Treasury Management – Additional Reading Material

GOVERNMENT SECURITIES

Treasury Bills (T-bills)

- Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 days, 182 days and 364 days.
- Treasury bills are zero coupon securities and pay no interest. They are issued at a discount and redeemed at the face value at maturity. For example, a 91 days Treasury bill of Rs.100/- (face value) may be issued at say Rs. 98.20, that is, at a discount of say, Rs.1.80 and would be redeemed at the face value of Rs.100/-. The return to the investors is the difference between the maturity value or the face value (that is Rs.100) and the issue price.
- The Reserve Bank of India conducts auctions usually every Wednesday to issue T-bills. Payments for the T-bills purchased are made on the following Friday. The 91 days T-bills are auctioned on every Wednesday. The Treasury bills of 182 days and 364 days' tenure are auctioned on alternate Wednesdays. T-bills of 364 days' tenure are auctioned on the Wednesday preceding the reporting Friday while 182 T-bills are auctioned on the Wednesday prior to a non-reporting Fridays.
- The Reserve Bank releases an annual calendar of T-bill issuances for a financial year in the last week of March of the previous financial year. The Reserve Bank of India announces the issue details of T-bills through a press release every week.

Cash Management Bills (CMBs)

- Government of India, in consultation with the Reserve Bank of India, has decided to issue a new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government.
- The CMBs have the generic character of T-bills but are issued for maturities less than 91 days. Like T-bills, they are also issued at a discount and redeemed at face value at maturity. The tenure, notified amount and date of issue of the CMBs depends upon the temporary cash requirement of the Government.
- The announcement of their auction is made by Reserve Bank of India through a Press Release which will be issued one day prior to the date of auction. The settlement of the auction is on T+1 basis.
- The non-competitive bidding scheme has not been extended to the CMBs. However, these instruments are tradable and qualify for ready forward facility.
- Investment in CMBs is also reckoned as an eligible investment in Government securities by banks for SLR purpose under Section 24 of the Banking Regulation Act, 1949. First set of CMBs were issued on May 12, 2010.

Dated Government Securities

- Dated Government securities are long term securities and carry a fixed or floating coupon (interest rate) which is paid on the face value, payable at fixed time periods (usually half-yearly). The tenor of dated securities can be up to 30 years.
- The Public Debt Office (PDO) of the Reserve Bank of India acts as the registry / depository of Government securities and deals with the issue, interest payment and repayment of principal at maturity.
- Most of the dated securities are fixed coupon securities.
- The nomenclature of a typical dated fixed coupon Government security contains the following features - coupon, name of the issuer, maturity and face value. For example, 7.49% GS 2017 would mean:

Coupon	7.49% paid on face value
Name of Issuer	Government of India
Date of Issue	April 16, 2007
Maturity	April 16, 2017
Coupon Payment Dates	Half-yearly (October 16 and April 16) every year
Minimum Amount of issue/ sale	Rs.10,000

- In case there are two securities with the same coupon and are maturing in the same year, then one of the securities will have the month attached as suffix in the nomenclature. For example, 6.05% GS 2019 FEB, would mean that Government security having coupon 6.05 % that mature in February 2019 along with the other security with the same coupon, namely, 6.05% 2019 which is maturing in June 2019.
- If the coupon payment date falls on a Sunday or a holiday, the coupon payment is made on the next working day. However, if the maturity date falls on a Sunday or a holiday, the redemption proceeds are paid on the previous working day itself.
- Just as in the case of Treasury Bills, dated securities of both, Government of India and State Governments, are issued by Reserve Bank through auctions. The Reserve Bank announces the auctions a week in advance through press releases. Government Security auctions are also announced through advertisements in major dailies. The investors are thus, given adequate time to plan for the purchase of government securities through such auctions.

Fixed Rate Bonds

These are bonds on which the coupon rate is fixed for the entire life of the bond. Most Government bonds are issued as fixed rate bonds.

For example – 8.24%GS2018 was issued on April 22, 2008 for a tenor of 10 years maturing on April 22, 2018. Coupon on this security will be paid half-yearly at 4.12% (half yearly payment

being the half of the annual coupon of 8.24%) of the face value on October 22 and April 22 of each year.

Floating Rate Bonds

- Floating Rate Bonds are securities which do not have a fixed coupon rate. The coupon is re-set at pre-announced intervals (say, every six months or one year) by adding a spread over a base rate.
- In the case of most floating rate bonds issued by the Government of India so far, the base rate is the weighted average cut-off yield of the last three 364- day Treasury Bill auctions preceding the coupon re-set date and the spread is decided through the auction.

  For example, a Floating Rate Bond was issued on July 2, 2002 for a tenor of 15 years, thus maturing on July 2, 2017. The base rate on the bond for the coupon payments was fixed at 6.50% being the weighted average rate of implicit yield on 364-day Treasury Bills during the preceding six auctions.
- In the bond auction, a cut-off spread (markup over the benchmark rate) of 34 basis points (0.34%) was decided. Hence the coupon for the first six months was fixed at 6.84%.

Zero Coupon Bonds

Zero coupon bonds are bonds with no coupon payments. Like Treasury Bills, they are issued at a discount to the face value. The Government of India issued such securities in the nineties; it has not issued zero coupon bonds after that.

Capital Indexed Bonds

- These are bonds, the principal of which is linked to an accepted index of inflation with a view to protecting the holder from inflation. A capital indexed bond, with the principal hedged against inflation, was issued in December 1997. These bonds matured in 2002.

- The government is currently working on a fresh issuance of Inflation Indexed Bonds wherein payment of both, the coupon and the principal on the bonds, will be linked to an Inflation Index (Wholesale Price Index).
- In the proposed structure, the principal will be indexed and the coupon will be calculated on the indexed principal. In order to provide the holders protection against actual inflation, the final WPI will be used for indexation.

Bonds with Call/ Put Options

- Bonds can also be issued with features of optionality wherein the issuer can have the option to buy-back (call option) or the investor can have the option to sell the bond (put option) to the issuer during the currency of the bond. 6.72%GS2012 was issued on July 18, 2002 for a maturity of 10 years maturing on July 18, 2012.
- The optionality on the bond could be exercised after completion of five years' tenure from the date of issuance on any coupon date falling thereafter.
- The Government has the right to buy back the bond (call option) at par value (equal to the face value) while the investor has the right to sell the bond (put option) to the Government at par value at the time of any of the half-yearly coupon dates starting from July 18, 2007.

Special Securities

- In addition to Treasury Bills and dated securities issued by the Government of India under the market borrowing programme, the Government of India also issues, from time to time, special securities to entities like Oil Marketing Companies, Fertilizer Companies, the Food Corporation of India, etc. as compensation to these companies in lieu of cash subsidies.
- These securities are usually long dated securities carrying coupon with a spread of about 20-25 basis points over the yield of the dated securities of comparable maturity.
- These securities are, however, not eligible SLR securities but are eligible as collateral for market repo transactions.

