of constituent SGL holders in Government securities. Their transactions now (up to January 2013) have gone up to 5% of the value of the transactions on the NDS-OM platform.

**Trading Platform Composition of CSGL Transactions (%)**

Year	NDS		NDS-OM	
	Trades	Value	Trades	Value
2007-08	59.34	33.31	0.59	0.44
2008-09	67.80	39.64	0.95	0.71
2009-10	67.16	31.75	1.39	1.00
2010-11	75.14	43.25	1.28	0.89
2011-12	75.90	53.33	1.05	0.69
2012-13 (Upto January 2013)	71.38	49.18	4.12	4.80

Source: CCIL

Generally trading in the outright market in India is concentrated around dated central government securities and such deals comprise more than 85% of the trading in this market. In recent years it has been observed that CSGL trading in central government dated securities is around 70% of their total trading and their trading in T-Bills constituted around 22% of their total trading. It has been observed that during 2012-13 the share of their trades in dated securities has increased to 83% with a corresponding fall of 11% in their trading in T-Bills. Thus trading of GAHs is increasingly in line with the trend prevailing in the overall market.

**Security Type Analysis - Market Share (%)**

Year	Constituent Deals			Market		
	GSEC	TBILL	SDL	GSEC	TBILL	SDL
2007-08	81.03	14.8	4.17	88.75	10.39	0.86
2008-09	83.83	13.85	2.32	90.52	7.89	1.59
2009-10	72.26	23.38	4.35	85.14	12.47	2.39
2010-11	73.39	21.33	5.28	88.9	9.58	1.52
2011-12	73.68	21.01	5.31	88.85	9.9	1.25
2012-13 (Upto January 2013)	82.86	11.55	5.58	89.46	8.68	1.86

Source: CCIL

There has been a fall in the share of odd-lot (value less than the market lot of ₹ 5 crore) in the total transactions by CSGL holders during 2012-13. While earlier they had a share of slightly less than half of such transactions (around 48%), during the current year the share of odd-lot transactions has decreased to around 34%. This could imply that the launch of the web module has induced non-institutional investors to increase their trading activity in the government securities market. Similarly the share of odd lot volumes has been decreasing from 2011-12.

Odd Lot Analysis (As a % of total Constituent Deals)		
Year	Trades	Volumes
2007-08	47.98	4.37
2008-09	46.90	3.85
2009-10	47.56	4.69
2010-11	52.15	5.78
2011-12	48.06	3.82
2012-13 (upto Jan'13)	34.02	2.82

Source: CCIL

There has been a change in the volume of large value transactions being undertaken by GAH account holders during 2012-13. Deals of value greater than ₹ 50 crore which constituted for an average of 3.40% of CSGL transactions till 2011-12, have accounted for around 6.3% of the total CSGL deals undertaken during 2012-13. Similarly, the percent share of high value deals of ₹ 100 crore and above has increased to 2.61% during this period compared to an average of around 1.4% between 2007-08 and 2011-12. There has also been a gradual increase in the high value constituent deals being undertaken on the NDS-OM trading platform

#### Share of Large Value Transactions in Total CSGL Volume:

%

Year	Deals >= ₹50 crore			Deals >= ₹100 crore		
	NDS	NDS-OM	Total CSGL	NDS	NDS-OM	Total CSGL
2007-08	41.93	-	2.86	30.30	-	1.15
2008-09	48.22	-	3.04	39.99	-	1.67
2009-10	41.31	0.07	3.22	29.42	-	1.41
2010-11	37.52	0.02	3.05	24.59	-	1.25
2011-12	42.62	0.02	4.99	26.10	0.02	1.80
2012-13 (upto Jan'13)	41.78	3.54	6.34	28.23	0.97	2.61

Source: CCIL

#### Participantwise analysis of CSGL Trading

The major entities trading in the government securities market as GAHs are Corporates, Non-Banking Financial Institutions, Insurance Companies, Provident Funds, and Co-operative Banks etc. A study of the category-wise trading by various CSGL entities shows that during the period from 2007-08 till 2011-12 trading was widely dispersed among categories like corporates, NBFCs, FIIs, Insurance Companies and to a small extent Co-operative Banks and Provident Funds. Generally corporates dominated the selling activity in such transactions, while Insurance Companies and Provident Funds as per their mandatory requirements tilted toward the buying side in the CSGL transactions. FIIs and NBFCs were generally active on both sides of the market.

