at their choice are attractive. Only SEBI registered members who have been granted permission by the Exchange for providing internet based trading services can introduce the service after obtaining permission from the Exchange.

CHAPTER 4

CLEARING, SETTLEMENT AND RISK MANAGEMENT

4.1 Introduction

After a trade is executed, it needs to be settled. The clearing and settlement mechanism in Indian securities market has witnessed significant changes and several innovations during the last decade. These include use of the state-of-art information technology, emergence of clearing corporations to assume counterparty risk, shorter settlement cycle, dematerialization, electronic transfer of securities and fine-tuned risk management system.

Till January 2002, the stock exchanges in India were following a system of account period settlement for cash market transactions. An account period settlement is a settlement where the trades pertaining to a period stretching over more than one day are settled. For example, trades for the period Monday to Friday are settled together. The obligations for the account period are settled on a net basis.

Instead of the account period settlement, T+2 rolling settlement was introduced for all securities. Rolling settlement refers to the settling of trades at a standard fixed period of days after the execution occurred. In a rolling settlement, each trading day is considered as a trading period and trades executed during the day are settled based on the net obligations for the day.

4.2 Key terminologies used in Clearing and Settlement Process

Pay-in day is the day when the trading members/brokers are required to make payment of funds or delivery of securities to the clearing corporation of the Exchange for all transactions traded by or through them in the respective settlement period.

a) **Securities Pay-in:** The process of delivering securities to the clearing corporation to effect settlement of a sale transaction.

b) **Funds Pay-in:** The process of transfer of funds to the clearing corporation to pay for purchase transactions.

Pay-out day is the day when the clearing corporation of the stock exchange transfers funds and securities to the broker/trading member who have receivable obligation.

a) **Securities Pay-out:** The process of receiving securities from the clearing corporation to complete the securities settlement of a purchase transaction.

b) **Funds Pay-out:** The process of transfers of funds from the clearing corporation to complete the funds settlement of a sale transaction.

4.3 Transaction Cycle

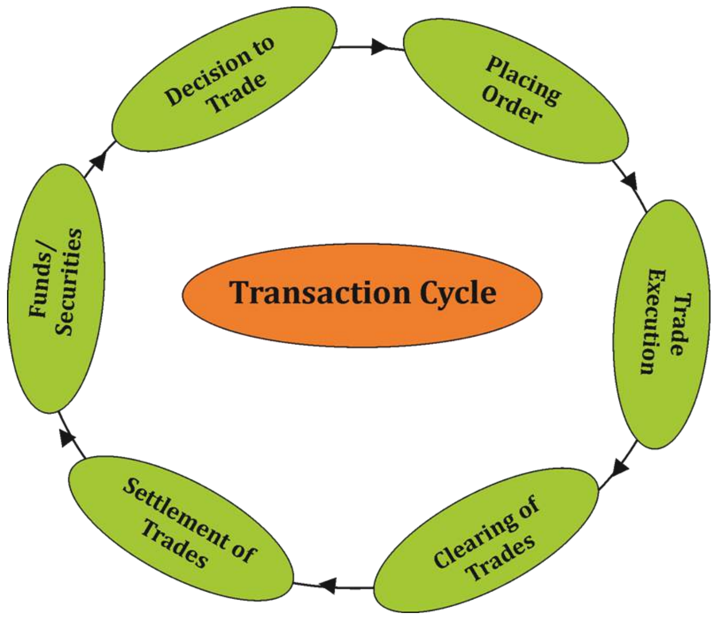

Figure 4.1: Transaction cycle

Steps in Transaction Cycle

a) A person holding assets (securities/funds), either to meet his liquidity needs or to reshuffle his holdings in response to changes in his perception about risk and return of the assets, decides to buy or sell the securities.

b) He selects a broker and instructs him to place buy/sell order on an exchange.

c) The order is converted to a trade as soon as it finds a matching sell/buy order.

d) At the end of the trade cycle, the trades are netted to determine the obligations of the trading members to deliver securities/funds as per settlement schedule.

e) Buyer (seller) delivers funds (securities) and receives securities (funds) and acquires ownership of the securities. A securities transaction cycle is presented in Figure 4.1.

4.4 Settlement Agencies

The roles of several entities involved in the process of clearing and settling the trades executed on Exchanges are explained below:

(i) Clearing Corporation (NSCCL): The NSCCL is responsible for post-trade activities of a stock exchange. Clearing and settlement of trades and risk management are its central functions. It clears all trades, determines obligations of members, arranges for pay-in of funds/securities, receives funds / securities, processes for shortages in funds/ securities, arranges for pay-out of funds/securities to members, guarantees settlement, and collects and maintains margins / collateral base capital / other funds.

(ii) Clearing Members: They are responsible for settling their obligations as determined by the NSCCL. They have to make available funds and/or securities in the designated accounts with clearing bank/depository participant, as the case may be, to meet their obligations on the settlement day. In the capital market segment, all trading members of the Exchange are required to become the Clearing Member of the Clearing Corporation.

(iii) Custodians: A custodian is an entity who is responsible for safeguarding the documentary evidence of the title to property like share certificates, etc. The title to the custodian's property remains vested with the original holder, or in their nominee(s), or custodian trustee, as the case may be. In NSCCL, custodian is a clearing member but not a trading member. The custodian settles trades assigned by trading members. The custodian is required to confirm whether it is going to settle a particular trade or not. If it is confirmed, the NSCCL assigns that obligation to that custodian and the custodian is required to settle it on the settlement day. If the custodian rejects the trade, the obligation is assigned back to the trading / clearing member.

(iv) Clearing Banks: Clearing banks are a key link between the clearing members and NSCCL for funds settlement. Every clearing member is required to open a dedicated settlement account with one of the clearing banks. Based on his obligation as determined through clearing, the clearing member makes funds available in the clearing account for the pay-in and receives funds in case of a pay-out. Multiple clearing banks provide advantages of competitive forces, facilitate introduction of new products viz. working capital funding, anywhere banking facilities, the option to members to settle funds through a bank, which provides the maximum services suitable to the member.

Functions of Clearing Banks

The clearing banks are required to provide the following services as a single window to all clearing members of National Securities Clearing Corporation Ltd. as also to the clearing corporation:

a) Branch network in cities that cover bulk of the trading cum clearing members

b) High level automation including Real time gross settlement (RTGS)[8] and electronic funds transfer (EFT) facilities

c) Facilities like (i) dedicated branch facilities (ii) software to interface with the clearing corporation (iii) access to accounts information on a real time basis

d) Value-added services to members such as free-of-cost funds transfer across centers etc.

e) Providing working capital funds.

f) Stock lending facilities i.e. lending of a security by the registered owner, to an

[8] Real Time Gross Settlement (RTGS) is the concept designed to achieve sound risk management in the settlement of interbank payments. Transactions are settled across accounts held at the Central Bank on a continuous gross basis where settlement is immediate, final and irrevocable.

authorized third party, for a fixed or open period of time, for an agreed consideration secured by collateral. The demand to borrow securities comes mainly from market makers to cover short positions or take arbitrage opportunities.

g) Services as Depository Participants (an agent of the depository through which it interfaces with the investor).

h) Other Capital Market related facilities

i) All other banking facilities like issuing bank guarantees / credit facilities etc.

(v) Depositories: A depository is an entity where the securities of an investor are held in electronic form. The person who holds a demat account is a beneficiary owner. In case of a joint account, the account holders are beneficiary holders of that joint account. Depositories help in the settlement of the dematerialised securities. Each custodian/ clearing member is required to maintain a clearing pool account with the depositories. He is required to make available the required securities in the designated account on settlement day. The depository runs an electronic file to transfer the securities from accounts of the custodians/clearing member to that of NSCCL. As per the schedule of allocation of securities determined by the NSCCL, the depositories transfer the securities on the pay-out day from the account of the NSCCL to those of members/ custodians.

4.5 Clearing and Settlement Process

While NSE provides a platform for trading to its trading members, the National Securities Clearing Corporation Ltd. (NSCCL) determines the funds/securities obligations of the trading members and ensures that trading members meet their obligations. NSCCL becomes the legal counterparty to the net settlement obligations of every member. This principle is called **'novation'** and NSCCL is obligated to meet all settlement obligations, regardless of member defaults, without any discretion. Once a member fails on any obligations, NSCCL immediately cuts off trading and initiates recovery.