- The beneficiary oil marketing companies may divest these securities in the secondary market to banks, insurance companies / Primary Dealers, etc., for raising cash.

STRIPS

- Steps are being taken to introduce new types of instruments like STRIPS (Separate Trading of Registered Interest and Principal of Securities). STRIPS are instruments wherein each cash flow of the fixed coupon security is converted into a separate tradable Zero Coupon Bond and traded. For example, when Rs.100 of the 8.24%GS2018 is stripped, each cash flow of coupon (Rs.4.12 each half year) will become coupon STRIP and the principal payment (Rs.100 at maturity) will become a principal STRIP. These cash flows are traded separately as independent securities in the secondary market.
- STRIPS in Government securities will ensure availability of sovereign zero coupon bonds, which will facilitate the development of a market determined zero coupon yield curve (ZCYC).
- STRIPS will also provide institutional investors with an additional instrument for their asset- liability management.
- As STRIPS have zero reinvestment risk, being zero coupon bonds, they can be attractive to retail/non-institutional investors.
- The process of stripping/reconstitution of Government securities is carried out at RBI, Public Debt Office (PDO) in the PDO-NDS (Negotiated Dealing System) at the option of the holder at any time from the date of issuance of a Government security till its maturity. All dated Government securities, other than floating rate bonds, having coupon payment dates on 2nd January and 2nd July, irrespective of the year of maturity are eligible for Stripping/Reconstitution.
- Eligible Government securities held in the Subsidiary General Leger (SGL)/Constituent Subsidiary General Ledger (CSGL) accounts maintained at the PDO, RBI, Mumbai, are eligible for Stripping/Reconstitution. Physical securities shall not be eligible for stripping/reconstitution.

- Minimum amount of securities that needs to be submitted for stripping/reconstitution will be Rs. 1 crore (Face Value) and multiples thereof.

State Development Loans (SDLs)

- State Governments also raise loans from the market. SDLs are dated securities issued through an auction similar to the auctions conducted for dated securities issued by the Central Government.
- Interest is serviced at half-yearly intervals and the principal is repaid on the maturity date.
- Like dated securities issued by the Central Government, SDLs issued by the State Governments qualify for SLR.
- They are also eligible as collaterals for borrowing through market repo as well as borrowing by eligible entities from the RBI under the Liquidity Adjustment Facility (LAF).
- The SDLs do not carry any credit risk. In this regard, they are similar to securities issued by the Government of India (GoI). This can also be seen from the fact that the risk weights assigned to the investments in SDLs by the commercial banks is zero for the calculation of CRAR under the Basel III.

How are the Government Securities issued?

- Government securities are issued through auctions conducted by the RBI. Auctions are conducted on the electronic platform called the NDS – Auction platform.
- Commercial banks, scheduled urban co-operative banks, Primary Dealers, insurance companies and provident funds, who maintain funds account (current account) and securities accounts (SGL account) with RBI, are members of this electronic platform.
- All members of PDO-NDS can place their bids in the auction through this electronic platform. All non-NDS members including non-scheduled urban co-operative banks can participate in the primary auction through scheduled commercial banks or Primary Dealers.

- For this purpose, the urban co-operative banks need to open a securities account with a bank / Primary Dealer – such an account is called a Gilt Account. A Gilt Account is a dematerialized account maintained by a scheduled commercial bank or Primary Dealer for its constituent (e.g., a non-scheduled urban co-operative bank).
- The RBI, in consultation with the Government of India, issues an indicative half-yearly auction calendar which contains information about the amount of borrowing, the tenor of security and the likely period during which auctions will be held.
- A Notification and a Press Communique giving exact particulars of the securities, viz., name, amount, type of issue and procedure of auction are issued by the Government of India about a week prior to the actual date of auction.

What are the different types of auctions used for issue of securities?

Prior to introduction of auctions as the method of issuance, the interest rates were administratively fixed by the Government. With the introduction of auctions, the rate of interest (coupon rate) gets fixed through a market based price discovery process. An auction may either be yield based or price based.

Yield Based Auction

A yield based auction is generally conducted when a new Government security is issued. Investors bid in yield terms up to two decimal places (for example, 8.19 per cent, 8.20 per cent, etc.). Bids are arranged in ascending order and the cut-off yield is arrived at the yield corresponding to the notified amount of the auction. The cut-off yield is taken as the coupon rate for the security. Successful bidders are those who have bid at or below the cut-off yield. Bids which are higher than the cut-off yield are rejected.

An illustrative example of the yield based auction is given below:

Yield based auction of a new security
Maturity Date: September 8, 2018
Coupon: It is determined in the auction (8.22% as shown in the illustration below)
Auction date: September 5, 2008
Auction settlement date: September 8, 2008*
Notified Amount: Rs.1000 crore
* September 6 and 7 being holidays, settlement is done on September 8, 2008 under T+1 cycle.

Details of bids received in the increasing order of bid yields

Bid No.	**Bid Yield**	**Amount of bid (Rs. crore)**	**Cumulative amount (Rs. Cr)**	**Price with coupon as 8.22%**
1	8.19%	300	300	100.19
2	8.20%	200	500	100.14
3	8.20%	250	750	100.13
4	8.21%	150	900	100.09
5	8.22%	100	1000	100
6	8.22%	100	1100	100
7	8.23%	150	1250	99.93
8	8.24%	100	1350	99.87

The issuer would get the notified amount by accepting bids up to 5. Since the bid number 6 also is at the same yield, bid numbers 5 and 6 would get allotment pro-rata so that the notified amount is not exceeded. In the above case, each would get Rs. 50 crores. Bid numbers 7 and 8 are rejected as the yields are higher than the cut-off yield.

Price Based Auction

A price based auction is conducted when Government of India re-issues securities issued earlier. Bidders quote in terms of price per Rs.100 of face value of the security (e.g., Rs.102.00, Rs.101.00, Rs.100.00, Rs.99.00, etc., per Rs.100/-). Bids are arranged in descending order and the successful bidders are those who have bid at or above the cut-off price. Bids which are below the cut-off price are rejected.

An illustrative example of price based auction is given below:

Price based auction of an existing security 8.24% GS 2018

- Maturity Date: April 22, 2018
- Coupon: 8.24%
- Auction date: September 5, 2008
- Auction settlement date: September 8, 2008*
- Notified Amount: Rs.1000 crore

* September 6 and 7 being holidays, settlement is done on September 8, 2008 under T+1 cycle.

