Financial Institutions and Markets
Prof. Jitendra Mahakud
Department of Humanities and Social Sciences
Indian Institute of Technology Kharagpur

Lecture - 50
Stock Market – V

Previous class we discussed about certain issues related to Stock Market particularly the secondary stock market. We discussed about the construction of the index how to read the stock price quotations and as well as also we discussed about that how we can decide the base year and the what is the weighting criteria for the construction of the index and all these issues. Today we can discuss about the other issue related to the secondary stock market which is quite important, that is basically the market microstructure.

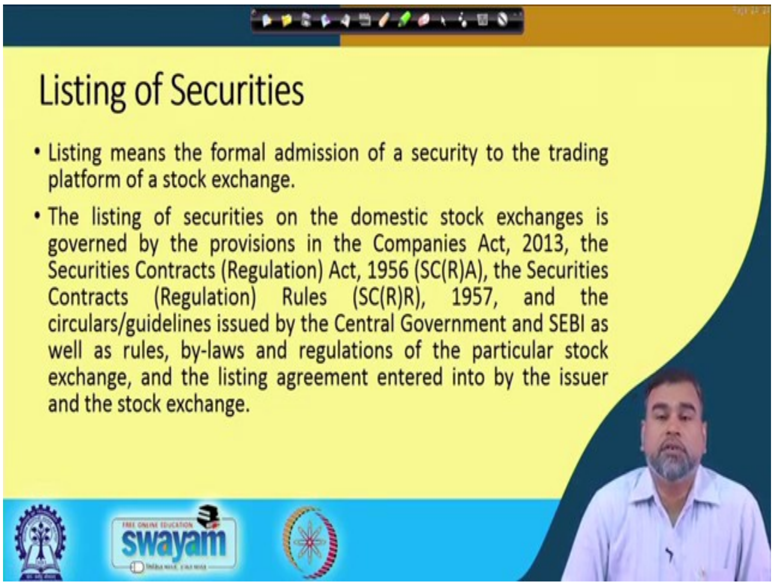
Whenever you talk about market microstructure it is basically talks about the different ways how the trading takes place, what are the different type of orders which are available or which are existing in the market. And as well as we have to see that is there any kind of ways the stock market can be regulated and as well as also we try to see that is there any kind of restrictions which has been put. If there is any kind of disturbances which can happen in the market and as well as also how the stocks are listed and the how the settlement and the trading takes place in the market particularly in the secondary market.

(Refer Slide Time: 01:37)

So, here if you see that what are those issues which are broadly comes under the market microstructure, these are basically first of all the listing of the securities, security groupings, trading system, then you have the margin trading, then short selling the concept of the short selling basically then the settlement cycle. And finally the one of the ways the market can be controlled that is basically your index based market wide circuit breaker.

So, these are the different issues for different points which comes under the market microstructure of the stock market, in general or in India in particular. So, here let us see that how this basically would work in this particular context.

(Refer Slide Time: 02:33)



So, whenever talk about the listing of securities if you remember whenever the IPO's are issued or first time the particular issue comes to the market or the company raises the money from the public. So, then it is first of all the particular company is listed in the stock exchange and once it is listed in the stock exchange those stocks are now eligible for the trading.

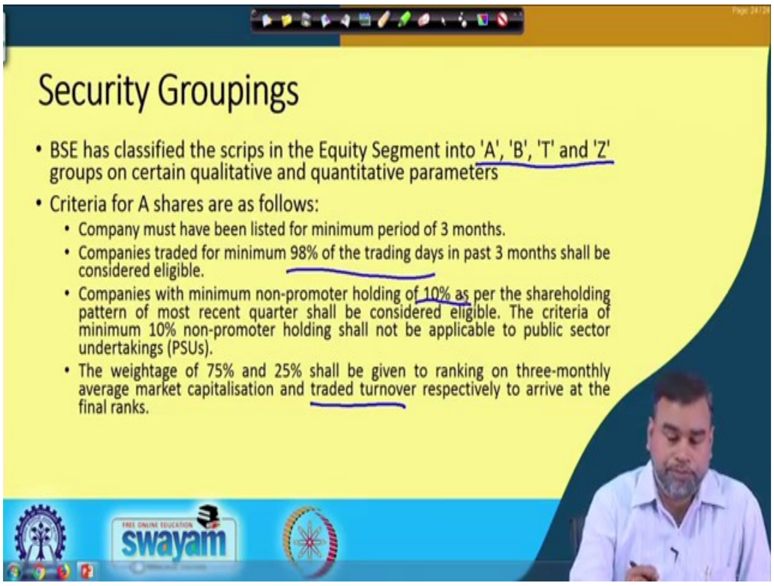
So, first of all how the formerly the stocks are listed what are those different conditions or criteria they have to fulfill, if they wanted to be listed in the stock exchange. So, that is why whenever the listing of securities or listing of the stocks are listed in the stock exchange, they are mostly governed by the provisions which are provided in the Companies Act recently we are running with the Companies Act 2013.

