Financial Institutions and Markets

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Lecture – 07
Unsystematic Risks in Financial System

So, we are discussing about the different type of Risk in the Financial System. So, in the previous class we discussed about the on system at the different type of systemic risk what the system always faces and what are those different type of systemic risk we have like your market risk, you have interest rate risk, you have inflation risk, you have the exchange rate risk you have country risk, etcetera, etcetera. Then today, in this session we will be discussing about the different type of unsystematic risk and already I discussed with you that unsystematic risk is nothing but the particular risk which is specific to the particular individual or particular entity. It may be an individual, it may be a corporate sector or it may be it may be anything.

But it is may be related to it may be any kind of organization, any kind of entity who are participating in the system, but mostly this risk is confined to that particular entity and it does not affect the others. To some extent, we are telling that this particular risk is are defined as the unsystematic risk and other name of unsystematic risk is it can be diversified. Already, I explained to you that if any investor can have the varieties of assets or varieties of kind of instruments in their portfolio then they can diversify the total risk. Because, if one particular asset or one particular instrument is not doing well, then the other instruments can basically make up the loss what they are making by creating certain kind of profit or certain kind of return with respect to that individual asset.

So, therefore, unsystematic risk is a very important concept which is used in the investment of the portfolio management process. And, as well as it is also very plays a significant role in the financial system participation as a whole.

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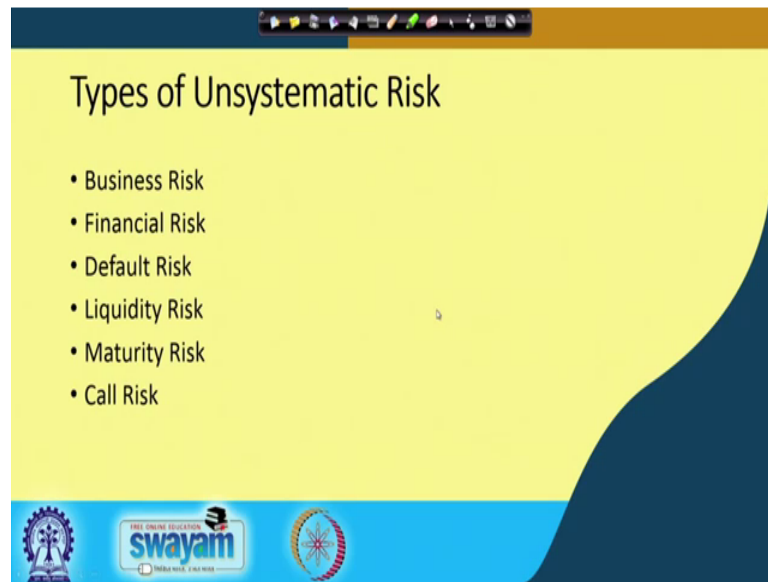

So, then let us see that what are those different type of major type of unsystematic risk always we have in the financial system we have business risk we have financial risk. We have default risk we have liquidity risk, we have the maturity risk, we have the call risk.

Here, I have given a list of the different type of measure type of unsystematic risk what the always financial system witnessed or were we always we find these kind of risk prevails in the system as a whole but there may be other type of unsystematic risk which is specific to the individual company or individual entity but here, if you see that these are the major type of unsystematic risk always we face. So, one by one if you discussed that what exactly those type of unsystematic risk are defined and how this particular risk are playing the role for the investor to maximize or minimize maximize the return or minimize the risk.