Details of bids received in the decreasing order of bid price				
Bid no.	**Price of bid**	**Amount of bid (Rs. Cr)**	**Implicit yield**	**Cumulative amount**
1	100.31	300	8.1912%	300
2	100.26	200	8.1987%	500
3	100.25	250	8.2002%	750
4	100.21	150	8.2062%	900
5	100.20	100	8.2077%	1000
6	100.20	100	8.2077%	1100
7	100.16	150	8.2136%	1250
8	100.15	100	8.2151%	1350

The issuer would get the notified amount by accepting bids up to 5. Since the bid number

6 also is at the same price, bid numbers 5 and 6 would get allotment in proportion so that the notified amount is not exceeded. In the above case each would get Rs. 50 crores. Bid numbers 7 and 8 are rejected as the price quoted is less than the cut-off price.

Depending upon the method of allocation to successful bidders, auction could be classified as **Uniform Price** based and **Multiple Price** based.

In a Uniform Price auction, all the successful bidders are required to pay for the allotted quantity of securities at the same rate, i.e., at the auction cut-off rate, irrespective of the rate quoted by them.

On the other hand, in a Multiple Price auction, the successful bidders are required to pay for the allotted quantity of securities at the respective price / yield at which they have bid. In the example under Price based auction above, if the auction was Uniform Price based, all bidders would get allotment at the cut-off price, i.e., Rs.100.20. On the other hand, if the auction was Multiple Price based, each bidder would get the allotment at the price he/ she has bid, i.e., bidder 1 at Rs.100.31, bidder 2 at Rs.100.26 and so on.

An investor may bid in an auction under either of the following categories:

Competitive Bidding

In a competitive bidding, an investor bids at a specific price / yield and is allotted securities if the price / yield quoted is within the cut-off price / yield. Competitive bids are made by well informed investors such as banks, financial institutions, primary dealers, mutual funds, and insurance companies. The minimum bid amount is Rs. 10,000 and in multiples of Rs. 10,000 thereafter. Multiple bidding is also allowed, i.e., an investor may put in several bids at various price/ yield levels.

Non-Competitive Bidding

- With a view to providing retail investors, who may lack skill and knowledge to participate in the auction directly, an opportunity to participate in the auction process, the scheme of non-competitive bidding in dated securities was introduced in January 2002.
- Non-competitive bidding is open to individuals, HUFs, RRBs, co-operative banks, firms, companies, corporate bodies, institutions, provident funds, and trusts.
- Under the scheme, eligible investors apply for a certain amount of securities in an auction without mentioning a specific price / yield. Such bidders are allotted securities at the weighted average price / yield of the auction. In the illustration given under Price Based auction above, the notified amount being Rs.1000 crore, the amount reserved for non-competitive bidding will be Rs.50 crores (5 per cent of the notified amount as indicated below). Non-competitive bidders will be allotted at the weighted average price which is Rs.100.26 in the given illustration.
- The participants in non-competitive bidding are, however, required to hold a gilt account with a bank or PD. Regional Rural Banks and co-operative banks which hold SGL and Current Account with the RBI can also participate under the scheme of non-competitive bidding without holding a gilt account.
- In every auction of dated securities, a maximum of 5 per cent of the notified amount is reserved for such non-competitive bids. In the case of auction for Treasury Bills, the amount accepted for non-competitive bids is over and above the notified amount and there is no limit placed. However, non-competitive bidding in Treasury Bills is available only to State Governments and other select entities and is not available to the co-operative banks.
- Only one bid is allowed to be submitted by an investor either through a bank or Primary Dealer.
- For bidding under the scheme, an investor has to fill in an undertaking and send it along with the application for allotment of securities through a bank or a Primary Dealer. The minimum amount and the maximum amount for a single bid is Rs. 10,000 and Rs.2 crores respectively in the case of an auction of dated securities.

- A bank or a Primary Dealer can charge an investor up to maximum of 6 paise per Rs.100 of application money as commission for rendering their services. In case the total applications received for non-competitive bids exceed the ceiling of 5 per cent of the notified amount of the auction for dated securities, the bidders are allotted securities on a pro-rata basis.
- Non-competitive bidding scheme has been introduced in the State Government securities (SDLs) from August 2009. The aggregate amount reserved for the purpose in the case of SDLs is 10% of the notified amount (Rs.100 Crore for a notified amount of Rs.1000 Crore) and the maximum amount an investor can bid per auction is capped at 1% of the notified amount (as against Rs.2 Crore in Central Government securities). The bidding and allotment procedure is similar to that of Central Government securities.

CRR & SLR

Introduction

With a view to monitoring compliance of maintenance of statutory reserve requirements viz. CRR and SLR by the SCBs, the Reserve Bank of India has prescribed statutory returns i.e. Form A Return (for CRR) under Section 42(2) of the Reserve Bank of India (RBI) Act, 1934 and Form VIII Return (for SLR) under Section 24 of the Banking Regulation Act, 1949.

CRR

In terms of Section 42(1) of the RBI Act, 1934 the Reserve Bank, having regard to the needs of securing the monetary stability in the country, prescribes the CRR for SCBs without any floor or ceiling rate.

Maintenance of CRR

At present, effective from the fortnight beginning February 09, 2013, the CRR is prescribed at 4.00 per cent of a bank's total of DTL adjusted for the exemptions

Incremental CRR

In terms of Section 42(1A) of RBI Act, 1934, the SCBs are required to maintain, in addition to the balances prescribed under Section 42(1) of the Act, an additional average daily balance, the amount of which shall not be less than the rate specified by the Reserve Bank in the notification

published in the Gazette of India from time to time. Such additional balance will be calculated with reference to the excess of the total of DTL of the bank as shown in the Returns referred to in Section 42(2) of the RBI Act, 1934 over the total of its DTL at the close of the business on the date specified in the notification.

At present no incremental CRR is required to be maintained by the banks.

Computation of DTL

Liabilities of a bank may be in the form of demand or time deposits or borrowings or other miscellaneous items of liabilities. As defined under Section 42 of the RBI Act, 1934, liabilities of a bank may be towards the banking system or towards others in the form of demand and time deposits or borrowings or other miscellaneous items of liabilities. As the Reserve Bank of India has been authorized in terms of Section 42(1C) of the RBI Act, 1934, to specify whether any transaction or class of transactions would be regarded as a liability of banks in India, banks are advised to approach the RBI in case of any question as to whether any transaction would be regarded as reservable liability.

Demand Liabilities

Demand Liabilities of a bank are liabilities which are payable on demand. These include current deposits, demand liabilities portion of savings bank deposits, margins held against letters of credit/guarantees, balances in overdue fixed deposits, cash certificates and cumulative/recurring deposits, outstanding Telegraphic Transfers (TTs), Mail Transfers (MTs), Demand Drafts (DDs), unclaimed deposits, credit balances in the Cash Credit account and deposits held as security for advances which are payable on demand. Money at Call and Short Notice from outside the banking system should be shown against liability to others.