So, they have to follow certain provisions or rules and regulations which comes under the Companies Act 2013. And as well as the Securities Contract Regulation Act 1956, then Securities Contract Regulation Rules 1957 and as well as time to time whatever circulars are issued by SEBI are for the particular stock exchange and the listing agreements entered by the issuer and the stock exchange itself.

So, they have to fulfill certain conditions and once the companies fulfill those conditions on the basis of the Companies Act, here we are not discussing in detail about all those regulations what the Companies Act basically tries to provide or the SEBI tries to provide to be listed. If you want to see that you can see all those things in the respective website and as well as the Companies Act 2013.

But once the companies basically go for IPO and the IPOs comes to the market, then they are eligible to become listed in the stock exchange and before that they have to fulfill certain regulations with respect to this kind of provisions, which are provided in the different acts.

(Refer Slide Time: 04:55)



So, once the listing is drawn then the different stock exchanges group the securities or divide the securities into different categories. You see that whenever we are dividing the securities the security groupings vary from particular stock exchange to another stock exchange. One way the securities can be divided on the basis of the size. But here we are not talking about the security groupings on the basis of their size, we are talking about the securities on the basis of certain other quantitative and qualitative parameters and what are those, how basically the groupings are done?

Let us first discuss about the security groupings for the Bombay Stock Exchange or the BSE. So, if you see the BSE and then BSE has divided the stocks into 4 categories A B T and Z, there is there are A category stocks, B category stocks, T category stocks and the Z category stocks. If any stock wanted to be a part of A category stocks or they can be considered as A category stocks when they will satisfy certain conditions, what are those conditions they have to satisfy?

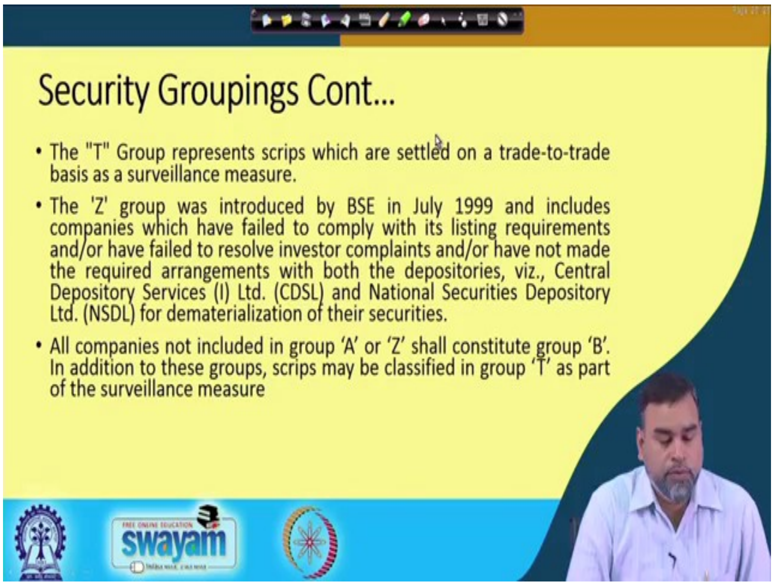
So, they have to satisfy that this conditions, one is the companies must have been listed for a minimum period of 3 months and companies basically traded for minimum 98 percent of the trading days in the past 3 months. Even if the company is listed about the stocks are not traded or the particular stocks are not liquid in that context, then those particular stocks cannot be considered to be categorized as the A category stocks.

So, that is why this should be trade in the market at least for 98 percent of the trading days. And companies with minimum non promoter holding of 10 percent as for the shareholding pattern of most recent quarter last quarter will be considered eligible and the minimum 10 percent non promoter holding condition will not be applicable for the PSUS, because the PSUS are mostly owned by the government. So, this minimum 10 percent non promoter holding that condition is not applicable for PSUS, but still PSUS can be considered as the category a stocks.

So, that is basically relaxed for them and generally the weight age of 75 percent and 25 percent will be given to the ranking on 3 monthly average market capitalization and the traded turnover to arrive at the final rank. Whatever final rank will be given to that particular stock there also we are providing the weights on the basis of the size and as well as the liquidity the traded turnover is basically nothing but one of the liquidity measure.

So that means, mostly the stocks which are considered as the category stocks, if you overall if you see these are highly liquid stocks because, 98 percent of the trading days they are traded in the market and minimum 10 percent the non promoters holding that is also applicable for this case. So, that is why the category a stock are really highly liquid in the market in comparison to the other stocks, so that is the condition what the BCE has provided whatever way we can conclude.