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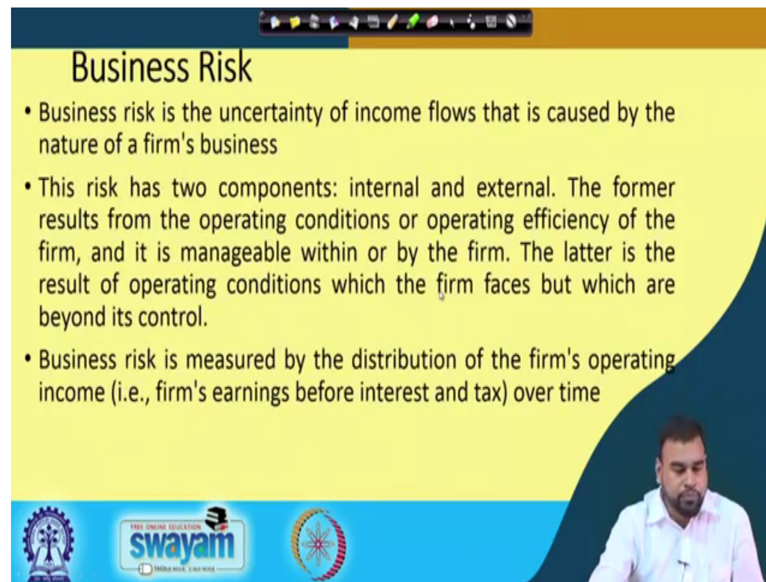

So, let us see what do you mean by the business risk. The business risk is nothing but it is the uncertainty of income flows that is caused by the nature of a firms business. In a very raw sense, I can tell that business risk is nothing but the fluctuations of the sales income of that particular company. If the sales income is fluctuating highly, then we can say that particular company is exposed to more business risk and if the fluctuations of the sales is relatively less or the deviation of the expected sales and actual sales are less, then we can say that the business risk of that particular company is less.

So, your what we are trying to say that business risk is nothing but the volatility or the standard deviation of the sales income of that particular company in a crude sense or in a quantitative sense; that is the way we can define. So, that is why the major income flow what the company gets that is basically from the sales. Actual difference definition is it is the uncertainty of income flows that is caused by the nature of your firms business. So, how this business is getting fluctuated, how the business is getting affected, that is basically always a derived from the fluctuations of the sales income of that particular company or particular firm.

So, it has two components; one is internal, another one is the external. So, here that means, what you are trying to say there are some internal factors which basically plays the role for deviation of the sales or fluctuation of the sales. And, another factor there are some external factors also which contribute the fluctuations of the sales of the company.

Then what are those internal factors? The internal factors related to the operating efficiency of the company, how the company operates what kind of business strategy they adopt and how the sales basically or sales maximization strategy the company is going to follow. And what kind of structure they have, what kind of strategy they are making to cell their product in a better way, what kind of advertisement strategy they have and how they can make their customer base, how they can make their product differentiation in such a way, they can beat their competitors etcetera etcetera.

These are coming under the internal factors, but whenever we are coming to the external factors, the external factors can be the cyclic conditions, the seasonal conditions. For example, if one particular company which is selling this cold products like cold drinks, ice creams and etcetera; obviously, there other sales income is highly fluctuated by the seasonal factors because in some seasons the sales, in sales figure basically is quite high and some seasons this sales decline. So, because of that, there are some external factors which contribute their flux resistance of the sales. So, that is nothing but related to the strategy which they adopted internally, but mostly those places the factors are mostly determined by the external factors.

But, mostly if the company's internal policy is affecting the sales income then the company's more exposed to the business risk because, this seasonal factor and the cyclical factors can be predicted to some extent. Because this is a periodical occurrings or periodical things which is happening to that particular company, but whenever something is going wrong to the company, because of that the sales is declining and which is happening in internally then that is a more some matter for the company in comparison to the other external factors which contribute to the fluctuations of the sales. So, but the external factors is not in the control of the company but, the internal factors can be controlled by the company in a larger extent and it is basically we can say that affecting the company in a it is, the internal company should be controlled by that the business risks should not arise from that.

So, that is the basic objective should be the company always have. So, this is already told you that business risk is measured by the distribution of firms operating income that is firms earning before interest and tax that already you know that EBIT. And, here I have talked about the sales in a crude way, but EBIT it is basically what before whatever profit the company earns and how the profit gets affected and profit is obviously, is dependent

upon the income what the company generating out of the selling of that particular product what the company is producing. So, this is what basically the business risk talks about.

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Financial Risk

- Financial risk is associated with the use of debt financing by firms or companies
- There is a risk that the earnings of the firm may not be sufficient to meet these obligations towards the creditors
- The use of debt by the firm causes variability of return for both creditors and shareholders
- Financial risk is usually measured by the debt/equity ratio of the firm; the higher this ratio, the greater the variability of return and higher the financial risk

Then, we can see that another thing another risk which is called the financial risk. You see, whenever any company tries to invest in the market any companies tries to invest in the market, what do they do they basically wants the company want basically money. If the company wants money for that or capital for that, what is the source of capital the source of capital is either they can raise it in terms of debt or they can raise it in terms of equity.