4.5.1 Clearing Process

Determination of Obligation: NSCCL determines what counter-parties owe and what counterparties are due to receive on the settlement date. The NSCCL interposes itself as a central counterparty between the counterparties to trades and nets the positions so that a member has security wise net obligation to receive or deliver a security and has to either pay or receive funds.

At the end of each trading day, concluded or locked-in trades are received from NSE by NSCCL. NSCCL determines the cumulative obligations of each member and electronically transfers the data to Clearing Members (CMs). This implies that all trades concluded during a particular trading period are settled together. A multilateral netting procedure is adopted to determine the net settlement obligations (delivery / receipt positions) of CMs. NSCCL then allocates or assigns delivery of securities inter se the members to arrive at the delivery and receipt obligation of funds and securities by each member.

4.5.2 Settlement Process

The settlement process begins as soon as member's obligations are determined through the clearing process. The clearing banks and depositories provide the necessary interface between the custodians/clearing members (who clear for the trading members or their own transactions) for settlement of funds/securities obligations of trading members. The clearing corporation provides a major link between the clearing banks, clearing members and the depositories. This link ensures actual movement of funds and securities on the prescribed pay-in and payout day. The core processes involved in the settlement process are:

(i) **Pay-in of Funds and Securities:** The members bring in their funds/securities to the NSCCL. They make available required securities in designated accounts with the depositories by the prescribed pay-in time. The depositories move the securities available in the accounts of members to the account of the NSCCL. Likewise members with funds obligations make available required funds in the designated accounts with clearing banks by the prescribed pay-in time. The NSCCL sends electronic instructions to the clearing banks to debit member's accounts to the extent of payment obligations. The banks process these instructions, debit accounts of members and credit accounts of the NSCCL.

(ii) **Pay-out of Funds and Securities:** After processing for shortages of funds/securities and arranging for movement of funds from surplus banks to deficit banks through RBI clearing, the NSCCL sends electronic instructions to the depositories/clearing banks to release pay-out of securities/funds. The depositories and clearing banks debit accounts of NSCCL and credit settlement accounts of members. Settlement is complete upon release of pay-out of funds and securities to custodians/members.

Settlement is deemed to be complete upon declaration and release of pay-out of funds and securities. Exceptions may arise because of short delivery of securities by CMs, bad deliveries or company objections on the pay-out day. (The detailed explanation of securities and funds settlement follows in the later section).

NSCCL identifies short deliveries (discussed later) and conducts a buying-in auction on the day after the pay-out day through the NSE trading system. The delivering CM is debited by an amount equivalent to the securities not delivered and valued at a valuation price (the closing price as announced by NSE on the day previous to the day of the valuation). If the buy-in auction price is more than the valuation price, the CM is required to make good the difference. All shortages not bought-in are deemed closed out at the highest price between the first day of the trading period till the day of squaring off or closing price on the auction day plus 20%, whichever is higher. This amount is credited to the receiving member's account on the auction pay-out day.

The settlement process for transactions in securities in the CM segment of NSE is presented in the Figure 4.2.

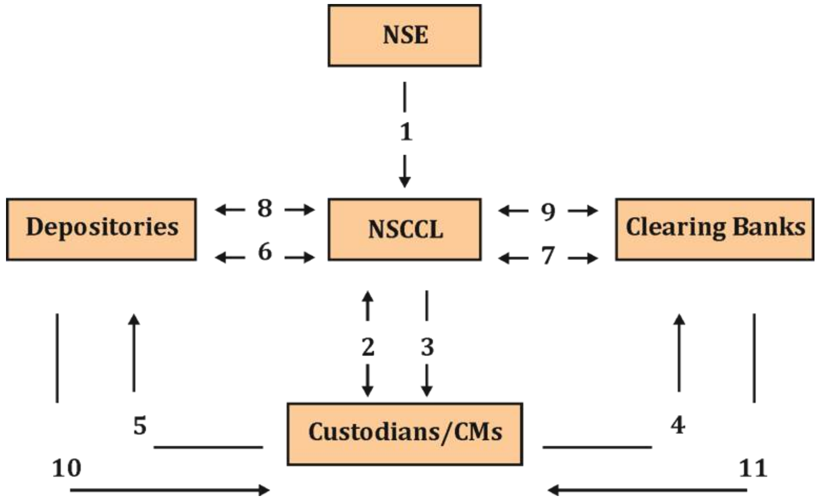

Figure 4.2: Settlement Process in CM segment of NSE

Explanation:

1. Trade details from Exchange to NSCCL (real-time and end of day trade file).
2. NSCCL notifies the consummated trade details to CMs/custodians who affirm back. Based on the affirmation, NSCCL applies multilateral netting and determines obligations.
3. Download of obligation and pay-in advice of funds/securities.
4. Instructions to clearing banks to make funds available by pay-in time.
5. Instructions to depositories to make securities available by pay-in-time.
6. Pay-in of securities (NSCCL advises depository to debit pool account of custodians/CMs and credit its account and depository does it).
7. Pay-in of funds (NSCCL advises Clearing Banks to debit account of custodians/CMs and credit its account and clearing bank does it).
8. Pay-out of securities (NSCCL advises depository to credit pool account of custodians/ CMs and debit its account and depository does it).
9. Pay-out of funds (NSCCL advises Clearing Banks to credit account of custodians/CMs and debit its account and clearing bank does it).
10. Depository informs custodians/CMs through DPs.
11. Clearing Banks inform custodians/CMs.

4.5.3 Settlement Cycle

Settlement cycles for securities in dematerialised and physical mode is explained below:

Settlement Cycle For Dematerialised Securities

(i) **Normal Market:** The trades executed each trading day are considered as a trading period and trades executed during the day are settled based on the net obligations for the day. At NSE, trades in rolling settlement are settled on a T+2 basis i.e. on the 2nd working day. Typically trades taking place on Monday are settled on Wednesday, Tuesday's trades settled on Thursday and so on.

A tabular representation of the settlement cycle for rolling settlement is given below in Table 4.1:

Table 4.1: Settlement Cycle – Normal Market

	Activity	Day
Trading	Rolling Settlement Trading	**T**
Clearing	Custodial Confirmation	T+1 working days
	Delivery Generation	T+1 working day
Settlement	Securities and Funds pay-in	T+2 working days
	Securities and Funds pay-out	T+2 working days
	Valuation of shortages based on closing prices (at T+1 closing prices)	T+2 working days
Post Settlement	Auction	T+2 working days
	Auction settlement	T+3 working days
	Bad Delivery Reporting	T+4 working days
	Rectified bad delivery pay-in and pay-out	T+6 working days
	Re-bad delivery reporting and pickup	T+8 working days
	Close out of re-bad delivery and funds pay-in & pay-out	T+9 working days

(ii) **Inter Institutional Deals:** Trading in this market segment is available for 'institutional investors' only. In order to ensure that the overall FII limits are not violated, selling in this segment is restricted to FII clients. Buying is restricted to Institutional clients. Members are required to enter the custodian participant code at the time of order entry and to ensure that the selling/buying restrictions are strictly adhered to. A sale order entered by trading members on behalf of non FII clients or a buy order entered by trading members on behalf of non institutional (FII, FI, Banks, Mutual Funds & Insurance Companies) clients, is deemed to be invalid. The member entering the invalid order is further liable for disciplinary action, which may include penalties, penal action, withdrawal of trading facilities, suspension etc.

Deals executed in this segment are cleared on a T+2 rolling basis. Settlement of all transactions is compulsorily in demat mode only.

The settlement cycle for this segment is shown below in Table 4.2:

Table 4.2: Settlement Cycle – Inter Institutional Deals

	Activity	Day
Trading	Rolling Settlement Trading	**T**
Clearing	Custodial Confirmation	T+1 working days
	Delivery Generation	T+1 working days
Settlement	Securities and Funds pay-in	T+2 working days
	Securities and Funds pay-out	T+2 working days
	Valuation of shortages based on	
	closing prices	at T+1 closing prices
Post Settlement	Close out	T+2 working days

Settlement Cycle for Physical Securities

Limited Physical Market: For limited physical markets, settlement for trades is done on a trade-for-trade basis and delivery obligations arise out of each trade.