(Refer Slide Time: 08:49)



Then if you see that what about the others the T group represents the scripts or the particular shares, which are settled on a trade to trade basis on as a surveillance measure. That means, that there is some issues related to that stocks, there are some kind of grievances again this stocks what they must not be fulfilling certain criteria.

So, every time to time those stocks will be under the surveillance that whether they would be considered in this particular category or not or they should be considered for the trading or not. So in this context those kind of stocks although they are permanently not divided. But case to case basis basically those scripts are categorized as a surveillance measures that means they are under the surveillance.

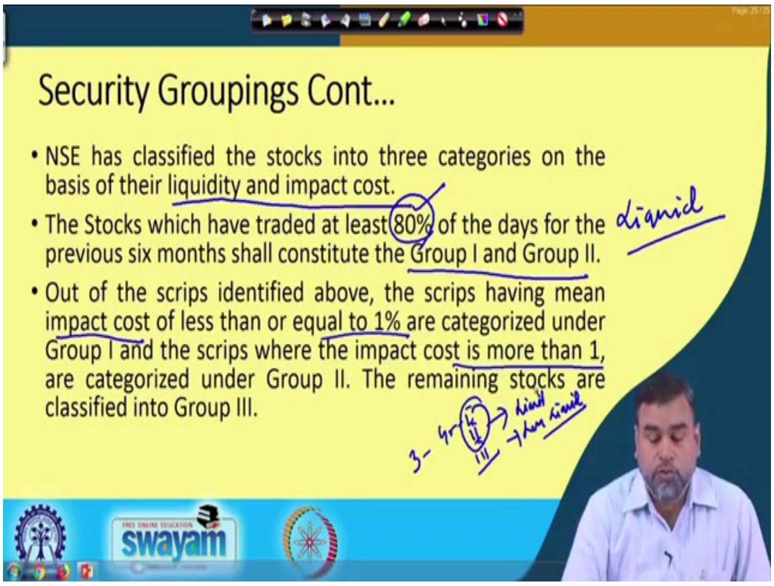
But another thing is the Z category stocks it is introduced in BSE in July 1999 and here if you see that those stocks are basically issued by those companies who are failed to comply with it is listing requirements and also fail to resolve the investors complaints and have not made any required arrangements with both the depositors either with the CSDL or NSDL for dematerialization of the securities.

That means the investors grievances are not being addressed, they are not able to fulfill the listing requirements time to time and as well as they have not fulfilled this certain kind of process to make all the stocks whatever they are issuing in the dematerialized form. So, those companies or those stocks are considered as the Z category stocks.

Then we have rest of the stocks. That means, these are certain stocks we already we have cleared these as the A category, these are certain stocks which are T category there are certain stocks which are Z category and the rest of the stocks are basically called the B category stocks and those stocks are traded in the market but they are not exactly fulfilling the criteria of A, but they are not under surveillance measure or they are not also under the Z category stocks.

Here the Z group stocks which are basically highly, we can say that the stocks which are not eligible for the trading or maybe they are not basically fulfilling the criteria whatever over the stock exchanges have defined. So, this is the way the stocks are categorized for the Bombay Stock Exchange, but if you see the stock exchange in terms of the NSE.

(Refer Slide Time: 11:31)



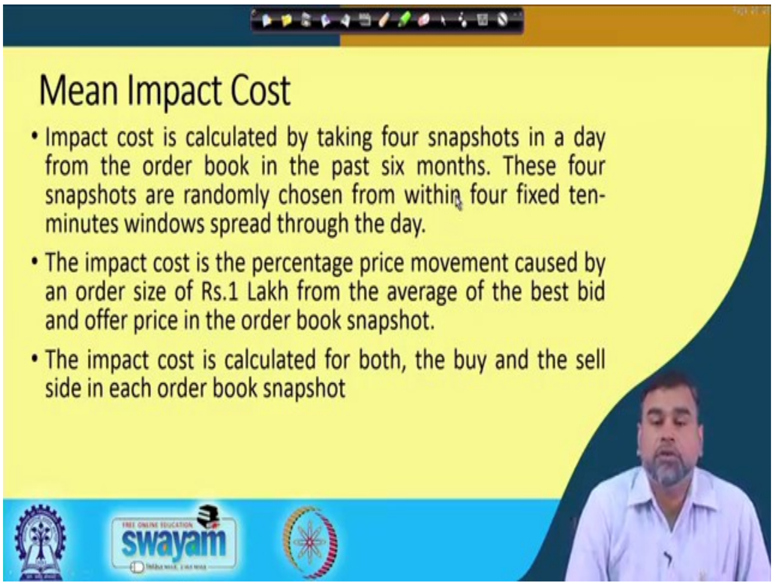
The NSE stocks straight forward is basis of their classified on the basis of the liquidity and the impact cost. These are 2 variables which are quite important one is liquidity and impact cost. So, here what basically NSE has done? The NSE basically has categorized the stocks into 2 categories; one is group 1 and the group 2. Here the stocks which have traded at least 80 percent of the days for the previous 6 months, they can be considered as the group 1 stocks or the group 2 stocks remember all the stocks are traded for 80 percent of the days, so they are either group 1 or group 2.