Time Liabilities

Time Liabilities of a bank are those which are payable otherwise than on demand. These include fixed deposits, cash certificates, cumulative and recurring deposits, time liabilities portion of savings bank deposits, staff security deposits, margin held against letters of credit, if not payable on demand, deposits held as securities for advances which are not payable on demand and Gold deposits.

Other Demand and Time Liabilities (ODTL)

ODTL include interest accrued on deposits, bills payable, unpaid dividends, suspense account balances representing amounts due to other banks or public, net credit balances in branch adjustment account, any amounts due to the banking system which are not in the nature of deposits or borrowing. Such liabilities may arise due to items like collection of bills on behalf of other banks, interest due to other banks and so on.

The balance outstanding in the blocked account pertaining to segregated outstanding credit entries for more than 5 years in inter-branch adjustment account, the margin money on bills purchased / discounted and gold borrowed by banks from abroad, should also be included in ODTL.

Cash collaterals received under collateralized derivative transactions should be included in the bank's DTL/NDTL for the purpose of reserve requirements as these are in the nature of 'outside liabilities'. Interest accrued on deposits should be calculated on each reporting fortnight (as per the interest calculation methods applicable to various types of accounts) so that the bank's liability in this regard is fairly reflected in the total NDTL of the same fortnightly return.

Assets with the Banking System

Assets with the banking system include balances with banks in current account, balances with banks and notified financial institutions in other accounts, funds made available to banking system by way of loans or deposits repayable at call or short notice of a fortnight or less and loans other than money at call and short notice made available to the banking system. Any other amounts due from the banking system which cannot be classified under any of the above items are also to be taken as assets with the banking system.

Borrowings from abroad by banks in India

Loans/borrowings from abroad by banks in India will be considered as 'liabilities to others' and will be subject to reserve requirements. Upper Tier II instruments raised and maintained abroad shall be reckoned as liability for the computation of DTL for the purpose of reserve requirements.

Arrangements with Correspondent Banks for Remittance Facilities

When a bank accepts funds from a client under its remittance facilities scheme, it becomes a liability (liability to others) in its books. The liability of the bank accepting funds will extinguish only when the correspondent bank honours the drafts issued by the accepting bank to its customers. As such, the balance amount in respect of the drafts issued by the accepting bank on its correspondent bank under the remittance facilities scheme and remaining unpaid should be reflected in the accepting bank's books as liability under the head 'Liability to others in India' and the same should also be taken into account for computation of DTL for CRR/SLR purpose.

The amount received by correspondent banks has to be shown as 'Liability to the Banking System' by them and not as 'Liability to others' and this liability could be netted off by the correspondent banks against the inter-bank assets. Likewise sums placed by banks issuing drafts/interest/dividend warrants are to be treated as 'Assets with banking system' in their books and can be netted off from their inter-bank liabilities.

Liabilities not to be included for DTL/NDTL computation

The under-noted liabilities will not form part of liabilities for the purpose of CRR and SLR:

i. Paid up capital, reserves, any credit balance in the Profit & Loss Account of the bank, amount of any loan taken from the RBI and the amount of refinance taken from Exim Bank, NHB, NABARD, SIDBI;
ii. Net income tax provision;
iii. Amount received from DICGC towards claims and held by banks pending adjustments thereof;
iv. Amount received from ECGC by invoking the guarantee;
v. Amount received from insurance company on ad-hoc settlement of claims pending judgement of the Court;
vi. Amount received from the Court Receiver;
vii. The liabilities arising on account of utilization of limits under Bankers' Acceptance Facility (BAF);
viii. District Rural Development Agency (DRDA) subsidy of ₹10,000/- kept in Subsidy Reserve Fund account in the name of Self Help Groups;

ix. Subsidy released by NABARD under Investment Subsidy Scheme for Construction/Renovation/Expansion of Rural Godowns;
x. Net unrealized gain/loss arising from derivatives transaction under trading portfolio;
xi. Income flows received in advance such as annual fees and other charges which are not refundable;
xii. Bill rediscounted by a bank with eligible financial institutions as approved by RBI;

Exempted Categories

SCBs are exempted from maintaining CRR on the following liabilities:

i. Liabilities to the banking system in India as computed under clause (d) of the explanation to Section 42(1) of the RBI Act, 1934;
ii. Credit balances in ACU (US$) Accounts; and
iii. Demand and Time Liabilities in respect of their Offshore Banking Units (OBU).
iv. The eligible amount of incremental FCNR (B) and NRE deposits of maturities of three years and above from the base date of July 26, 2013, and outstanding as on March 7, 2014, till their maturities/pre-mature withdrawals, and

Procedure for Computation of CRR

In order to improve cash management by banks, as a measure of simplification, a lag of one fortnight in the maintenance of stipulated CRR by banks was introduced with effect from the fortnight beginning November 06, 1999.

Maintenance of CRR on Daily Basis

With a view to providing flexibility to banks in choosing an optimum strategy of holding reserves depending upon their intra fortnight cash flows, all SCBs are required to maintain minimum CRR balances up to 95 per cent of the average daily required reserves for a reporting fortnight on all days of the fortnight with effect from the fortnight beginning September 21, 2013.

No Interest Payment on Eligible Cash Balances maintained by SCBs with RBI under CRR

In view of the amendment carried out to RBI Act 1934, omitting sub-section (1B) of Section 42, the Reserve Bank does not pay any interest on the CRR balances maintained by SCBs with effect from the fortnight beginning March 31, 2007.

Penalties

From the fortnight beginning June 24, 2006, penal interest is charged as under in cases of default in maintenance of CRR by SCBs:

(i) In case of default in maintenance of CRR requirement on a daily basis which is currently 95 per cent of the total CRR requirement, penal interest will be recovered for that day at the rate of three per cent per annum above the Bank Rate on the amount by which the amount actually maintained falls short of the prescribed minimum on that day and if the shortfall continues on the next succeeding day/s, penal interest will be recovered at the rate of five per cent per annum above the Bank Rate.

(ii) In cases of default in maintenance of CRR on average basis during a fortnight, penal interest will be recovered as envisaged in sub-section (3) of Section 42 of Reserve Bank of India Act, 1934.SCBs are required to furnish the particulars such as date, amount, percentage, reason for default in maintenance of requisite CRR and also action taken to avoid recurrence of such default.

Statutory Liquidity Ratio (SLR)

Consequent upon amendment to the Section 24 of the Banking Regulation Act, 1949 through the Banking Regulation (Amendment) Act, 2007 replacing the Regulation (Amendment) Ordinance, 2007, effective January 23, 2007, the Reserve Bank can prescribe the SLR for SCBs in specified assets. The value of such assets of a SCB shall not be less than such percentage not exceeding 40 per cent of its total DTL in India as on the last Friday of the second preceding fortnight as the Reserve Bank may, by notification in the Official Gazette, specify from time to time.