So, that is every company has a debt component and the company has also equity component but here in the finance literature, the financial risk is measured through the debt financing; that means, what here we are trying to say if the companies debt is more, then companies exposed to more risk if companies debt is less; companies exposed to less risk in terms of which is defined as the financial risk; that means, what is the percentage of the capital are financed through debt and what is the percentage of capital which is financed through equity. If the percentage of the capital financed through debt is quite high in comparison to the percentage of the capital finance through equity is quite high in the relation to financed through equity, then we can say that the financial risk of the company is quite high.

So, therefore, we say that the debt to equity debt to total capital is high, then the company is exposed to more financial risk why; why, you are saying that if the company's debt is more their financial risk they are exposed to more financial risk or the financial risk of the company's more why is it? So, why that particular thing basically always we assume the reason is basically, you see whenever any company has taken the loan or company has received the debt or the bonds.

So, in that particular point of time, the first basic obligation of the companies whenever they get the profit they have to pay them and it is fixed you cannot avoid that. You see already I told you that your capital is debt and you have the equity means whenever you are raise the money from the public in terms of the stocks. And, if you have taken the loan or you have issued that bond against that particular issuance whatever or money whatever you have raised from the market, then after a periodical basis every periodical basis a certain amount of interest has to be paid interest payments has to be made.

So, whenever the company has related total profit once company gets the profit the first is first of all the company has to pay the interest because for the loan for the bond and everything interest payment has to be made fast, then total profit and after that company will pay the tax then after that if company wants they can pay the dividend. Then whatever remaining will be there that is called a return earnings, but here the issue is company may not pay the dividend for the equity holder most of the company also do not pay that dividend but if they have the debt component then; obviously, there is a fixed obligation for them to pay the interest regularly.

So, that is why the earnings of the firm may not be sufficient to meet the obligations toward the creditors; for example, the firm does not have much profit to pay the interest whatever the interest payments they have to make the company generates certain profit, but that is not sufficient, then the financial risk increases heavily. So, whenever you talk about these things, another thing is here if the company hub does not have much profit to pay the interest and but still they are generating some profit which should be given to the equity holder, but a company is not able to, even it is not sufficient to pay the debt holder then the what the company does whatever remaining money will be there they will pay to the debt holder equity holder does not get anything.

So, therefore, it increases also the conflict between the managers and the equity holder and that conflict again increases the cost of the company which again increases the risk of the company. What you are trying to say; first of all it is not sufficient because of that the company is exposed to more risk number 1; number 2 whenever the equity holder fails that the company is generating certain profit, but that profit first of all they have to pay the pay to the debt holders and at the expense of because they once the equity holder does not get any money. So, they are also basically annoyed or they must not be very happy with the company that is why conflict arises between the managers of the company and the equity holder that again further increases the risk of the company. Because, equity holders may not be interested to invest in that particular stock in the future and to attract them the company again has to give some more premium.

So, in both ways, they composition of more debt in the company increases the financial risk level of the company and as well as the investors are relatively less reluctant or they will be less reluctant or less reluctant. Because, they will reluctant in the sense what we are talking about, the investors will be reluctant to invest in equity but the company also will be always feeling that I have some fixed obligations that is why my risk is more and I have some binding role and that role basically declines my operating efficiency.

So, that is why the financial risk basically increases if the debt to equity ratio is high. Already told you that higher the variability of or higher the ratio higher the variability of the return and obviously, the financial risk is relatively higher for them. So, this is about your financial risk.