So, within that stocks which are traded for 80 percent of the days and again we are dividing into 2 categories; one is the particular stocks having mean impact cost less than or equal to 1 percent as categorized under group 1. You see all are 80 percent of the time traded that means, they are highly liquid but within that again we are dividing them into 2 one is group 1 another one is group 2, which are those group 1? The group 1 the impact cost is less than or equal to 1 percent and for group 2 stocks the impact cost is more than 1.

So, the remaining stocks are basically considered as the group 3 stocks, so we have 3 types of stocks overall if you see one is the one group of the stocks which are listed and as well as traded for 80 percent of the days and if out of this 80 percent of the particular stocks which are comes under this category, wherever the impact cost is less than 1 percent there consider was group 1 and rest of them are called group 2 and whatever remaining are there they are basically defined as the group 3.

So, these are 3 types of the stocks you have group 1 then 2 then 3 and, group 1 and 2 are highly liquid and these are relatively less liquid. But one thing is that within that we can say that the impact cost is more for group 2 and the impact cost is more for the group 1. So, the next question is then what do you mean by this impact cost?

(Refer Slide Time: 14:05)



If you see the impact cost the impact cost is nothing but the impact cost is always calculated by taking 4 snapshots in a day from the order book in the past 6 months, these

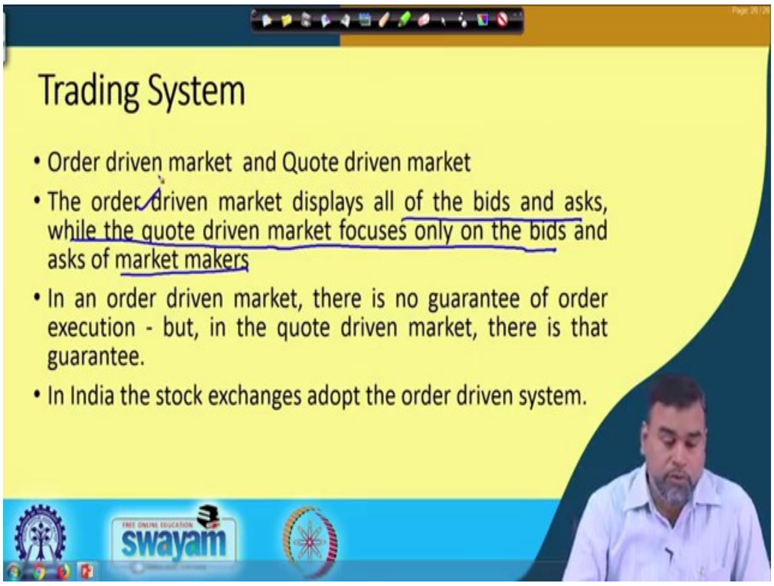
4 snapshots are randomly chosen from within 4 fixed 10 minutes windows spread throughout the day. There is no such kind of rules. But only any 10 minutes window spread randomly, those snapshots are chosen from the order book and what is the impact cost how we calculate from that? It is basically nothing but the percentage price movement caused by an order size of 1 lakh from the average of the best bid and offer price in the order book snapshot.

That means if for particular stock there is a transactions of 1 lakh rupees either in the buying side or in the selling side, then what is the percentage of the price movement let stocks A is there and in a particular time period if the particular stock is bought or the sold and particular stock is bought or sold at the price of 1 lakh rupees, then we have to see what is the average price basically it is changed. As we know that if you buy more the price will go up as we sell more the price will go down.

So, if you buy and sell worth of 1 lakh rupees then how the price basically is moving away from this previous price. So, that particular thing will give you that how this particular cost is related to that particular stock and how the impact cost is calculated from that. So, that is why impact cost is nothing, but the percentage price movement caused by the order size of 1 lakh rupees from the average of the best bid on that particular day and best offer on that particular day and bid price offer price you know ask means it is the selling price and bid price means it is the buying price.

So, the impact cost is calculated for both the buying price and the selling side for each order book snapshot. So, accordingly you can calculate the mean impact cost, so any stock which means impact cost is more than 1 percent they are basically we call it their group 2 and whose impact cost is less than 1 percent or equal to 1 percent they are considered as the group 1 stocks. So, this is the way the NSE defined their stocks.