SCBs can participate in the Marginal Standing Facility (MSF) Scheme introduced by Reserve Bank with effect from May 09, 2011. Under this facility, the eligible entities may borrow up to two per cent of their respective NDTL outstanding at the end of the second preceding fortnight from April 17, 2012. Additionally, the eligible entities may also continue to access overnight funds under this facility against their excess SLR holdings. In the event, the banks' SLR holding falls below the statutory requirement up to two per cent of their NDTL, banks will not have the obligation to seek a specific waiver for default in SLR compliance arising out of use of this facility in terms of notification issued under sub section (2A) of section 24 of the Banking Regulation Act, 1949.

Within the mandatory SLR requirement, Government securities to the extent allowed by the RBI under Marginal Standing Facility (MSF) are permitted to be reckoned as the Level 1 High Quality Liquid Assets (HQLAs) for the purpose of computing Liquidity Coverage Ratio (LCR) of banks. In addition to this, banks are permitted to reckon up to another 5 per cent of their NDTL within the mandatory SLR requirement as level 1 HQLA. This is the Facility to Avail Liquidity for Liquidity Coverage Ratio that was notified vide DBR.BP.BC.No.52/21.04.098/2014-15.

Reserve Bank has specified that w.e.f. the fortnight beginning February 07, 2015, every SCB shall continue to maintain in India assets as detailed below, the value of which shall not, at the close of business on any day, be less than 21.5 per cent of the total NDTL as on the last Friday of the second preceding fortnight valued in accordance with the method of valuation specified by the Reserve Bank of India from time to time:

(a) Cash or (b) in Gold valued at a price not exceeding the current market price, or (c) Investment in the following instruments which will be referred to as "Statutory Liquidity Ratio (SLR) securities":

i. Dated securities issued up to May 06, 2011 as listed in the Annex to Notification DBOD.No.Ret.91/12.02.001/2010-11 dated May 09, 2011;
ii. Treasury Bills of the Government of India;
iii. Dated securities of the Government of India issued from time to time under the market borrowing programme and the Market Stabilization Scheme;

iv. State Development Loans (SDLs) of the State Governments issued from time to time under the market borrowing programme; and

v. Any other instrument as may be notified by the Reserve Bank of India.

vi. Provided that the securities (including margin) referred to above, if acquired under the Reserve Bank- Liquidity Adjustment Facility (LAF), shall not be treated as an eligible asset for this purpose.

The fourth Bi-monthly monetary policy statement by the Reserve Bank of India made on September 29, 2015 prescribed changes in SLR requirements as given below.

S. No	Prescription of SLR	Effective date
i	21.25 per cent	From April 02, 2016
ii	21.00 per cent	From July 09, 2016
iii	20.75 per cent	From October 01, 2016
iv	20.50 per cent	From January 07, 2017

Explanation:

1. For the above purpose, "market borrowing programme" shall mean the domestic rupee loans raised by the Government of India and the State Governments from the public and managed by the Reserve Bank of India through issue of marketable securities, governed by the Government Securities Act, 2006 and the Regulations framed there under, through an auction or any other method, as specified in the Notification issued in this regard.

2. Encumbered SLR securities shall not be included for the purpose of computing the percentage specified above.

Provided that for the purpose of computing the percentage of assets referred to hereinabove, the following shall be included, viz:

i. securities lodged with another institution for an advance or any other credit arrangement to the extent to which such securities have not been drawn against or availed of; and,

ii. Securities offered as collateral to the Reserve Bank of India for availing liquidity assistance from Marginal Standing Facility (MSF) up to two per cent of the total NDTL in India carved out of the required SLR portfolio of the bank concerned.

3. In computing the amount for the above purpose, the following shall be deemed to be cash maintained in India:

a. The deposit required under sub-section (2) of Section 11 of the Banking Regulation Act, 1949 to be made with the Reserve Bank by a banking company incorporated outside India;
b. Any balance maintained by a scheduled bank with the Reserve Bank in excess of the balance required to be maintained by it under Section 42 of the Reserve Bank of India Act,1934 (2 of 1934);
c. Net balance in current accounts with other SCBs in India.

Procedure for Computation of SLR

The procedure to compute total NDTL for the purpose of SLR under Section 24 (2A) of Banking Regulation Act, 1949 is broadly similar to the procedure followed for CRR. The liabilities mentioned under Section 1.11 will not form part of liabilities for the purpose of SLR also. SCBs are required to include inter-bank term deposits / term borrowing liabilities of all maturities in 'Liabilities to the Banking System'. Similarly, banks should include their inter-bank assets of term deposits and term lending of all maturities in 'Assets with the Banking System' for computation of NDTL for SLR purpose.

Penalties

If a banking company fails to maintain the required amount of SLR, it shall be liable to pay to RBI in respect of that default, the penal interest for that day at the rate of three per cent per annum above the Bank Rate on the shortfall and if the default continues on the next succeeding working day, the penal interest may be increased to a rate of five per cent per annum above the Bank Rate for the concerned days of default on the shortfall.

Return in Form VIII (SLR)

i) Banks should submit to the Reserve Bank before 20th day of every month, a Return in Form VIII showing the amounts of SLR held on alternate Fridays during immediate preceding month with particulars of their DTL in India held on such Fridays or if any such Friday is a public holiday under the Negotiable Instruments Act, 1881, at the close of business on preceding working day.

ii) Banks should also submit a statement as Annexure to Form VIII Return giving daily position of (a) assets held for the purpose of compliance with SLR, (b) excess cash balances maintained by them with RBI in the prescribed format, and (c) mode of valuation of securities.

Correctness of computation of DTL to be certified by Statutory Auditors

The Statutory Auditors should verify and certify that all items of outside liabilities, as per the bank's books had been duly compiled by the bank and correctly reflected under DTL/NDTL in the fortnightly/monthly statutory returns submitted to Reserve Bank for the financial year.

FBIL Overnight MIBOR

All trades executed on NDS-Call system excluding reciprocal and reported Deals within the first hour of trading (currently from 9.00 A.M. to 10.00 A.M.) will be used for computation of the benchmark Overnight Rate. The trades will be pulled out from the NDS-CALL system immediately after the cut-off time.

Only T+0 Settlement deals are to be picked up for calculation of Overnight Weighted Average Rate that will be called FBIL Overnight Mumbai Inter-Bank Outright Rate (FBIL-Overnight MIBOR).

For any weekday, the maturity of the deals picked up for computation of FBIL-Overnight MIBOR should be of the next succeeding Mumbai Business Day excluding Saturdays. For example, if Friday is a holiday but succeeding Monday is a Mumbai Business working day, FBIL-Overnight MIBOR calculation on Thursday will pick up trades with a maturity of 4 days. Only trades for ` 5 crore or above are retained for further calculation.