Salient features of Limited Physical Market settlement are:

a) Delivery of shares in street name and market delivery (clients holding physical shares purchased from the secondary market) is treated as bad delivery. The shares standing in the name of individuals/HUF only would constitute good delivery. The selling/delivering member must necessarily be the introducing member.

b) Any delivery of shares which bears the last transfer date on or after the introduction of the security for trading in the LP market is construed as bad delivery.

c) Any delivery in excess of 500 shares is marked as short and such deliveries are compulsorily closed-out.

d) Shortages, if any, are compulsorily closed-out at 20% over the actual traded price. Unrectified bad delivery and re-bad delivery are compulsorily closed-out at 20% over the actual traded price.

e) All deliveries are compulsorily required to be attested by the introducing/ delivering member.

f) The buyer must compulsorily send the securities for transfer and dematerialisation, latest within 3 months from the date of pay-out.

g) Company objections arising out of such trading and settlement in this market are reported in the same manner as is currently being done for normal market segment. Securities, however, would be accepted as valid company objection, only if the securities are lodged for transfer within 3 months from the date of pay-out.

The settlement cycle for this segment is same as for the rolling settlement, as shown in Table 4.3 below:

Table 4.3: Settlement Cycle – Physical Securities

	Activity	Day
Trading	Rolling Settlement Trading	**T**
Clearing	Custodial Confirmation	T+1 working days
	Delivery Generation	T+1 working days
Settlement	Securities and Funds pay-in	T+2 working days
	Securities and Funds pay-out	T+2 working days
Post Settlement	Assigning of shortages for close out	T+2 working days
	Reporting and pick-up of bad delivery	T+4 working days
	Close out of shortages	T+4working days
	Replacement of bad delivery	T+6 working days
	Reporting of re-bad and pick-up	T+8 working days
	Close out of re-bad delivery	T+9 working days

4.6 Securities and Funds Settlement

Settlement is done from two aspect- Securities settlement and Funds settlement (Figure 4.3). These are discussed below.

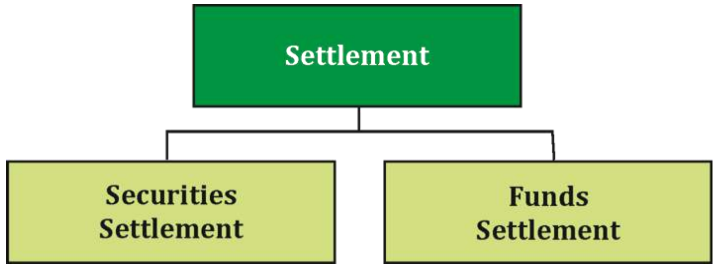

Figure: 4.3 Types of Settlement

4.6.1 Securities Settlement

a) The securities obligations of members are downloaded to members/custodians by NSCCL after the end of the trading day.

b) The members / custodians deliver the securities to the clearing corporation on the pay-in day in case of physical settlement and make available the required securities in the pool accounts with the depository participants in case of dematerialised securities.

c) Members are required to open accounts with depository participants of both the depositories, NSDL and CDSL. Delivering members are required to deliver all documents to the clearing corporation (in case of physical settlement) between 9:30 a.m. and 10:30 a.m. on the settlement day. Receiving members are allotted specific time slots on settlement day to collect the documents from the clearing corporation at Mumbai. In case of dematerialised settlement, the members receive their obligation by 2.30 pm on T + 1 day. The members need to arrange for the securities as per their obligations and give instructions by 10.30 am on the pay-in day.

d) In case of NSDL, the members need to give instructions to move the securities to the settlement account of NSCCL, whereas in case of CDSL pay-in is done based on settlement ID through in which members are required to provide separate balances for each settlement.

e) The members need to ensure that the settlement number and type are correctly entered to avoid any defaults.

f) Pursuant to SEBI directive[9], NSCCL has introduced a settlement system for direct delivery of securities to the investors accounts with effect from April 2, 2001. This facility is known as Direct Payout to Investors which is explained below.

Direct Payout to Investors

NSCCL has introduced the facility of direct payout (i.e. direct delivery of securities) to clients' account on both the depositories. It ascertains from each clearing member, the

[9] vide its circular SMDRP/Policy/Cir-05/2001 dated February 1, 2001

beneficiary account details of their respective clients who are due to receive pay out of securities. Based on the information received from members, the clearing corporation sends payout instructions to the depositories, so that the client receives the pay out of securities directly to their accounts on the pay-out day. The client receives payout to the extent of instructions received from the respective clearing members. To the extent of instruction not received, the securities are credited to the CM pool account of the member. Following are the salient features of 'Direct Payout' to Investors.

a) Clearing members are required to provide a file to NSCCL for effecting pay out to investors' accounts for a particular settlement type, settlement number and delivery type. The file is to be provided as per the structure specified by NSCCL.

b) The time limit for submission of files is up to 9.30.am on the pay out day.

c) The files are uploaded by NSCCL in its system and returned with the indication of the success/rejection of the file and the records. This is purely a validation of the correctness of the file and record formats.

d) Clearing members should provide details of beneficiary account of the clients of the trading members in any one of the depositories.

e) Credit to the accounts of various constituents (i.e. client account and CM Pool / CM Clearing account) would be in the same order as specified by the clearing member in the file given to NSCCL.

f) If for any client account record, the quantity requested for direct payout is more than the balance available for pay out to the clearing member in that depository, the quantity available in that depository is directly credited to members settlement account in that depository. If the member receives entire shares in NSDL the same will be transferred to members pool account in NSDL.

g) In the following situations, the payout is credited to CM Pool / Clearing account of the clearing members :

   - Where the clearing members fail to provide the details of the beneficiary account or where the credit to the beneficiary accounts of the clients fail, or any account whatsoever.

   - The remaining quantity received from other depository as payout is credited to the CM Pool/Clearing account of the clearing member with the respective depositories

h) If the member's client has not paid the dues to the member for the said securities or for any other reason, the member has valid justification not to release the payout of a client direct in such a situation the member may not be giving the beneficiary account details of such client's in the file. In case the investor has paid the dues for delivery of securities and there is no valid justification for not releasing pay-out directly to the client, the member has to provide the details of its clients beneficiary account so that direct credit can be given to the client.

Problems Pertaining to Securities Settlement

Broadly, there exist three types of settlement problems pertaining to securities settlement:

(i) Short Deliveries: A short delivery/failed delivery takes place when a broker, a custodian or the clearing corporation delivers fewer securities than what were contracted for either to another broker, a custodian or the clearing corporation. On the securities pay-in day, clearing member communicate to the clearing corporation about the securities that he will be able to deliver and those securities which he will not be able to deliver. Also informs an amount equivalent to the securities not delivered by him valued at the valuation price (the closing price on the day previous to the day of valuation). This is called valuation debit. A valuation debit is also conducted for bad delivery by clearing members. This problem can arise in case of both physical and dematerialized settlement. (Valuation debit is explained in the later section)

(ii) Bad Deliveries: Bad deliveries (deliveries which are prima facie defective) are required to be reported to the clearing corporation within two days from the receipt of documents. The delivering member is required to rectify these within two days. Un-rectified bad deliveries are assigned to auction on the next day. This problem can arise only in case of physical settlement.

(iii) Company Objections: Company objections arise when documents for securities transfer are returned due to signature mismatch or for any other reason. The original selling CM is normally responsible for rectifying/replacing defective documents to the receiving CM as per pre-notified schedule. The CM on whom company objection is lodged has an opportunity to withdraw the objection if the objection is not valid or the documents are incomplete (i.e. not as required under Guideline No.100 or 109 of SEBI Good/Bad delivery guidelines), within 7 days of lodging the complaint against him. If the CM is unable to rectify/replace defective documents on or before 21 days, NSCCL conducts a buying-in auction for the non-rectified part of defective document on the next auction day through the trading system of NSE. All objections, which are not bought-in, are deemed closed out on the auction day at the closing price on the auction day plus 20%. This amount is credited to the receiving member's account on the auction pay-out day.

4.6.2 Funds Settlement

Currently, NSCCL (the clearing corporation) offers settlement of funds through the clearing banks appointed by it. Every clearing member is required to maintain and operate a clearing account with any one of the empanelled clearing banks at the designated clearing bank branches. The clearing account is to be used exclusively for clearing & settlement operations.

Clearing Account

Every clearing member is required to maintain and operate a clearing account with any one of the empanelled clearing banks at the designated clearing bank branches. The clearing account is to be used exclusively for clearing operations i.e., for settling funds and other obligations to the clearing corporation including payments of margins and penal charges. Clearing members are required to authorise the clearing bank to access their clearing account for debiting and crediting their accounts, reporting of balances and other information as may be required by NSCCL from time to time as per the specified format. The clearing bank will debit/ credit the clearing account of clearing members as per instructions received from the clearing corporation. A clearing member can deposit funds into this account in any form, but can withdraw funds from this account only in self-name.