(Refer Slide Time: 16:45)



And you see another thing we have whenever the stocks are traded in the market we have 2 types of trading system one is your quote driven system another one is the order driven system. Whenever we go by order driven system here in the order driven system all of the bids and asks were considered while the quote driven market only the bid and asks of the market makers are considered. Whenever we go for bidding and asking or we go for buying and selling the securities, then our orders are basically considered if your particular market is an order driven system.

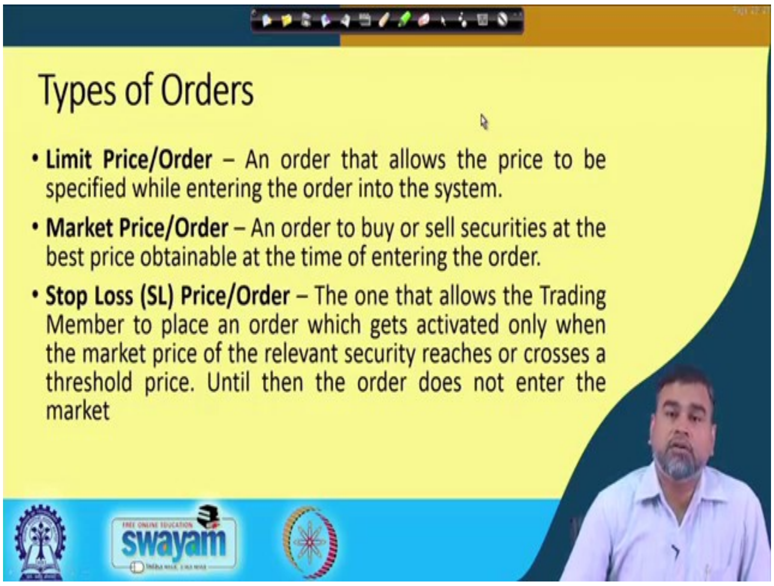
But if there are certain systems where our orders are not considered only the market makers orders are considered, whatever quotations the market makers keep basically generally these are the institutional investors or the bigger investors. Those investor's prices are quoted in the market and all the trading takes place on the basis of the price whatever they have quoted. Another differences in an order driven market there is no guarantee of order execution, but in the quote driven market there is the guarantee that your order will be executed on that particular day, that means let you want to sell your stock at a rupees 50.

But there is no matching order available anybody wants to sell the stock at a price of the 50. So, in that particular day your order will not be executed that will remain in that particular book, but if it is order driven system whatever it is a book driven system then your order will be executed the price whatever the market makers are quoted and your price will be close to that.

So, in this context what we can say your order driven market there is no guarantee that in the same day your order will be executed, but in the quote driven market there is a guarantee. But the order driven market is more transparent than the quote driven market in India we have order driven system, but if you talk about US market it is a quote driven system.

So, in the US market only the market makers order are considered for the pricing of the securities, but whenever you talk about the country like India here the bid and asks prices of all the investors are considered for the trading. So, that is the basic difference between the order driven market and the quote driven market and already I told you that in Indian context we follow the order driven market.

(Refer Slide Time: 19:19)



Then we have to see that what are the different type of orders because, already we say that we have order driven market. Here we see that there are different orders values we see we have a limit order we have a market price order or market order we have a stop loss order what is the what are those basic differences or how to define this. Whenever you talk about the limit order here it is basically allow the price to be specified while entering order into the system, that means the investor has already specified that what price he or she wants to buy the stock or at what price he or she wants to sell the stock.

So, the limit is already given and once the stock price will reach that level then the order will be executed. Let you have said that I want to buy the stock at rupees 50 then once the order will be the particular stock price will reach 50, the order will be automatically executed. Unless the order has reached 50 there is no chance of execution of that particular order and there is another order of the market price, so some cases what happens here this is the order to buy or sell the securities as the best price obtainable at the time of entering the order.

Here the investor does not give a limit and they basically provide that whatever best price available on that day a number they have enter into the system, they have provided that whatever best price is available that price can be applicable for the execution of the order; whether the particular price is there below the expected price or a higher the expected price that does not matter, whatever best price is available on that day let they want to buy the stock at a price to 50; the 50 is not available on that day the best price or the best means for buying the best price with the lowest price, so on that day the lowest price is 51, then the order will be executed at 51.

So, that is basically we call it the best price order or best market price order or only market price order that way you can define that. Then we have another type of order which is called the stop loss order. Here what happens that, this is the order that allows the trading member to place an order which gets activated only when the market price of the relevant security reaches or crosses a threshold price, until then the order does not enter the market what does it mean? It means that they say that up to this unless the price goes beyond this the order can cannot be executed. The stop loss price order can be a market order after the price limit reaches for example, they have said.