Over the past 2 years there has been a change in the trading composition in the CSGL segment. While earlier co-operative banks had a significant share in the overall CSGL trading, their move to becoming proprietary SGL holders has significantly decreased their activity in the CSGL segment of the market. In addition to this the increase in insurance companies directly participating in the government securities market has led to a decline in their activity in the CSGL segment. NBFCs who had steady increased their exposure to the government securities market have seen a decline in activity during this year as some of the major players in this category have shifted to trading directly in the market as primary account holders.

Further during 2012-13 there has been a sea change in the CSGL transactions. During the current year the share of corporates has increased drastically and they currently constitute more than 50% of the trading on both sides of this market.

**Category-wise Analysis of CSGL Transaction (%)**

Constituent Category	2007-08		2008-09		2009-10		2010-11		2011-12		2012-13 (upto Jan'13)	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
CORPORATE S	7.7	30.1	6.6	45.0	9.9	32.8	7.9	15.6	17.4	24.3	50.3	59.0
NBFC	9.9	11.0	8.2	6.0	8.7	10.5	10.7	13.3	20.6	24.7	12.7	15.4
FII	22.4	14.5	24.6	20.7	23.5	25.5	31.3	36.3	26.2	34.1	10.7	11.7
INS COS	18.0	10.5	17.4	8.5	14.9	9.7	22.4	16.7	17.0	9.4	10.7	6.9
P F	19.2	0.2	14.8	0.2	10.5	0.5	8.5	1.8	10.1	1.3	6.7	0.5
CO-OP BANK	14.6	11.0	17.7	9.0	20.8	10.5	16.7	12.6	6.5	3.5	6.2	4.5
PD	0.3	0.6	5.1	3.7	4.1	3.3	1.3	2.4	1.2	1.2	1.7	1.0
MF	7.7	7.3	5.2	4.0	6.7	6.9	0.5	0.8	0.5	0.4	0.5	0.5
OTHERS	0.4	14.9	0.5	2.9	0.6	0.3	0.8	0.3	0.5	1.2	0.5	0.3
BANK	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.0

Source: CCIL

Constituent SGL account holders ranging from FIIs, Co-operative banks, Provident Funds, NBFCs have generally diverse investment profiles and objectives. However the entry of bigger entities in trading under the CSGL window like FIIs whose investment limits in the government securities has been gradually liberalized over the years, pension funds, insurance companies, stricter investment norms for NBFCs have increased the constituent activity in the government securities market. The entry of bigger players in this segment of the market has resulted in an increase in the concentration of the trading activity since 2010-11.

**Share of Top 'N' CSGL Entities (%)**

Year	Buy		Sell	
	Top 5	Top 10	Top 5	Top 10
2007-08	7.49	12.53	17.58	24.58
2008-09	20.74	30.99	26.77	37.09
2009-10	9.21	13.01	16.02	22.44
2010-11	14.46	22.82	14.00	21.22
2011-12	19.34	25.48	19.69	25.05
2012-13 (upto Jan'13)	52.89	57.02	67.23	72.29

Source: CCIL

Among the constituents, brokers play a very important role. In recent years, the broker deals have shown an upward trend. This might have been possible due to increase in participation of FIIs in Government securities market due to enhanced limits. FIIs are guided by SEBI regulations which makes it mandatory for the FIIs to route their deals through a broker. It has been reported that many constituents like FIIs

have empanelled brokers for conducting business in Gilts. The launch of the web-based NDS-OM module has eased the trading in the G-sec markets for smaller entities without any attendant increase in cost. The share of broker driven deals during 2012-13 (upto January 2013) in the total CSGL trading has more than halved in comparison to the previous year possibly because of change in SEBI guidelines of allocation of limits and the condition of non-transferability of the limit after sell of a security (recently some modification has been provided to ease the trading by FIIs).