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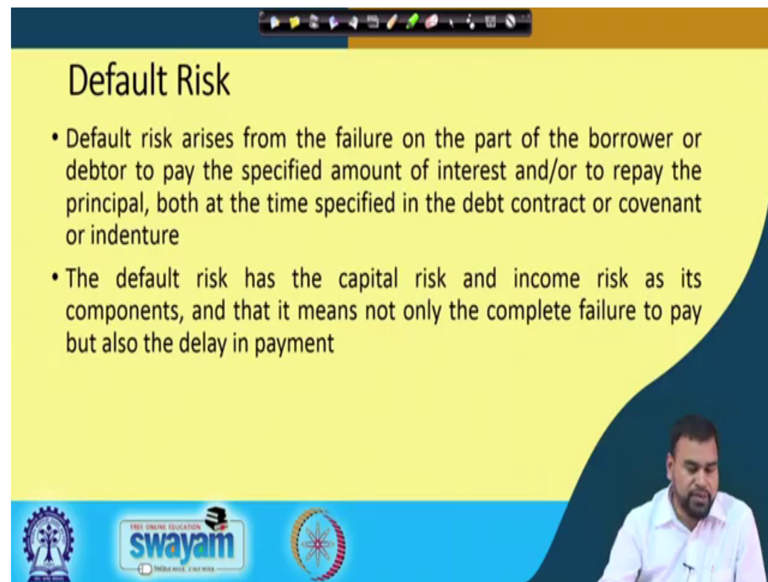

Then, we can have another risk which we call it the default risk or the credit risk. What exactly the credit risk or the default risk is? The default risk arises from the failure on the part of the borrower or the debtor to pay the specified amount of interest or to repay the principal both are the time specified in the debt contract. What exactly it means? For example, somebody has taken a loan and in the loan agreement what has been mentioned, you have to pay the interest periodically and as well as you have to pay the principal at a particular time, but you assume if the particular entity or particular individual or particular corporate could not pay the interest or could not pay the principal, then what will happen that it will increase the risk for that particular organization who has given that particular loan.

So, here what the credit risk or the default risk is trying to measure the default risks basically measures the probability of default. If I have given you the loan, then what is the probability that you may not refund that loan in terms of interest or the principal which will increase the risk level of that particular company because that particular default payment or default in terms of the payment we will affect the performance of that particular company or profitable profitability of that particular company.

So, because of that, default risk is quite important mostly it is very important from the banking point of view because banks are basically mostly doing the loan business and they are almost the profit analysis or profit scenario totally depends upon the amount of

credit whatever they are given or amount of loans whatever they have given. So, therefore, what we can say that the default risk is quite important from the financial institutions point of view because it basically measures that what is the probability the money can be repaid, the repayment can be made. So, that is basically we measure it are the default risk the default risk as two components; one is capital risk and the income risk because it is not only come basically because it means not only the complete failure to pay, but also the delay in payment. Even if somebody is not paying, then the organization is proven to the default risk.

If somebody is paying also, but they are delaying in payment, then also they default risk or the credit risk of that particular organization increases. So, because of that we have to be very much concerned the financial organizations mostly banks are very much concerned about the minimization of the credit risk and that is what they want to choose the customers in such a way that where the probability of default for the repayment will be less and by that they can minimize their credit risk in the system.

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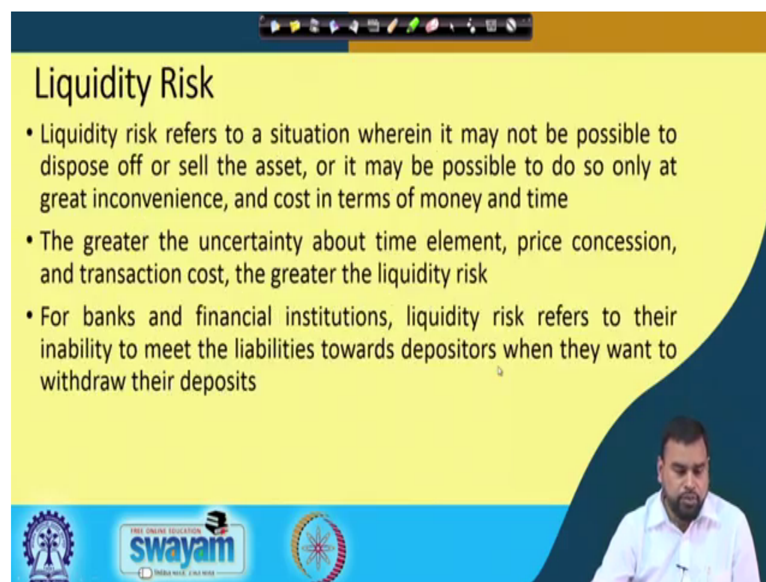

Then, we can come to another risk which is called the liquidity risk. In the true sense what do you mean by the liquidity? The liquidity is basically what how fast this particular asset can be converted into cash if the it is very easily very cheaply can be converted into cash we can say that that asset is more liquid; for example, if you say there is a cheque and there is a draft.