So, it is a combination of both; they have given a limit that my order will not be executed if the price is not 50. So, if it is price gone 50, its not necessary that the order will be executed because again it will become a market price order because let the price has gone down to 47. So, in that case the price will be basically 47 and the order will be executed at a price of 47. So, up to 50 this particular order will not come into the market, but once it reaches 50 then it becomes activated.

And if it is below 50, then it is good for the investor then it become a best price order or the market price order the stop loss order basically gives kind of threshold limit or a kind of we can say that threshold price and once the price will not reach to that level, the order cannot be activated in the order book and that will remain in the order book.

(Refer Slide Time: 23:05)

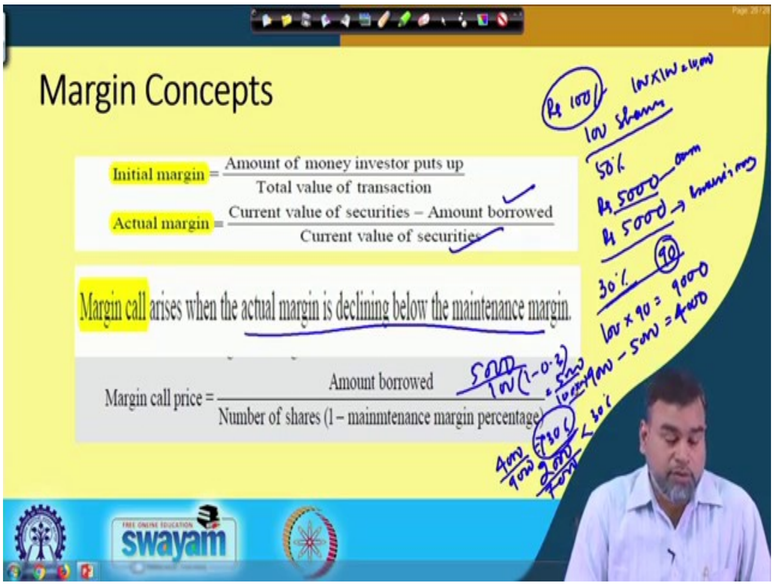
So, that is what basically the stop loss order is defined in the market in another concept we have that is called the margin trading then what do you mean by the margin trading. Here sometimes what happens that let the investor wants to buy or wants to invest in the stock, but they do not have enough money available with them. So, then what basically they have to do? They can borrow from their broker to invest in that. So, then in that context they have to put some margin with this brokerage, they should open this account which is called the margin account.

So, in that margin account there, they put some money and the some money basically will be put by the broker and accordingly they can buy or they can invest in the stocks. So, here the margin is basically what whatever money you have put your own money which has been put to buy the stock.

So, the initial deposit which has basically always there in the brokerage account that is basically called the initial margin. And depending upon the price of the shares in the market the price will fluctuate. So, the investor's always wants to satisfy maintenance margin which is basically what? The maintenance margin is the minimum amount of margin that they must maintain or the percentage of the stock's value; stocks value means it is owner's equity, whatever percentage you have put your borrowing amount remains same.

But whatever money you have put that should be certain percentage of the total value of the equity in the market. If at any point of time because of change in the price of the stock the value declines or the equity value also declines, then if your equity value will be below this maintenance margin whatever has been fixed, then you can get a margin call from the broker; which means that the investor is required to provide the more collateral or more cash or the stocks or sell the stocks

(Refer Slide Time: 25:11)



How it basically works? You see there are 3 concepts here if you remember if you see we have an initial margin, we have actual margin, we have a margin call and we have a maintenance margin. For example, I will give example let there is a stock, price of the stock is 100 rupees.

Let you want to buy 100 shares, let broker have said that the initial margin is 50 percent; that means, you give 5000 rupees, your broker will give you 5000 rupees and you can buy 100 shares because the total value is 100 into100 that is 10000. So, now, here this is your own money and this is your broker's money right.