<b>Broker Deals in Constituent Transactions (%)</b>		
<b>Year</b>	<b>Broker Deals</b>	<b>Direct Deals</b>
2007-08	42.54	57.46
2008-09	42.46	57.54
2009-10	46.15	53.85
2010-11	53.49	46.51
2011-12	54.79	45.21
2012-13 (Upto January 2013)	24.70	75.30

Source: CCIL

### **Price Efficiency of NDS-OM**

As most of the constituents prefer to deal in OTC market and report the deals in NDS system, it is interesting to study the general price realization in both markets. For analysis of general price realization, the difference between weighted average price of a security dealt in both in NDS-OM and NDS is calculated.

<b>Descriptive Statistics of Price Difference</b>	
Mean	0.01
Median	0.00
Standard Deviation	0.15
Sample Variance	0.02
Kurtosis	70.16
Skewness	-1.04
Minimum	-2.92
Maximum	2.43
Count	11691

The mean difference is 0.01 which looks negligible. On a close scrutiny, it was found that the same is not zero (Hypothesis was rejected for Mean=0). Further analysis revealed that about 15.21% of the deals are executed where the prices in NDS system is higher than NDS-OM system. About 32.24% of the deals were executed with the negligible price difference (average of 0.0003). About 52.55% of the deals were executed in which general price realization is better in NDS-OM system vis-à-vis NDS i.e. sellers realized better price in NDS-OM system because of its anonymous and competitive characteristics. NDS system being an OTC system, possibly buyers had a better bargaining power. Hence it makes sense for investors to switch to NDS-OM system which is more liquid than the OTC market.



Tests for Location: $\mu_0=0$				
Test	Statistic		p Value	
Student's t	t	5.762902	Pr >  t	<.0001
Sign	M	371	Pr >=  M	<.0001
Signed Rank	S	3079025	Pr >=  S	<.0001

In order to understand the price efficiency of various categories of securities, we divided the entire security basket into 5 broad categories – Highly Liquid (more than 50 trades in a particular day), Moderately Liquid (more than 30 trades in a particular day), Liquid (more than 20 trades in a particular day), Semi-Liquid (more than 8 trades in a particular day) and Illiquid (remaining trades). We found that in case of securities classified as illiquid and semi-liquid, the price difference (NDS-OM WAP over NDS WAP) is negative while for other securities it is either zero or positive. Hence the price realization in NDS-OM system is better as it provides better bid-ask spread and finer tick movements vis-a-vis OTC negotiated deals. It is also observed that NDS-OM system has helped to reduce price variations in securities to a large extent as bond traders can view the market online and decide to trade.

Descriptive Statistics of Price Difference in NDSOM and NDS platforms					
Parameters	HIGH LIQUID	ILLIQUID	LIQUID	MOD LIQUID	SEMI LIQUID
Mean	0.0153	-0.0042	0.0097	0.0014	-0.0052
Median	0.0050	0.0000	0.0001	0.0026	-0.0001
Standard Deviation	0.1345	0.2108	0.1449	0.1594	0.1620
Minimum	-2.9247	-2.8567	-0.8555	-1.5677	-2.5675
Maximum	2.4296	1.6788	1.2946	1.7759	1.2036
Observations	6143	588	1176	1467	2316

## Conclusion

The reforms and the proactive measures which have been undertaken by the central bank in the government securities market have helped to add depth and liquidity as also aid in the sustained growth of this market over the past two decades. Further there is a need to encourage smaller co-operative banks, pension funds who are GAH and currently participating through brokers or Primary Members to avail of the NDS-OM web avenue to directly manage their positions and also to reduce their transaction costs

(brokerages). There is also a need for Foreign Institutional Investors to be given access to the NDS-OM Web to be able to take advantage of the direct trading in this market. The web-based trading module is an important initiative to develop a more diversified investor base for government securities and in future encourage the holding of government securities by retail investors and thus contribute to the further development of the government securities market in India.

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