Change in Clearing Bank

In case a clearing member wishes to shift a clearing account from one designated clearing bank to another, the procedure is as follows:

a) The CM clearing member while requesting the clearing corporation for a change in the clearing bank account should either:

   (i) Furnish the no objection certificate (NOC) received by the member from the existing clearing bank for shifting of account, or

   (ii) In case no response was received by the clearing member from the existing clearing bank in respect of the NOC request even after a minimum waiting period of a fortnight, a declaration to the above effect along with an acknowledged copy of the NOC request made by the member to the existing clearing bank.

b) The clearing corporation would thereon issue a letter of introduction to the other designated clearing bank.

c) On opening the account with the other designated clearing bank, the clearing member should submit to the clearing corporation, the account particulars issued by the bank and also the acknowledged copy of the letter issued by the clearing member to the clearing bank.

d) The clearing corporation should thereon communicate the date from which the new clearing account will be operational and also the date after which the existing clearing account may be closed by the clearing member.

Settlement of Funds

a) Members are informed of their funds obligation for various settlements through the daily clearing data download. The daily funds statement gives date-wise details of each debit/ credit transaction in the member's clearing account whereas the summary statement summarizes the same information for a quick reference.

b) The member account may be debited for various types of transactions on a daily basis. The member is required to ensure that adequate funds are available in the clearing account towards all obligations, on the scheduled date and time. The member can refer to his various obligation statements and provide for funds accordingly.

c) To ensure timely fulfillment of funds obligations, members may avail of the facility of standing instructions to transfer the requisite amount from some other account to the clearing account or a temporary overdraft facility from the bank. In case the member has availed such a facility, the member may furnish details of his obligation to the bank to ensure timely transfer of funds towards the same to avoid inconvenience.

d) The member with a funds pay-in obligation is required to have clear funds in his account on or before 11.00 a.m. on the scheduled pay-in day.

e) The payout of funds is credited to the clearing account of the members on or after 1.30 p.m. on the scheduled payout day.

Funds shortages

In case there is a funds shortage of a particular specific value, trading is not permitted and securities payout is withheld as per the norms in place from time to time.

Penal Charges

Penalties are charged to members for:

a) Failure to fulfill their funds obligations

b) Failure to fulfill their securities deliverable obligations

c) Gross Exposure & Turnover Violations

d) Margin Shortages

e) Security Deposit Shortages

f) Other violations in respect of client code modifications, non-confirmation of custodial trades, company objections reported against the members' etc.

4.7 Shortages Handling

On the securities pay-in day, NSCCL identifies short deliveries and the respective clearing member is debited by an amount equivalent to the securities not delivered by him and valued at a valuation price. This is called a **valuation debit**. A valuation debit is also conducted for bad delivery by clearing members.

NSCCL conducts a buying-in auction for security shortages on the day after the pay-out day through the NSE trading system. If the buy-in auction price is more than the valuation price, the member is required to make good the difference.

4.7.1 Valuation Prices

Prices at which valuation debits are conducted called Valuation Prices and are calculated as below:

(i) **Valuation Price for failure to deliver for Regular Market, and Limited Physical Market Deals:** The valuation price for securities which were not delivered on the settlement day for securities, is the closing price of such securities, on the immediate trading day preceding the pay-in day for the securities.

(ii) **Valuation Price for Bad Delivery for Regular Market and the Limited Physical Market Deals:** The valuation price for securities which constitute bad deliveries, is the closing price of such securities, on the immediate trading day preceding the bad delivery rectification day for the securities.

4.7.2 Close-out Procedures

All shortages not bought-in are deemed closed out at the highest price between the first day of the trading period till the day of squaring off or closing price on the auction day plus 10%/20% (as the case may be). This amount is credited to the receiving member's account on the auction pay-out day.

The close out procedure is done in the following manner for different markets and varies from case to case.

(i) **For Regular Market:**

a) **In the case of failure to give delivery:** At the highest price prevailing in the NSE from the first day of the relevant trading period till the day of closing out or 20% above the closing price on the auction day, whichever is higher. In cases of securities having corporate actions all cases of short delivery of cum transactions which cannot be auctioned on cum basis or where the cum basis auction payout is after the book closure/record date, would be compulsory closed out. For compulsory close out, the following formula is applicable:

(i) Higher of 10% above the closing price of the security in Normal Market on the auction day

(ii) The highest traded price from first trading day of the settlement till the auction day.

b) **In the case of non rectification/replacement for bad delivery**: At the highest price prevailing in the NSE from the first day of the relevant trading period till the day of the closing out or 20% above the official closing price on the auction day, whichever is higher.

c) **In the case of non rectification/replacement for objection cases:** At 20% above the official closing price on the auction day.

(ii) For Limited Physical Market Deals:

a) **In the case of failure to give delivery:** At 20% over the actual trade price

b) **In the case of non rectification/replacement for bad delivery:** At 10% over the actual trade price

c) **In the case of non rectification/replacement for objection cases:** At 20% above the official closing price in regular market on the auction day.

(iii) Auction Market:

a) **In the case of auction non delivery:** When the auction seller fails to deliver in part or full on auction pay-in day, the deal is squared up at the highest price prevailing in the NSE from the first day of the relevant trading period till the day of closing out or 20% over the official closing price on the close out day whichever is higher and is charged to the auction seller unless otherwise specified.

b) **In the case of an auction bad delivery**: An auction delivery reported as bad delivery is squared up at the highest price prevailing in the NSE from the first day of the relevant trading period till the day of closing out or 10% over the official closing price on the close out day, whichever is higher and will be charged to the auction seller unless otherwise specified.

(iv) Rectified/Replaced bad deliveries reported as bad delivery (Rebad delivery):

a) **For Regular Market Deals:** At the highest price prevailing in the NSE from the first day of the relevant trading period till the day of the closing out or 10% above the official closing price on the auction day whichever is higher.

b) **For Limited Physical Deals:** Rectified / replaced shares reported as bad delivery (Rebad delivery) is squared up at 10% over the actual trade price.

(v) Company objection cases reported as bad delivery:

Rectified /replaced company objection reported as bad delivery is squared up at 10% above the official closing price on the auction day.

(vi) Close out price for deleted security:

Security for which trading has been discontinued on the Exchange (hereinafter referred to as deleted security), close out shall be the last 26 weeks average trade price on the exchange with a close out mark up of 20%.

(vii) Deleted security on account of payment of additional call money:

In the case of securities for which trading has been discontinued on the Exchange on account of payment of additional call money (deleted security), the security where the respective call money has been paid (new security) will be considered to arrive at the closing price.

Company objections received in the 'deleted security' will be required to be reported in the 'new security' symbol / series. In case the 'new security' is not available for the reason of such security not being introduced for trading on the Exchange/trading being discontinued on the Exchange, company objections will be required to be reported in the 'deleted security' and closing price for such deleted security will be at 20 % over the official closing price on the last traded day of the 'deleted security' on the Exchange.

(viii) Deleted security on account of payment of redemption:

In the case of securities for which trading has been discontinued on the Exchange on account of redemption (deleted security), the security (with the new face value after redemption) introduced for trading by the Exchange (new security) will be considered to arrive at the closing price.

Company objections received in the 'deleted security' will be required to be reported in the new security symbol / series and members will be entitled to claim redemption amount as corporate benefit.

In case the 'new security' is not available for the reason of such security not being introduced for trading on the Exchange / trading being discontinued on the Exchange on account of full redemption, company objections will be required to be reported in the 'deleted security' and closing price for such deleted security will be at 20% over the official closing price on the last traded day of the 'deleted security' on the Exchange.

(ix) Deleted security on account of merger / amalgamation / hive off / scheme of restructuring:

In the case of securities for which trading has been discontinued on the Exchange on account of merger/amalgamation/ scheme of restructuring ('deleted security'), the security with which the deleted security is merged / amalgamated / hived off / restructured into ('new security') will be considered to arrive at the closing price. Closing price for such 'deleted security' will be the official closing price of the new security on the auction day prevalent on the Exchange. In case where the price of the 'new security' is not available for the reason of such security not being traded on the Exchange, the closing price for such deleted security will be at 20% over the official closing price on the last traded day of 'deleted security' on the Exchange. In case, where more than one security ('additional securities') is being given by the company in lieu of the 'deleted security', the claim of company objection lodged for such 'deleted security' shall be settled as follows:

a) If such 'additional securities' are traded on the Exchange, in the ratio in which they have been issued by the company.

b) If any one or more of these 'additional securities' are not traded on any Stock Exchange, no claim shall arise, for such security not traded.

c) If any one or more of these 'additional securities' are not traded on the Exchange but traded on some other Stock Exchanges, the relevant closing price of such securities shall be the closing price on the Regional Exchange, to be notified by NSCCL.