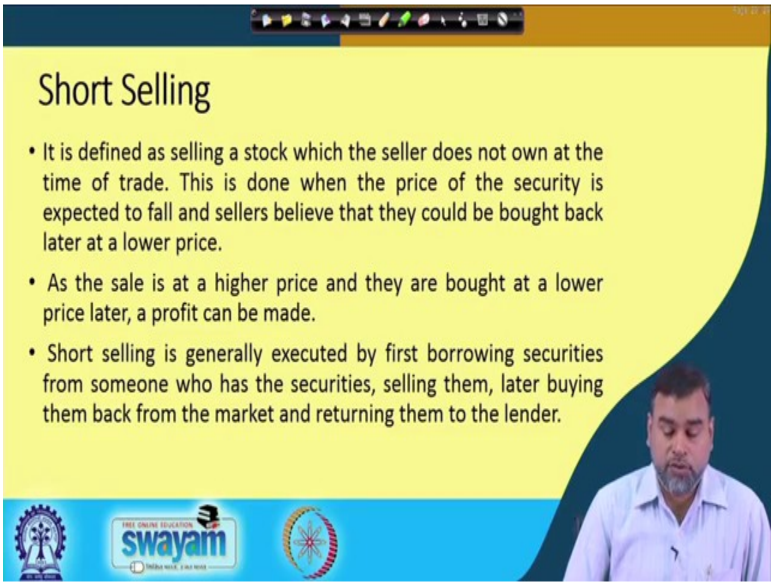
So, now you have 50 percent you have invested and 50 percent your broker has given and let the broker said the maintenance margin is 30 percent. So, how this thing will works that I will tell you that how basically it works? For example, you have brought the share at a price of 100 and the prices next day gone down to 90 then the total value of the share is how much? It will become 100 into 90 is equal to 9000 and you have basically borrowed how much? The 5000 then you are owner, your value is become how much? 9000 minus 5000 which is a borrowed amount that become 4000.

So, right, so, this 4000 divided by 9000. So, that is greater than 30 percent because this is basically your actual margin. So, that is why the actual margin is current value of securities minus the amount borrowed divided by the current value of securities. So, that is greater than 30 percent, so, you will not get the margin call. So, let again further the price has gone down to 70. So, then the value becomes 7000, 7000 minus 5000 will be 2000, 2000 divided by 7000 it would be less than 30 percent

So, in that case the broker will go for a margin call. That is why the margin call arises when the actual margin declining below the maintenance margin and in this example we have taken 30 percent is the maintenance margin. So, it will exactly want to get this, how much should be the margin call at what price you will get the margin call this is the way you can calculate the amount borrowed. Amount borrowed means in this case we have 5000, number of shares divided by 100 into 1 minus maintenance margin maintenance margin is 30 percent; that means, 1 - 0.3; that means, 5000 / 100 × 0.7.

So, if you find out it was somewhere around 30 71 point something that is the price what you can get at which the investor can get the margin call. This is the way the margin concept works in the trading.

(Refer Slide Time: 28:29)



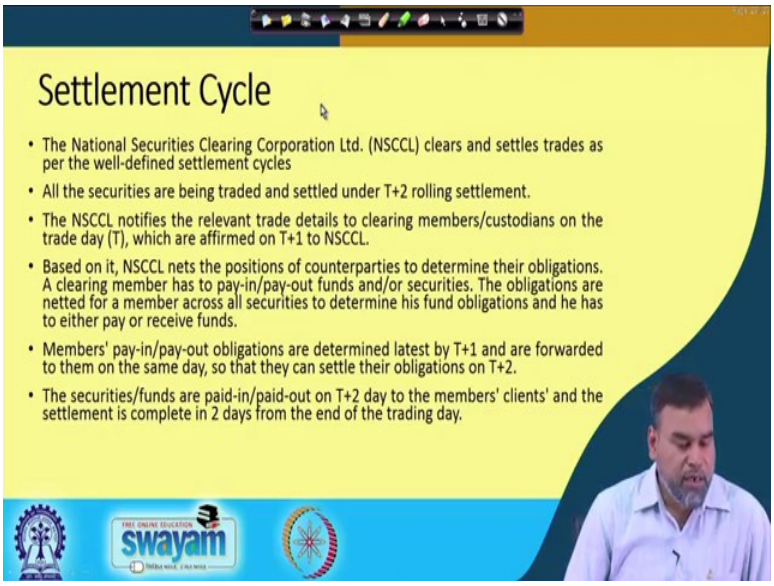
Then can move into the short selling all of you might have heard about this. The short selling is nothing, but who are the investor does not own the stock and but still they invest in the stock; that means, in case of short selling basically, when the price of the security is expected to be fall if the investor feels that the price is expected to fall then what they can do?

They can borrow the security from the broker or from anybody and what do they do? And next day whenever the price goes down then what they will do? Let for example, they borrowed the stock today and next day the price has gone down they can buy the shares at a lower price and give it to that particular thing to the broker or anybody from who are they have borrowed it and obviously, today they have already sold the stock and now the rest of the money whatever they have sold in the today's price that is the profit they can generate.

So, in the short selling it is reversed; that means, generally first we buy then sell, but in case of short selling first we sell then we buy. First we borrow the share and sell it in the market on that particular day let on that the price of 60; you get 60 rupees and next day already you have expected that the price will be lesser than that, then what basically you can do? You can buy that share in the next day at the price of let it was 60, then it has become 70 in the next day then from the market now you have 70 rupees available with you or 60 rupees available with you, next day the price has become 50 then you buy the share at the price of 50 and give that particular share to somebody from where you have borrowed it.