A minimum of 10 trades with a total traded value of `500 crore in the NDS-Call segment will be considered as the minimum threshold limit (both) for estimation of the volume weighted average rate.

In case either of the criteria mentioned in the above paragraph is not met, the timeframe for computation of rates will be extended by 30 minutes first and if the threshold criteria are still not met, then by another 30 minutes. If the threshold criteria are not met even after the two extensions, no rate computation will be initiated. The Previous Day's values will be used for dissemination. This may continue for a maximum of two consecutive working days (in case the threshold criteria are not met) after which if the threshold criteria are still not met, CCIL will not disseminate any rate on such days and Banks will use their own fallback mechanism. There will be a notification to that effect published on CCIL/FIMMDA websites.

- The Weighted Average Rate and Standard Deviation (STDEV) are calculated for the retained trades after meeting the threshold criteria. These numbers will be rounded off to two decimal places.
- A rate Range will be computed – Max will be Weighted Average Rate + 3* Standard Deviation and Min will be Weighted Average Rate - 3* Standard Deviation.
- Any trades at rates outside the said Max and Min range will be considered as outliers and dropped from the data (i.e. Higher than Max and Lower than Min).
- The final volume weighted average rate and standard deviation will then be computed using the remaining trades. The said numbers would be rounded off to two decimal places at each stage.
- The Final Rate will be released as FBIL-Overnight MIBOR for the day by 10.45 A.M on the websites of FIMMDA and CCIL or such websites as may be notified. If the time is extended due to non-fulfillment of the threshold criteria, the dissemination time will be suitably extended.

FBIL Term MIBOR

- FIMMDA/Benchmark Administrator's Authorized Submitters will be having access to submit the Rates for various Terms (14-Day, 1-Month and 3-Month) using a suitable Module in NDS-Call system.
- NDS-Call system will receive the mid-rates from approved Submitters between 11.00AM to 11.15AM using the specific Module inside the System. In case the time is extended

for the FBIL Overnight MIBOR due to non-fulfillment of the threshold criteria, the polling time will be suitably extended for the term rate. The Submitters would submit the rates in two decimal places.

- A minimum of 8 quotes will be required for dissemination of the Term Rate for that Tenor. If the threshold of 8 quotes for a Tenor is not met, CCIL will not disseminate the Rate for that Tenor for the day. The Previous Day's Rate for that Tenor will be displayed with due notification. The same may be repeated maximum for 2 consecutive working days in case the threshold is not met. After that, if the threshold is not met on the third day, CCIL will not calculate/compute any rate for that tenor with due notification and the Banks will follow their own fallback mechanism. After receiving the rates, the Mean Rate and Standard Deviation will be computed for each category of rates. The said calculated numbers will be rounded off to two decimal places at each stage.
- A Rate Range will be computed using Mean Rate +/- (3*Standard Deviation) for each category of Rates.
- Any polled Rate outside the said Range (i.e. Rate higher than Max or lower than Min in their respective categories) will be dropped from Final Rate Calculation.
- After removal of Outliers, the Mean Rate and Standard Deviation will be computed for each category of Rates (viz. 14-day, 1-Month and 3-Months). The said calculated numbers will be rounded off to two decimal places.
- The final rates will be released as FBIL POLLED TERM MIBOR (Mumbai Interbank Outright Rate) for the day by 11.45AM on the websites of FIMMDA and CCIL or such websites as may be notified. If the time is extended, the dissemination time will be suitably extended.

What is Delivery versus Payment (DvP) Settlement?

Delivery versus Payment (DvP) is the mode of settlement of securities wherein the transfer of securities and funds happen simultaneously. This ensures that unless the funds are paid, the securities are not delivered and vice versa. DvP settlement eliminates the settlement risk in

transactions. There are three types of DvP settlements, viz., DvP I, II and III which are explained below;

i. DvP I – The securities and funds legs of the transactions are settled on a gross basis, that is, the settlements occur transaction by transaction without netting the payables and receivables of the participant.
ii. DvP II – In this method, the securities are settled on gross basis whereas the funds are settled on a net basis, that is, the funds payable and receivable of all transactions of a party are netted to arrive at the final payable or receivable position which is settled.
iii. DvP III – In this method, both the securities and the funds legs are settled on a net basis and only the final net position of all transactions undertaken by a participant is settled.
iv. Liquidity requirement in a gross mode is higher than that of a net mode since the payables and receivables are set off against each other in the net mode.

CALL & MONEY MARKETS

Introduction

The money market is a market for short-term financial assets that are close substitutes of money. The most important feature of a money market instrument is that it is liquid and can be turned into money quickly at low cost and provides an avenue for equilibrating the short-term surplus funds of lenders and the requirements of borrowers. The call/notice money market forms an important segment of the Indian Money Market. Under call money market, funds are transacted on an overnight basis and under notice money market; funds are transacted for a period between 2 days and 14 days.

Participants

Scheduled commercial banks (excluding RRBs), co-operative banks (other than Land Development Banks) and Primary Dealers (PDs), are permitted to participate in call/notice money market both as borrowers and lenders.

Prudential Limits

The prudential limits in respect of both outstanding borrowing and lending transactions in call/notice money market for scheduled commercial banks, co-operative banks and PDs are as follows:-

Table: Prudential Limits for Transactions in Call/Notice Money Market			
Sr. No.	**Participant**	**Borrowing**	**Lending**
1	Scheduled Commercial Banks	On a fortnightly average basis, borrowing outstanding should not exceed 100 per cent of capital funds (i.e., sum of Tier I and Tier II capital) of latest audited balance sheet. However, banks are allowed to borrow a maximum of 125 per cent of their capital funds on any day, during a fortnight.	On a fortnightly average basis, lending outstanding should not exceed 25 per cent of their capital funds. However, banks are allowed to lend a maximum of 50 per cent of their capital funds on any day, during a fortnight.
2	Co-operative Banks	Outstanding borrowings of State Co-operative Banks/District Central Co-operative Banks/ Urban Co-operative Banks in call/notice money market, on a daily basis should not exceed 2.0 per cent of their aggregate deposits as at end March of the previous financial year.	No limit.
3	PDs	PDs are allowed to borrow, on average in a reporting fortnight, up to 225 per cent of	PDs are allowed to lend in call/notice money market, on

		their net owned funds (NOF) as at end-March of the previous financial year.	average in a reporting fortnight, up to 25 per cent of their NOF.

Banks/PDs/ Co-operative banks may, with the approval of their Boards, arrive at the prudential limits for borrowing/lending in Call/Notice Money Market in terms of guidelines given in paragraph 3.1 above. The limits so arrived at may be conveyed to the Clearing Corporation of India Ltd. (CCIL) for setting of limits in NDS-CALL System, under advice to Financial Markets Regulation Department (FMRD), Reserve Bank of India.