(x) Close out price for bonds:

a) In case of failure to give delivery, non rectification/replacement of bad delivery, rectified/replaced bad delivery subsequently reported as re-bad, auction nondelivery, and auction delivery reported as bad delivery, closing out price will be the highest rate prevailing on the Exchange from the first day of the relevant trading period till the day of closing out or 5% over the official closing price on the auction day, whichever is higher.

b) In case of non rectification/replacement of company objection and rectified/ replaced company objections reported as bad delivery, closing price will be 5% over the official closing price on the auction day.

4.8 Risks in Settlement

The following two kinds of risks are inherent in a settlement system:

(i) Counterparty Risk: This arises if parties do not discharge their obligations fully when due or at any time thereafter. This has two components, namely replacement cost risk prior to settlement and principal risk during settlement.

a) The **replacement cost risk** arises from the failure of one of the parties to transaction. While the non-defaulting party tries to replace the original transaction at current prices, he loses the profit that has accrued on the transaction between the date of original transaction and date of replacement transaction. The seller/ buyer of the security loses this **unrealised** profit if the current price is below/ above the transaction price. Both parties encounter this risk as prices are uncertain. It has been reduced by reducing time gap between transaction and settlement and by legally binding netting systems.

b) The **principal risk** arises if a party discharges his obligations but the counterparty defaults. The seller/buyer of the security suffers this risk when he delivers/ makes payment, but does not receive payment/delivery. This risk can be eliminated by delivery vs. payment mechanism which ensures delivery only against payment. This has been reduced by having a central counterparty (NSCCL) which becomes the buyer to every seller and the seller to every buyer. A variant of counterparty risk is liquidity risk which arises if one of the parties to transaction does not settle on the settlement date, but later. The seller/buyer who does not receive payment/delivery when due, may have to borrow funds/securities to *complete his* payment/delivery obligations. Another variant is the third party risk which arises if the parties to trade are permitted or required to use the services of a third party which fails to perform. For example, the failure of a clearing bank which helps in payment can disrupt settlement. This risk is reduced by allowing parties to have accounts with multiple banks. Similarly, the users of custodial services face risk if the concerned custodian becomes insolvent, acts negligently, etc.

(ii) **System Risk:** This comprises of operational, legal and systemic risks. The operational risk arises from possible operational failures such as errors, fraud, outages etc. The legal risk arises if the laws or regulations do not support enforcement of settlement obligations or are uncertain. Systemic risk arises when failure of one of the parties to discharge his obligations leads to failure by other parties. The domino effect of successive failures can cause a failure of the settlement system.

These risks have been contained by enforcement of an elaborate margining and capital adequacy standards to secure market integrity, settlement guarantee funds to provide counter-party guarantee, legal backing for settlement activities and business continuity plan, etc.

4.9 Risk Management

A sound risk management system is integral to/pre-requisite for an efficient clearing and settlement system. The National Securities Clearing Corporation Ltd. (NSCCL), a wholly owned subsidiary of NSE, was incorporated in August 1995 and commenced clearing operations in April 1996. NSCCL ensures that trading members' obligations are commensurate with their net worth and has put in place a comprehensive risk management system which is constantly monitored and upgraded to pre-empt market failures. The risk containment measures are discussed below:

4.9.1 Capital Adequacy Requirements

The trading members are required to provide liquid assets which adequately cover various margins & minimum capital requirements. Liquid assets of the member include their initial membership deposits including the security deposits. Members may provide additional collateral deposit towards liquid assets, over and above their minimum membership deposit requirements (see table 4.4).

The acceptable forms of capital towards liquid assets and the applicable haircuts are listed below:

(i) **Cash Equivalents:** Cash, bank fixed deposits with approved custodians, bank guarantees from approved banks and government securities with 10% haircut, units of liquid mutual funds or government securities mutual funds with 10% haircut.

(ii) **Other Liquid assets:**

a) Liquid (Group I) Equity Shares in demat form, as specified by NSCCL from time to time deposited with approved custodians. Haircuts applied are equivalent to the VaR margin for the respective securities.

b) Mutual fund units other than those listed under cash equivalents decided by NSCCL from time to time. Haircut equivalent to the VaR margin for the units computed using the traded price if available, or else, using the NAV of the unit treating it as a liquid security.

Table 4.4: Capital Adequacy Norms for Membership on NSE (₹ in lakh)

Particulars	CM and F&O segment	CM, WDM and F&O segment
Net worth[10]	100	200
Interest free security deposit (IFSD)[11]	125	275
Collateral security deposit (CSD)[12]	25	25
Annual subscription	1	2

10 No additional networth is required for self clearing members. A networth of ₹ 300 Lakh, however, is required for TM-CM and PCM.

11 Additional ₹ 25 Lakh is required for clearing memberships (SCM, TM-CM). In addition, the clearing member is required to bring in IFSD of ₹ 2 Lakh and CSD of ₹ 8 Lakh per trading member he undertakes to clear and settle.

(iii) Additional Capital: Members may provide additional margin/collateral deposit (additional capital) to NSCCL, over and above their minimum deposit requirements towards margins and/ or other obligations. Clearing members can submit such deposits in any one form or combination of the following forms:

a) Cash

b) Fixed deposit receipts with approved custodians

c) Bank guarantee from approved banks

d) Approved securities in demat form deposited with approved custodians.

4.9.2 Margins

Margins form a key part of the risk management system. In the stock markets there is always an uncertainty in the movement of share prices. This uncertainty leads to risk which is addressed by margining system of stock markets. Let us understand the concept of margins with the help of a following example.

Example: Suppose an investor purchases 1000 shares of 'xyz' company at ₹ 100/- on January 1, 2008. Investor has to give the purchase amount of ₹ 1,00,000/- (1000 x 100) to his broker on or before January 2, 2008. Broker, in turn, has to give this money to stock exchange on January 3, 2008. There is always a small chance that the investor may not be able to bring the required money by required date. As an advance for buying the shares, investor is required to pay a portion of the total amount of ₹ 1,00,000/- to the broker at the time of placing the buy order. Stock exchange in turn collects similar amount from the broker upon execution of the order. This initial token payment is called margin. It is important to remember that for every buyer there is a seller and if the buyer does not bring the money, seller may not get his / her money and vice versa. Therefore, margin is levied on the seller also to ensure that he/ she gives the 100 shares sold to the broker who in turn gives it to the stock exchange.

In the above example, assume that margin was 15%. That is investor has to give ₹ 15,000/ -(15% of ₹ 1,00,000/) to the broker before buying. Now suppose that investor bought the shares at 11 am on January 1, 2008. Assume that by the end of the day, price of the share falls by ₹ 25/-. That is total value of the shares has come down to ₹ 75,000/-. That is buyer has suffered a notional loss of ₹ 25,000/-. In our example buyer has paid ₹ 15,000/- as margin but the notional loss, because of fall in price, is ₹ 25,000/-. That is notional loss is more than the margin given.

In such a situation, the buyer may not want to pay ₹ 1,00,000/- for the shares whose value has come down to ₹ 75,000/-. Similarly, if the price has gone up by ₹ 25/-, the seller may not want to give the shares at ₹ 1,00,000/-. To ensure that both buyers and sellers fulfill their obligations irrespective of price movements, notional losses are also need to be collected.

Prices of shares keep on moving every day. Margins ensure that buyers bring money and sellers bring shares to complete their obligations even though the prices have moved down or up.

Imposition of Margins

For imposition of margins, the stocks are categorized on basis of their trading frequency and impact cost[130] (see table 4.5). The criteria for categorization of stocks for imposition of margins is mentioned below:

a) The securities are classified into three groups based on their liquidity. The stocks which have traded atleast 80% of the days for the previous six months constitute Group I (Liquid Securities) and Group II (Less Liquid Securities). Out of the scrips identified above, the scrips having mean impact cost of less than or equal to 1% are categorized under Group I and the scrips where the impact cost is more than 1, are categorized under Group II. The remaining stocks are classified into Group III (Illiquid Securities).

b) The impact cost is calculated on the 15th of each month on a rolling basis considering the order book snapshots of the previous six months. On the basis of the impact cost so calculated, the scrips are moved from one group to another group from the 1st of the next month.