So obviously, if it is a cheque, the cheque is more liquid or draft is more liquid or if you are holding that particular asset which can be easily converted a convertible into cash that is obviously, more liquid you have a savings deposit at any point of time, you can withdraw your money. So, that is a liquid instrument, but whenever you are investing in the stock that may not be liquid instrument what do you need certain process certain kind of mechanism to liquidate that particular asset.

So, because of that, there are certain kind of liquidity issues what the always the financial institutions face in the system. Therefore, if you define the liquidity risk the liquidity risk basically refers to a situation where it may not be possible to dispose of or sell the asset or it may be possible to do so only at the great inconvenience and cost in terms of the money in time. You cancel off, you can liquidate, but it takes lot of time and as well as you are going to incur lot of cost in terms of the transaction cost of the administrative cost.

So, because of that we can say that this particular asset is less liquid. So, that is why liquidity is very important in terms of the investment or the financial market or financial system. So, the greater the uncertainty about time, price consist and transaction cost greater the liquidity risk. Liquidity is a concern for the companies the reason is or for this any financial institutions. The reason is if the company or the financial institutions are not liquid, then what will happen it is not liquid in the sense the transaction cost in the market is quite high. So, more the transaction cost, the liquidity will be less; less the transaction cost, liquidity will be high so; that means, the cost or investment or participation in the market is very costly. So, to if you your market you have to make your market more liquid in that sense we can we can it implies that the there is a reduction in the transaction cost or reduction in the administrative cost.

So, this is what basically always we observe in the market whenever we define the liquidity risk in the system. So, here if you see that liquidity risk from a market prospective and liquidity risk from a bank prospective other financial institution prospective is little bit different; why it is different, because already I told you that how liquidity risk is defined from the market prospective in from the market prospective the liquidity risk is nothing, but how easily that asset can be converted into cash number 1; number 2, how or how you can minimize your cost to participate or to invest in the market if your cost is very low for participation then; obviously, the liquidity risk is less

if the administrative cost or maybe this your transaction cost is quite high, then we can say the market is highly illiquid in that sense the liquidity risk is more.

But whenever to talk about the banks; why the banks or any financial institutions need liquidity because they have to satisfy the customers demand. The customers demand is for example, I have deposit I have deposited my money in the bank. So, whenever I need I should withdraw my money at the time of my at the time of requirements, but for example, I went to the bank and I could not withdraw my money because bank has no cash available with them. Then what we can say, the bank is suffering from liquidity; that means, bank has not enough cash which can cater the demand for the customers. So, in that context we can say the bank is illiquid.

So, that creates the some kind of disturbances in the market you feel that the bank is going to be insolvent, then that leads to a liquidation and end of the day there is a failure, but here the question is that from the financial institution point of view, the liquidity means how the particular organizations are able to cater the demand for the depositors and whether the depositor depositors are able to withdraw the money at the time of their requirement or not, but you remember liquidity and profitability do not go together if you want to keep more liquidity profitability maybe hamper. So, that thing we will be discussing more whenever it is discuss more on about commercial banks.

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Then, another type of risk we have the maturity risk what do you mean by maturity risk in financial system we have the different type of assets some assets are certain maturity, some assets of long term maturity, but the question here is as you know that if you are holding asset let there are two bonds; one bonds maturity period is two years, another bonds maturity period is 20 years. If somebody has invested in the 20 years bond, then obviously, they are exposed to more risk because they do not know what is going to happen in the long run what should be the interest rate scenario, how the interest rate is going to be changed, how the policy is going to be changed what kind of a political stability.