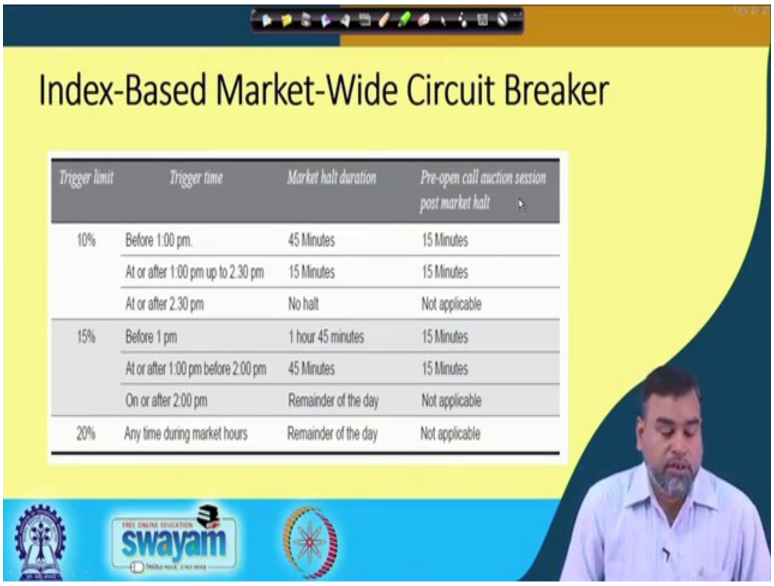
So, the 60 rupees minus 50 that 10 rupees is the profit whatever you can earn and there is some transaction cost that you can minus it from there that is the way the short selling works.

(Refer Slide Time: 30:15)



The settlement cycle generally settlements are done by the National Securities Clearing Corporation of India limited all the securities are being traded and settled under the T plus 2 rolling settlement system, if today you have taken the positions your transactions or settlement will be done in the T + 2 days. And here latest by T + 1 and forwarded them to the same day, then the obligation the T 2 this is the process basically we have to follow, but generally the settlement cycle is the T + 2 days.

(Refer Slide Time: 30:47)

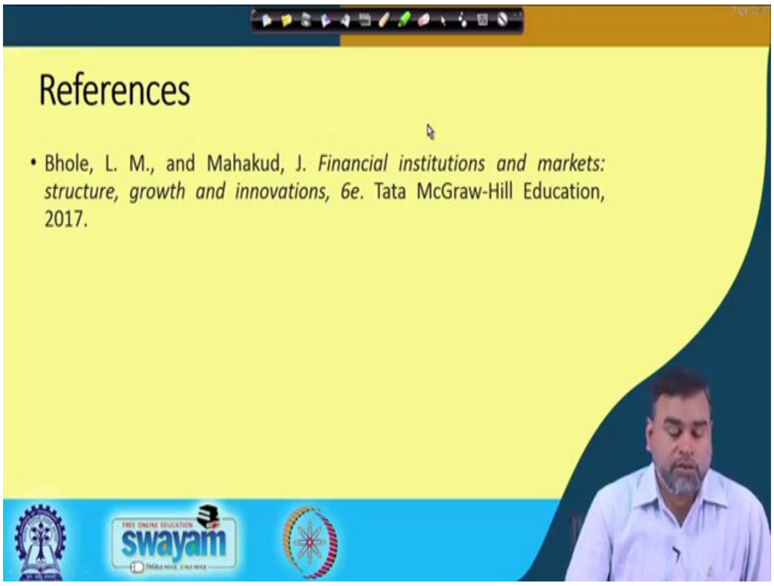


And another one is you have the indexed best market wide circuit breakers here what does it mean? If in a particular day the price fluctuates the index basically the index fluctuates by certain percentages, then the rest of the market closes. So, here if the market fluctuates by 10 percent before 1 PM, the index basically fluctuates before 1PM then they will close the market for 45 minutes.

If it is from 1 to 2.30 PM they close the market for 15 minutes, but if it is after 2.30, then they will not close the market, but if it is 15 percent fluctuations before 1PM, then 1 hour 45 minutes the market will be closed if it is between 1 to 2 then 45 minutes after 2 PM, rest of the day the market will be closed. But if the fluctuation is beyond 20 percent any time during the market hour, then the remainder of the day the market will be closed.

This is what basically is done to control the market within their own level and try to understand, what is the basic reason behind that on that particular day, not to create any kind of panic or not to create any kind of disturbances for the long run. So, that is what basically the concept of index based market wide circuit breaker works in the system. These are basically the different things related to the market micro structure.

(Refer Slide Time: 32:13)



You can go through these references if you want to know more details about this.

Thank you.