Table 4.5: Imposition of Margins

Group	Trading frequency (over the previous six months*)	Impact Cost (over the previous six months*)
Liquid Securities (Group I)	At least 80 % of the days	Less than or equal to 1 %
Less Liquid Securities (Group II)	At least 80 % of the days	More than 1 %.
Illiquid Securities (Group III)	Less than 80 % of the days	N/A

* For securities that have been listed for less than 6 months, the trading frequency and the impact cost is computed using the history of the scrip.

130 Impact cost represents the cost of executing a transaction in a given stock, for a specific predefined order size, at any given point of time.

Categorisation of Newly Listed Securities

a) For the first month and till the time of monthly review a newly listed security is categorised in that group where the market capitalization of the newly listed security exceeds or equals the market capitalization of 80% of the securities in that particular group. Subsequently, after one month, whenever the next monthly review is carried out, the actual trading frequency and impact cost of the security is computed, to determine the liquidity categorization of the security.

b) In case any corporate action results in a change in ISIN, then the securities bearing the new ISIN is treated as newly listed security for group categorization.

Types of Margins

Daily margins payable by the trading members in the Cash market consists of the following:

(i) Value at Risk (VaR) margin

(ii) Mark to Market Margin

(iii) Extreme Loss Margin

The margins are computed at client level. A member entering an order, needs to enter the client code. Based on this information, margin is computed at the client level, which will be payable by the trading members on upfront basis. Let us see in details what is meant by these margins.

Value at Risk Margin

VaR is a single number, which encapsulates whole information about the risk in a portfolio. It measures potential loss from an unlikely adverse event in a normal market environment. It involves using historical data on market prices and rates, the current portfolio positions, and models (e.g., option models, bond models) for pricing those positions. These inputs are then combined in different ways, depending on the method, to derive an estimate of a particular percentile of the loss distribution, typically the 99^{th} percentile loss.

Computation of VaR Margin

VaR Margin is a margin intended to cover the largest loss that can be encountered on 99% of the days (99% Value at Risk). For liquid securities, the margin covers one-day losses while for illiquid securities; it covers three-day losses so as to allow the clearing corporation to liquidate the position over three days. This leads to a scaling factor of square root of three for illiquid securities. For liquid securities, the VaR margins are based only on the volatility of the security while for other securities, the volatility of the market index is also used in the computation (see table 4.6).

Some Definitions: Computation of the VaR margin requires the following definitions:

a) **Security sigma:** It means the volatility of the security computed as at the end of the previous trading day. The computation uses the exponentially weighted moving average method applied to daily returns in the same manner as in the derivatives market.

b) **Security VaR:** It means the higher of 7.5% or 3.5 security sigmas.

c) **Index sigma:** It means the daily volatility of the market index (CNX Nifty or BSE Sensex) computed as at the end of the previous trading day. The computation uses the exponentially weighted moving average method applied to daily returns in the same manner as in the derivatives market.

d) **Index VaR:** It means the higher of 5% or 3 index sigmas. The higher of the Sensex VaR or Nifty VaR would be used for this purpose.

Table 4.6: VaR Margins for Different Groups of Securities

Liquidity Categorization	One-Day VaR	Scaling factor for illiquidity	VaR Margin
Liquid Securities (Group I)	Security VaR	1.00	Security VaR
Less Liquid Securities (Group II)	Higher of Security VaR and three times Index VaR	1.73 (square root of 3.00)	Higher of 1.73 times Security VaR and 5.20 times
Il liquid Securities (Group III)	Five times Index VaR	1.73 (square root of 3.00)	8.66 times Index VaR

All securities are classified into three groups for the purpose of VaR margin as discussed above. For the securities listed in Group I, scrip wise daily volatility calculated using the exponentially weighted moving average methodology applied to daily returns. The scrip wise daily VaR would be 3.5 times the volatility so calculated subject to a minimum of 7.5%. For the securities listed in Group II, the VaR margin is higher of scrip VaR (3.5 sigma) or three times the index VaR, and it shall be scaled up by root 3 (^). For the securities listed in Group III, the VaR margin would be equal to five times the index VaR and scaled up by J3.

Upfront margin rates (VaR margin + Extreme Loss Margin) applicable for all securities in Trade for Trade-Surveillance (TFTS) shall be 100%.

VaR margin rate for a security constitutes the following:

a) **Value at Risk (VaR) based margin,** which is arrived at, based on the methods stated above. The index VaR, for the purpose, would be the higher of the daily Index VaR based on CNX NIFTY or BSE SENSEX. The index VaR would be subject to a minimum of 5%.

b) **Security Specific Margin,** NSCCL may stipulate security specific margins for the securities from time to time.

The VaR margin rate computed, as mentioned above, will be charged on the net outstanding position (buy value-sell) of the respective clients on the respective securities across all open settlements. There would be no netting off of positions across different settlements. The net position at a client level for a member are arrived at and thereafter, it is grossed across all the clients including proprietary position to arrive at the gross open position.

For example, in case of a member, if client A has a buy position of 1000 in a security and client B has a sell position of 1000 in the same security, the net position of the member in the security would be taken as 2000. The buy position of client A and sell position of client B in the same security would not be netted. It would be summed up to arrive at the member's open position for the purpose of margin calculation.

Collection of VaR Margin

The VaR margin is collected on an upfront basis by adjusting against the total liquid assets of the member at the time of trade. The VaR margin is collected on the gross open position of the member. The gross open position for this purpose would mean the gross of all net positions across all the clients of a member including its proprietary position. For this purpose, there would be no netting of positions across different settlements.

Upfront margin rates (VaR margin + Extreme Loss Margin) applicable for all securities in Trade for Trade- Surveillance (TFTS) shall be 100 %. The Intra-day VAR files is generated based on the prices at 11.00 a.m., 12.30 p.m., 2.00 p.m., and 3.30 p.m. everyday. Such intra-day VAR files are used for margining of intra-day member positions. In addition to the above, a VAR file at end of day and begin of day is provided and the same is applicable on the positions for next trading day.

Mark-to-Market Margin

Mark to market loss is calculated by marking each transaction in security to the closing price of the security at the end of trading. In case the security has not been traded on a particular day, the latest available closing price at the NSE is to be considered as the closing price. In case the net outstanding position in any security is nil, the difference between the buy and sell values is considered as notional loss for the purpose of calculating the mark to market margin payable.

The mark to market margin (MTM) is collected from the member before the start of the trading of the next day. The MTM margin is collected/adjusted from/against the cash/cash equivalent component of the liquid net worth deposited with the Exchange.

The MTM margin is collected on the gross open position of the member. The gross open position means the gross of all net positions across all the clients of a member including its proprietary position. For this purpose, the position of a client would be netted across its various securities and the positions of all the clients of a broker would be grossed.

There would be no netting off of the positions and set off against MTM profits across two rolling settlements i.e. T day and T-1 day. However, for computation of MTM profits/losses for the day, netting or set off against MTM profits would be permitted.

In case of Trade for Trade Segment (TFT segment) each trade is marked to market based on the closing price of that security. The MTM margin so collected is released on completion of pay-in of the settlement.

Example: Let us understand the MTM computation with the help of the following example:

Client	Security	T-1 day	T day	Total profit/ loss of Client	MTM for broker
Client A	Security X	800	300		
	Security Y	-500	-1200		
	Total	300	-900	-900	
Client B	Security Z	700	-400		
	Security W	-1000	800		
	Total	-300	400	-300	
Client C	Security X	1000	500		
	Security Z	-1500	-800		
	Total	-500	-300	-800	
Client D	Security Y	700	-200		
	Security R	-300	800		
	Total	400	600	1000	
Member					**-2000**

For a Client A, his MTM profit/ loss would be calculated separately for his positions on T-1 and T day (two different rolling settlements). For the same day positions of the client, his losses in some securities can be set off/netted against profits of some other securities. Thus, we would arrive at the MTM loss/profit figures of the two different days T and T-1. These two figures cannot be netted. Any loss will have to be collected and same will not be set off against profit arising out of positions of the other day.

Thus, as stated above MTM profits / losses would be computed for each of the clients; Client A, Client B, Client C etc. As regards collection of margin from the broker, the MTM would be grossed across all the clients i.e. no setoff of loss of one client with the profit of another client. In other words, only the losses will be added to give the total MTM loss that the broker has to deposit with the exchange. In this example, the broker has to deposit MTM Margin of Rs 2000.