Non-bank institutions (other than PDs) are not permitted in the call/notice money market.

Interest Rate

Eligible participants are free to decide on interest rates in call/notice money market.

Calculation of interest payable would be based on the methodology given in the Handbook of Market Practices brought out by the Fixed Income Money Market and Derivatives Association of India (FIMMDA).

COLLATERALIZED BORROWING AND LENDING OBLIGATION (CBLO)

Introduction:

CBLO as the name implies facilitates in a collateralized environment, borrowing and lending of funds to market participants who are admitted as members in CBLO Segment. CBLO is conceived and developed by CCIL CBLO Dealing system, an anonymous order matching platform, is hosted and maintained by Clearcorp Dealing Systems (India) Ltd, a fully owned subsidiary of CCIL. CCIL becomes Central Counterparty to all CBLO trades and guarantees settlement of CBLO trades. The borrowing and / or lending in CBLO is facilitated for a maximum tenor of one year. CBLO is traded on Yield Time priority. The access to CBLO Dealing system for NDS Members is made available through INFINET and for non NDS Members through Internet. The Funds settlement of members in CBLO segment is achieved in the books of RBI for members who maintain an RBI Current Account and are allowed to operate that current

account for settlement of their secondary market transactions. In respect of other members, CBLO Funds settlement is achieved in the books of Settlement Bank.

What does CBLO facilitate?

CBLO facilitates borrowing and lending for various tenors, from overnight up to a maximum of one year, in a fully collateralised environment.

Membership

Entities who qualify and fulfil the eligibility criteria laid down for membership of CBLO Segment can apply for becoming a member in CBLO Segment. The type of entity eligible for CBLO Membership are Nationalized Banks, Private Banks, Foreign Banks, Co-operative Banks, Financial Institutions, Insurance Companies, Mutual Funds, Primary Dealers, Bank cum Primary Dealers, NBFC, Corporate, Provident/ Pension Funds etc. Entities who have been granted CBLO Membership are classified based on their NDS Membership. CBLO Members who are also NDS Members are CBLO (NDS) Members and other CBLO Members are CBLO (Non NDS) Members or Associate Members.

Eligible Securities

Eligible securities are Central Government securities including Treasury Bills as specified by CCIL from time to time.

Borrowing Limit and Initial Margin

Borrowing limit for the members is derived based eligible securities deposited by member in CBLO segment, multiplied by mark to market prices, less hair cut applicable on respective security. The members can borrow up a maximum of Borrowing Limit including all amounts which are borrowed and outstanding at that point in time. Members are required to deposit initial margin in the form of Cash (minimum Rs.1 lac). Initial margin is computed at the rate of

0.50% on the total amount borrowed/lent by the members. CBLO members may seek intraday enhancement of BL/ IM by depositing additional collaterals/ Government Securities/ Cash. Similarly, Members may withdraw securities intraday from CBLO segment provided they are unencumbered. However, one day prior notice is required for cash withdrawal.

Borrowing and Lending under CBLO

Borrowing and lending under CBLO can be done by both CBLO (NDS) members and Associate members. The access to CBLO (NDS) members is made available through INFINET whereas Associate members are provided access through Internet. Members have to deposit Cash and/ or eligible securities prior to starting CBLO Dealing operations. The limits are made available to members based on cash / eligible securities deposited with CCIL for that purpose in CBLO Segment. CBLO Members can place borrow / lend orders till the closure of market hours for T+0 settlement type for the same day settlement and till closure of market hours for T+1 settlement type for settlement on next business day. The date for repayment of borrowing/ receipt of lending is identified by the nomenclature of CBLO itself which captures as part of the description the repayment of borrowing/ receipt of lending date. The borrowing and lending orders match on Yield Time priority. The Borrow limit and Initial Margin are blocked on post trade basis and hence the onus is on the members to ensure prior to placing the order that sufficient BL and IM are available. For a few members Borrow Limit and Initial Margin are blocked at the time of placing order in the system.

CBLO Timing

CBLO order matching system is available for all members (including Associate Members) for settlement on T+0 and T+1 basis. The CBLO Borrowing / Lending timing for settlement type T+0 and T+1 for various business days shall be as decided by Clearcorp Dealing Systems (India) Ltd. and notified from time to time.

Clearing & Settlement

CBLO system operates on a Straight through Processing (STP) environment. The trade flows from CBLO Dealing System seamlessly to CCIL for Clearing and Settlement. The trades received by CCIL are novated and netted for settlement. A single obligation is generated for each member for each settlement date by netting trades received for settlement that business date with borrowing / lending maturity obligation for the same date. The funds settlement is achieved at Settlement Bank for those CBLO members who maintain a current account with Designated Settlement Bank (DSB). CBLO Funds settlement is achieved at RBI for those members who maintain current account at RBI and are allowed to settle secondary market transactions in such account. The securities of equivalent value are blocked for members utilizing borrow limits. CBLO Account balance credits are displayed for those members who have lent funds after the CBLO Funds settlement is completed. This indicates that the lendings are collateralised. A report is made available to borrower giving details of securities encumbered in CBLO segment.

CBLO Funds Settlement

The instructions for settlement of funds obligations, for members settling at Settlement Bank, is transmitted electronically to the Settlement Bank containing details of Funds Pay-in and Pay-out to be effected by the respective Settlement Bank. The Settlement Bank shall after effecting such Pay-in and Pay-out, confirm back electronically the completion of such process. The onus on ensuring that sufficient funds are made available in the respective current account with Settlement Bank rests with the CBLO members settling through Settlement Bank.

CBLO Funds Settlement @ RBI Current Account:

The instructions for settlement of funds obligations, for members settling at RBI, is transmitted to RBI which include Pay-in and Pay-out positions in respect of their proprietary positions and for Settlement Banks, it also includes, those obligations of other members for whom they have undertaken the function as a Settlement Bank.

Risk Management:

CCIL addresses risk relating to trading and settlement by adopting stringent membership norms and admit the members who meet the minimum eligibility criteria. Members are allowed to borrow to the extent of the limit fixed after MTM valuation of securities with appropriate haircut. Members are also required to deposit Initial Margin required for borrowing and/ or lending in CBLO Segment. Cash deposited by members, in CBLO segment shall be treated as Initial Margin. The Initial Margin available, if is lesser than the requirement, then system would source the initial margin excess utilised from the free Borrow Limit available. The members are required to deposit immediately, in the CBLO CSGL account, securities required for replenishing the shortfall in Borrow Limit, if any. Similarly, the members are also required to replenish the Initial Margin shortfall, immediately on it Initial Margin utilisation exceeding the available Initial Margin.

Any shortfall in Borrow Limit shall be treated as settlement shortage and shall be handled as per the process laid down for handling CBLO shortage. Further, members failure to deposit such deficit (both Borrow limit & Initial Margin), immediately shall be treated as a Margin Default and penalty is charged accordingly.