We can observe then all kinds of things will affect the discount rate and if all these things will affect the discount rate automatically what will happen the price of the bond will be highly fluctuating. So, if the price of the bond will be highly fluctuating, then you are exposed to more price risk or their investment risk. In that context, what you are trying to say. Because the future is uncertain the prediction of the economic fundamentals is are relatively uncertain in that context, if somebody is investing for the long run and somebody is investing in the short run the person who invest for the long run they are exposed to more risk why because the forcing forecasting and envisioning the environment conditions and situations becomes more difficult in the long run.

So, if the forecasting is not possible for 20 years and how can I say that how the interest rates scenario will be there after 20 years, the interest rate may go up, the interest rate may go down and the interest rate is also again depends upon certain other policy measures what these regulators on the monetary authorities are taking. So, all kind of things are going to affect my pricing of that particular asset. So, if the pricing of that asset gets affected due to the change in the discount rate, cash flow etcetera etcetera, then what will happen and I am exposed to more risk, but if somebody is investing for a short run basis maybe 6 months, 1 year it may be to some extent possible, how this interest rate scenario is going to be.

And how this particular market is going to behave in the next year? So, in that context what will happen it will be relatively easier for them or for any investor to say that how much risk they are going to be exposed and what kind of return they are going to get and what should be the price of that particular asset in that particular context. So, therefore, maturity risk is also important, we have to see that whenever you are investing or

holding any kind of asset whether the maturity period is longer maturity period is short. So, because of that the longer maturity assets of the yield of longer term maturity are more than the shorter maturity assets, that is what basically we observe, but that yield may not be sufficient enough if you are exposed to more risk from the market point of view and as well as individual or unsystematic risk point of view.

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Call Risk

- Call risk is associated with the corporate bonds which are issued with call-back provision or option whereby the issuer has the right of redeeming the bonds before their maturity
- In case of such bonds, the bond holders face the risk of giving up higher coupon bonds, reinvesting proceeds only at lower interest rates, and incurring the cost and inconvenience of reinvestment

Then, we have another type of risk which is called the call risk. You know what do we mean by the call risk. Let there is a bond the bond has, the bond has the maturity period there is a bond, the bond has the maturity period for a 10 years is a simple example. But, whenever you have issued the bond let the coupon is 10 percent and the par value of the bond is rupees 1000, but generally what happens there are certain bonds which are callable or the callable bonds or call bonds.

So, in that case what we say may be there is a provision, whenever the bond was issued there is a provision after 5 years, the company or the issuer who as who has issued this bond to you, they can call back the bond, they can call back the bond and there is a price fixed for that from the beginning. But, you assume whenever the bond is called back by the issuer to from you, let the interest rate in that particular point of time in the market is very low then if you could have sold the bond in the market on your own then you would have got a better price than whatever price this were is giving you.

So, then what is happening for example, that time you could have you could have sold the bond in the market you would have got 1200 rupees, but now the issuer is giving you 1100 rupees that is fixed you are bound because there is a provision in that. So, because of that, you are exposed to that kind of risk. So, you cannot do a anything with that. So, therefore, the call risk is associated with the corporate bonds which are issued with callback provisions or option wherever the issuer has the right of redeeming the bonds before their maturity.

They can call back that one maturity period is 10 years, but the bond can be called back after 5 years at any point of time. So, that time the particular investor or bond holder who is investing in that bond there may be exposed to more risk if the interest rate in the market is relatively low and if the interest rate is relatively low, then he could have got a better price he would have sold the bond in the market instead of giving back that bond to the issuer in that price which is already mentioned.

That is why in case of such bond the bond face bond holders face the risk of giving up higher coupon bonds reinvesting profits only at lower interest rates and incurring the cost and inconvenience of the reinvestment and also the price. There are two things what they are going to be exposed. So, either the that time again if they are reusing the bond the coupon may be low and again if the interest rate is low they could have sold the bond in the higher price and they could not get the actual high return what they should be getting. So, because of that the call risk is also one important type of risk always we face mostly in the bond market or other financial derivatives market etcetera. So, these are the different type of unsystematic risk always we face and the investor always try to minimize this on systemic risk to maximize the return.

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So, in the next class, we will be talking about the different return concept that how this return is basically calculated what are the different concepts related to the return. Please go through these particular references for this particular system.

Thank you very much.