Extreme Loss Margin

The Extreme Loss Margin for any security is higher of:

a) 5%, or

b) 1.5 times the standard deviation of daily logarithmic returns of the security price in the last six months. This computation is done at the end of each month by taking the price data on a rolling basis for the past six months and the resulting value is applicable for the next month.

The Extreme Loss Margin is collected/ adjusted against the total liquid assets of the member on a real time basis.

The Extreme Loss Margin is collected on the gross open position of the member. The gross open position for this purpose would mean the gross of all net positions across all the clients of a member including its proprietary position.

There would be no netting off of positions across different settlements. The Extreme Loss Margin collected is released on completion of pay-in of the settlement.

Cross Margining

An off-setting position for a client in different segments has lower risk as loss on one position is off-set by profit in the other position. An example for an off-setting position can be a buy position of 100 in security "A" in capital market and short position of 100 in stock futures of security "A" in derivative segment. As the risk of the off-setting positions is lower, the margin requirement for the combined positions has to be lower which is considered as cross margining.

The benefit of cross margining is provided on the following off setting positions:

a) Index futures and constituent stock futures for same expiry in F&O segment

b) Index futures and constituent stock positions in Cash segment

c) Stock futures in F&O segment and stock positions in Cash segment

The offseting positions in respect of (a) and (b) above are computed considering the weightage of that security in the index. A file is provided by NSE on its website www.nseindia.com providing minimum number of units of stock/stock future required to offset position in index future. The number of units is changed only in case of change in share capital of the constituent security due to corporate action or issue of additional share capital or change in the constituents of the index.

The cross margining benefits are computed and provided on an on-line real time basis in respect of all existing and confirmed positions. The offsetting positions are margined only to the extent of 25% of all applicable margins (all upfront margins, i.e. initial margins and Exposure margins).

Margin Shortfall

In case of any shortfall in margin:

a) The members are not permitted to trade with immediate effect.

b) Penalty for margin violation

Penalty applicable for margin violation is levied on a monthly basis based on slabs as mentioned below in Table 4.7:

Table 4.7: Penalty for Margin Shortfall

Instances of Disablement	Penalty to be levied
1st instance 2nd to 5th instance of disablement	0.07% per day 0.07% per day + ₹ 5000/- per instance from 2nd to 5th instance
6th to 10th instance of disablement	0.07% per day+ ₹ 20000 (for 2nd to 5th instance) + ₹ 10000/- per instance from 6th to 10th instance
11th instance onwards	0.07% per day + ₹ 70,000/- (for 2nd to 10th instance) + ₹ 10000/- per instance from 11th instance onwards. Additionally, the member will be referred to the Disciplinary Action Committee for suitable action

Instances as mentioned above refer to all disablements during market hours in a calendar month. The penal charge of 0.07% per day is applicable on all disablements due to margin violation anytime during the day.

Margins for institutional deals

As specified by SEBI[114], all institutional transactions should be margined in the capital

[114] SEBI Circular No. MRD/DoP/SE/Cir- 06 /2008, March 19 2008

market segment from T+1 day subsequent to confirmation of the transactions by the custodians. For this purpose, institutional investors include:

a) Foreign Institutional Investors (FIIs) registered with SEBI.

b) Mutual Funds (MFs) registered with SEBI.

c) Public Financial Institutions as defined under Section 4A of the Companies Act, 1956.

d) Banks, i.e., a banking company as defined under Section 5(1)(c) of the Banking Regulations Act, 1949.

e) Insurance companies registered with IRDA.

f) Pension Funds regulated by Pension Fund Regulatory and Development Authority (PFRDA).

Levy of margin for institutional deals

(i) Institutional transactions are identified by the use of the participant code at the time of order entry.

(ii) Transactions entered into on behalf of custodial participants i.e. carrying custodial participant code is considered as institutional deals unless not confirmed by the respective custodians in which case the transactions are considered as a normal transactions and all applicable margins are levied on the members.

(iii) Members may also enter "INST" code in the custodial participant code at the time of entering orders on behalf of the institutional clients.

(iv) Members are required to allocate the INST trades only to the above categories.

(v) In respect of institutional transactions confirmed by the custodians the margins are levied on the custodians.

(vi) In respect of institutional transactions rejected/not accepted by the custodians the margins is levied on the members who have executed the transactions.

(vii) The margins are computed and levied at a client (Custodial Participant code) level in respect of institutional transactions and collected from the custodians/ members.

Retail Professional Clearing Member

In case of transactions which are to be settled by Retail Professional Clearing Members (PCM), all the trades with PCM code are included in the trading member's positions till it is confirmed by the PCM. Margins are collected from respective trading members until confirmation of trades by PCM. On confirmation of trades by PCM, such trades are reduced from the positions of trading member and included in the positions of PCM. The PCM is then liable to pay margins on the same.

Capping of Margins

In case of a buy transaction, the VaR margins, Extreme loss margins and mark to market losses together should not exceed the purchase value of the transaction. In case of a sale transaction, the VaR margins and Extreme loss margins together should not exceed the sale value of the transaction and mark to market losses should also be levied.

Exemption upon early Pay-in of Securities

In cases where early pay-in of securities is made prior to the securities pay-in, such positions for which early pay-in (EPI) of securities is made is exempt from margins. The EPI of securities is allocated to clients having net deliverable position, on a random basis unless specific client details are provided by the member/ custodian. Member/Custodians, however should ensure that appropriate early pay-in benefit of margin is passed on to the relevant clients. Additionally, member/custodian can specify the clients to whom the early pay-in may be allocated.

Exemption upon early Pay-in of Funds

In cases where early pay-in of funds is made prior to the funds pay-in, such positions for which early pay-in (EPI) of funds is made are exempt from margins based on the client details provided by the member/ custodian. Early pay-in of funds specified by the member/custodians for a specific client and for a settlement is allocated against the securities in the descending order of the net buy value of outstanding position of the client.

4.9.3 On-Line Exposure Monitoring

NSCCL has put in place an on-line monitoring and surveillance system whereby exposure of the members is monitored on a real time basis. A system of alerts has been built in so that both the member and NSCCL are alerted as per pre-set levels (reaching 70%, 85%, 90%, 95% and 100%) when the members approach their allowable limits. The system enables NSSCL to further check the micro-details of members' positions, if required and take proactive action.

The on-line surveillance mechanism also generates various alerts/reports on any price/volume movement of securities not in line with past trends/patterns. For this purpose the exchange maintains various databases to generate alerts. Alerts are scrutinised and if necessary taken up for follow up action. Open positions of securities are also analysed. Besides this, rumors in the print media are tracked and where they are price sensitive, companies are contacted for verification. Replies received are informed to the members and the public.

4.9.4 Off-line Monitoring

Off-line surveillance activity consists of inspections and investigations. As per regulatory requirement, trading members are to be inspected in order to verify the level of compliance with various rules, byelaws and regulations of the Exchange. The inspection verifies if investor interests are being compromised in the conduct of business by the members.

4.9.5 Index-based Market-wide Circuit Breakers/ Price Bands for Securities

An index based market-wide circuit breaker system applies at three stages of the index movement either way at 10%, 15% and 20%. These circuit breakers bring about a coordinated trading halt in trading on all equity and equity derivatives markets across the country. The breakers are triggered by movements in either Nifty 50 or Sensex, whichever is breached earlier. Details of circuit breakers are given in Chapter 3.

4.9.6 Settlement Guarantee Mechanism

A large Settlement Guarantee Fund provides the cushion for any residual risk. In the event of failure of a trading member to meet settlement obligations or committing default, the Fund is utilized to the extent required for successful completion of the settlement. This has eliminated counter party risk of trading on the Exchange. The market has now full confidence that settlements will take place in time and will be completed irrespective of possible default by isolated trading members.

The Settlement Guarantee Fund is an important element in facilitating the settlement process. The Fund operates like a self-insurance mechanism and is funded through the contributions made by trading members, transaction charges, penalty amounts, fines etc. recovered by NSCCL.

A part of the cash deposit and the entire security deposit of every clearing member with the Exchange has been converted into an initial contribution towards the Settlement Guarantee Fund, as indicated in Table 4.8.

Table 4.8: Settlement Guarantee Fund-Equity Segment (in ₹ Lakh)

Type of Member	Cash Deposit	Security Deposit in the form of Bank FDR/guarantee or securities
Individual/partnership firms	6.00	17.50
Corporates	15.00	25.00

There is a provision that as and when volumes of business increase, members may be required to make additional contributions allowing the fund to grow along with the market volumes.