Default handling:

(i) Funds Shortage:

Shortfall in funds can take place when the members (by lenders on the day of lending and by borrowers on the day of redemption) fail to meet funds obligation on the day of settlement. In such cases, CCIL meets the shortage by utilizing the lines of credit extended by the member banks / Settlement Banks and complete the settlement. CCIL then initiates the default handling process by withholding the CBLO Account balance credit receivable by the lenders (member-in-shortage). In case of failure by the borrower to meet the redemption proceeds on maturity of borrowing transactions, the underlying securities of such member stands encumbered till the funds are replenished along with charges. In case of eventual default i.e. non replenishment of settlement shortage by member-in-shortage, CCIL liquidates the underlying securities and adjust the proceeds towards the shortfall and other charges.

(ii) CBLO Shortage:

CBLO shortage can take place when the members Borrow without having sufficient borrowing limit. In case of CBLO shortfall, CCIL withholds the funds receivable by the member-in-shortage. The funds withheld remains as collateral for securing the lenders to the extent.

WHAT IS VALUE AT RISK?

What is the maximum I can lose on this investment? This is a question that almost every investor who has invested or is considering investing in a risky asset asks at some point in time. Value at Risk tries to provide an answer, at least within a reasonable estimate. In fact, it is misleading to consider Value at Risk, or VaR as it is widely known, to be an alternative to risk adjusted value and probabilistic approaches.

In lay man terms Value at Risk measures largest loss likely (in future) to be suffered on a portfolio position over a holding period with a given probability (confidence level). VAR is a measure of market risk, and is equal to one standard deviation of the distribution of possible returns on a portfolio of positions.

Value-at-risk (VaR) is a Probabilistic Metric of Market Risk (PMMR) used by banks and other organizations to monitor risk in their trading portfolios. For a given probability and a given time horizon, value-at-risk indicates an amount of money such that there is that probability of the portfolio not losing more than that amount of money over that horizon.

Value at Risk Measures:

1. The Amount of Potential Losses
2. The chance of that loss

3. The Time Frame of the Loss

Calculation, Significance and Use of Value at Risk (VaR) Measures

Value at Risk is one unique and consolidated measure of risk, which has been at the center of much expectations, popularity and controversy. It is also referred to as a summary statistic which quantifies the asset or portfolio's exposure to market risk. It has been in the news for many wrong reasons as much popularity it gained among the financial market dealers since 2008 wall street crash. Later economists and analysts have been able to develop more comprehensive and reliable VaR stats but the basic characteristic of all the measure remains the same or at least they are derived from Traditional VaR statistic. Here we will take a look at what are the qualities which made this statistic gain popularity and notoriety at the same time.

Features of Value at Risk (VaR): Given below are features of Traditional VaR estimate:

i. VaR is probability based and allows the users to interpret possible losses for various confidence levels.
ii. It is a consistent measurement of financial risk as it uses the possible dollar loss metric enabling the analysts to make direct comparisons across different portfolios, assets or even business lines.
iii. VaR is calculated based on a common time horizon, and thus, allows for possible losses to be quantified for a particular period.
iv. The choice of confidence level is usually based on the industry requirements or reporting norms suggested by the Regulators. Choice of time horizon will depend on the type of asset being analyzed, for example:
v. On a common stock it can be estimated for any horizon depending on the frequency of trade or user requirement.
vi. On a portfolio VaR can be calculated for a period of turnover only; i.e. till the time portfolio holdings remain consistent, as the holding changes or in other words if a trade is recorded in the portfolio the VaR has to be calculated again. Therefore,

time-horizon for a portfolio depends on the frequency of trading in its assets.

vii. For a business analysis it may depend on the employee evaluation periods, key decision making events etc. could provide the possible time horizons.

viii. Regulatory and taxation requirements

ix. External Quality Assessments etc.

It is important to note that VaR comparison between two portfolios, business lines or assets requires that the two variables, i.e. time horizon and confidence level, be consistent for all the portfolios being compared.

Uses of Value at Risk (VaR) :

VaR has four main uses in finance:

- Risk Management
- Financial Control
- Financial Reporting and
- Computing Regulatory Capital.

VaR is sometimes used in non-financial applications as well.

The greatest benefit of VAR is that it imposes a structured methodology for critically measuring risk. Institutions that go through the process of computing their VAR are forced to keep a check on their exposure to financial risks and to set up a proper risk management function. Thus the process of getting to VAR may be as important as the number itself.

The other benefit of VaR is that it allows organizations to divide risk in two parts.

- Inside the VaR Limit
- Outside the VaR Limit

"A risk manager has two jobs: make people take more risk the 99% of the time it is safe to do so, and survive the other 1% of the time. VaR is the border. So by using VaR the limit of the Risk that can be undertaken is defined.

In the early 1990s, three events dramatically expanded use of value-at-risk:

The Group of 30 (1993) published a groundbreaking report on derivatives practices. It was influential and helped shape the emerging field of financial risk management. It promoted the use of value-at-risk by derivatives dealers and appears to be the first publication to use the phrase “value-at-risk.”

JP Morgan (1994) released the first detailed description of value-at-risk as part of its free Risk Metrics service. This was intended to promote the use of value-at-risk among the firm’s institutional clients. The service comprised a technical document describing how to implement a VaR measure and a covariance matrix for several hundred key factors updated daily on the internet.

In 1995, the Basel Committee on Banking Supervision implemented market risk capital requirements for banks. These were based upon a crude value-at-risk measure, but the committee also approved, as an alternative, the use of banks’ own proprietary VaR measures in certain circumstances.

Criticism of VaR

VaR is compared to "an airbag that works all the time, except when you have a car accident."

The major criticism of VaR is:

- Led to excessive risk-taking and leverage at financial institutions
- Focused on the manageable risks near the center of the distribution and ignored the tails
- Created an incentive to take "excessive but remote risks"
- Was "potentially catastrophic when its use creates a false sense of security among senior executives and watchdogs."

Limitation of VaR: These are some common limitations of VaR:

- Referring to VaR as a "worst-case" or "maximum tolerable" loss. In fact, you expect two or three losses per year that exceed one-day 1% VaR.

- Making VaR control or VaR reduction the central concern of risk management. It is far more important to worry about what happens when losses exceed VaR.
- Assuming plausible losses will be less than some multiple, often three, of VaR. The entire point of VaR is that losses can be extremely large, and sometimes impossible to define, once you get beyond the VaR point. To a risk manager, VaR is the level of losses at which you stop trying to guess what will happen next, and start preparing for anything.
- Reporting a VaR that has not passed a backtest. Regardless of how VaR is computed, it should have produced the correct number of breaks (within sampling error) in the past. A common specific violation of this is to report a VaR based on the unverified assumption that everything follows a multivariate normal distribution.