4.10 International Securities Identification Number

SEBI being the National Numbering Agency for India has permitted NSDL to allot International Securities Identification Number (ISIN) for demat shares. While allotting ISINs, NSDL ensures that:

a) The ISINs allotted by NSDL does not at any point of time breach the uniqueness of ISIN of physical form for the same security.

b) ISIN for a security is allotted only when the security is admitted to NSDL or on receipt of request for ISIN from CDSL.

c) The numbering system is simple.

d) The numbering system of ISIN is in compliance with the structure of ISIN adopted by SEBI.

Numbering System of ISIN: The numbering structure for securities in NSDL is of 12 digit alpha numeric string. The first two characters represent country code i.e. IN (in accordance with ISO 3166). The third character represents the Issuer Type as detailed in Table 4.9.

Table 4.9: Issuers Type

Issuer Type	Code allotted
Central Government	A
State Government	B
Municipal Corporation	C
Union Territories	D
Company, Statutory Corporation, Banking Company	E
Mutual Funds including UTI	F

Note: ISINs for Government Securities (Gsec) i.e. loans raised by Central and State Government are allotted by Reserve Bank of India (RBI).

The list may be expanded as per need. Maximum issuer types can be 35 (A to Z and 0 to 8. The partly paid up shares are identified by 9). The next 4 characters (fourth to seventh character) represent company identity of which first 3 characters are numeric and fourth character is alpha character. The numbering begins with '001A' and continues till '999A' and proceeds to '001B'. The next two characters (the eighth and ninth characters) represent security type for a given issuer. Both the characters are numeric. The next two characters (the tenth and eleventh characters) are serially issued for each security of the issuer entering the system. Last digit is check digit. The security types are planned which may be expanded as per the need as detailed in Table 4.10.

Table 4.10: Security Types

Security Type	Code
Equity Shares	01
Mutual Fund	01

Convertible Preference Shares	03
Non Convertible Preference Shares	04
Secured Debentures	07
Unsecured Debentures	08
Regular Return Bonds, Promissory Notes	09
Floating Rate Bond	10
Deep Discount Bond	11
Step Discount Bond	12
Warrants	13
Commercial Paper	14
Pass Through Certificate	15
Certificate of Deposit	16
Security Receipt	18

Box 4.1: Investor Protection Fund

Investor Protection Fund (IPF) has been set up as a trust under Bombay Public Trust Act, 1950 under the name and style of National Stock Exchange Investor Protection Fund Trust and is administered by the Trustees. The purpose of IPF is to take care of investor claims which may arise out of non-settlement of obligations by trading members. The IPF is utilised to settle claims of such investors whose trading member has been declared a defaulter or expelled by the Exchange. Further the stock exchanges have been allowed to utilize interest income earned on IPF for Investor Protection Fund for investor education, awareness and research. The maximum amount of claim payable from the IPF to the investor is ₹ 15 lakh.

4.11 Data and Report Downloads

NSCCL downloads various reports in csv format to clearing members with regards to daily obligation report, custodial trade reports, delivery reports, funds report, margin reports etc, each of which is discussed in the following section.

4.11.1 Obligation Reports

(i) **Daily Obligation Report:** This report contains obligations of a Clearing Member (computed after segregation of the custodial trades for trading members). This is a daily report which is downloaded at the end of the trading day to each Clearing Member. This report provides security-wise information on:

a) Daily purchases and sales and their value.

b) Cumulative purchases and sales, and their value for the trading period.

(ii) Final Obligation Report: At the end of the trading period, members receive Settlement Obligation Statement for funds and securities. This report indicates the net obligation to deliver or receive for each security in which he has had dealings and net obligation to pay or receive funds.

(iii) Net Daily Obligation Report: This is a daily report which is downloaded at the end of the trading day to each Clearing Member. This report provides security-wise information on the cumulative net purchases or net sales and their value for the trading day.

(iv) Net Final Obligation Report: This is a daily report which provides the net obligation for securities and funds to be delivered or received and is downloaded on the T+1 day.

4.11.2 Custodial Trade Reports

(i) Order Confirmation Report: This report contains information of all Custodial trades which are not confirmed by the Custodians as of the day of the report.

(ii) Custodian Trades Report: This report gives the trade details such as symbol, cpcode, client code, quantity, value for all trades executed by a member.

(iii) Trades Report: This report gives the statement of all the securities traded by the trading member for the respective Custodial participants.

4.11.3 Deliveries Reports

(i) Demat Final Delivery Statement (DFDS): This report provides details of the electronic shares delivered by a member as securities pay-in for various settlements for the given settlement date. The report is sorted on Settlement Type/Settlement Number/Delivery Type/Symbol/Series/ISIN.

(ii) Demat Final Receipt Statement (DFRS): This report provides details of the electronic shares received by a member as securities pay-out for various settlements for the given settlement date. The report is sorted on Settlement Type/Settlement Number/ Delivery Type/Symbol/Series/ISIN.

(iii) Client Allocation Details (CADT): This report provides details of pay out directly credited to the client's beneficiary account. It gives details of DP ID and Beneficiary account where the pay-out is credited and also details of securities, which have not been credited to client account.

(iv) Member-wise With-held Securities Statement: This report gives details for securities payout withheld for members.

(v) **Deliveries Report:** After allocation, the NSECM Clearing System generates Trading Member-wise delivery statement. This delivery statement is security-wise. The statement provides information on delivering centre, receiving centre, number of shares to deliver or receive for each security and also the code of the receiving entity or delivering entity respectively.

(vi) **Security Shortage Report:** The Security Shortage Statement lists down the shortage in the delivery of the securities as compared to the Clearing Members obligation of securities pay-in. The details given in the list contain the delivering centre, receiving centre, delivery number against which securities are delivered short, the security, the quantity of shares delivered short, the Valuation price and the amount to be debited to the delivering members account for the quantity of shares delivered short, the receipt number and the counter party receiving members name/code.

4.11.4 Funds Reports

Two Funds Reports are being downloaded to all trading members on a daily basis i.e., Daily Funds Summary Statement and Daily Funds Statement.

Daily funds summary statement provides details about the transactions effected in the trading members clearing account at the Clearing Bank. This statement is similar to the Bank statement provided by the Clearing Bank. The debit appearing in the summary statement is equal to the withdrawals as per the bank statement and the credit is equal to the deposits as per the bank statement.

Daily funds statement provides the break-up for each debit and credit appearing in the daily funds summary statement. Both the reports are downloaded on a daily basis after the debits/ credits have been effected by the clearing bank.

4.11.5 Auction Reports

(i) **Auction Square Up Debit Statement:** This report gives details of unauctioned deliveries that are squared-up by the Exchange.

(ii) **Auction Square Up Credit Statement:** This report gives details of unauctioned deliveries that are squared-up by the Exchange. This report is downloaded at the end of the auction trading day.

(iii) **Auction Difference Statement:** This report gives details of the auctioned deliveries for which the valuation price exceeds the auction traded price. This report is downloaded at the end of the auction trading day.

4.11.6 Margin Reports

(i) **Member-wise Daily Margin Payable Statement:** This report contains daily margin amount payable by the members. This is a daily report which is downloaded at the end of the trading day to each trading member. This report provides information on the calculated margin amount, collateral amount, amount paid till date and calculated value of cash margin payable (+)/receivable (-).

(ii) **Member-wise Margin Payment Status Report:** This report contains the margin payment status of the member. This is a daily report which is downloaded at the end of the trading day to each trading member. This report provides information on the margin due date, cash margin pay-in (+)/pay-out (-), amount transacted and amount short.

4.11.7 Miscellaneous Reports

The following reports are downloaded in the common/clearing folder on the extranet:

(i) **Corporate Action Report:** This report gives the statement of the corporate actions which are set by NSCCL (i.e. dividend, AGM, book closure date, record date etc.).

(ii) **Securities Master report:** This report will display information regarding Security Settlement Mode for a particular settlement type and number.

(iii) **Settlement Calendar:** This report gives the monthly settlement schedule.

Further the following reports are also available on EXTRANET:

(i) **Detailed Margin Report (MG02):** This report provides client wise, security wise, and settlement wise amount of margin and exposure for the day.

(ii) **Consolidated Margin Report (MG01):** This report provides amount of margin payable and amount of exposure and MABC available for the day.

(iii) **Member Wise STT file (MWST):** This file gives the details of client wise security wise Securities Transaction Tax calculated for the member for a trading day.