Management of Fixed Income Securities
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Lecture - 46
Bond Investment Strategies - I

Welcome back. So, in the previous class we discussed about the different aspects of the bonds which are the embedded options. There we have discussed about the valuation pricing and all, so today we will be discussing about the different type of bond investment strategies. So, what are the different kind of strategy the investor adopts whenever they try to invest in the bond market to manage their risk.

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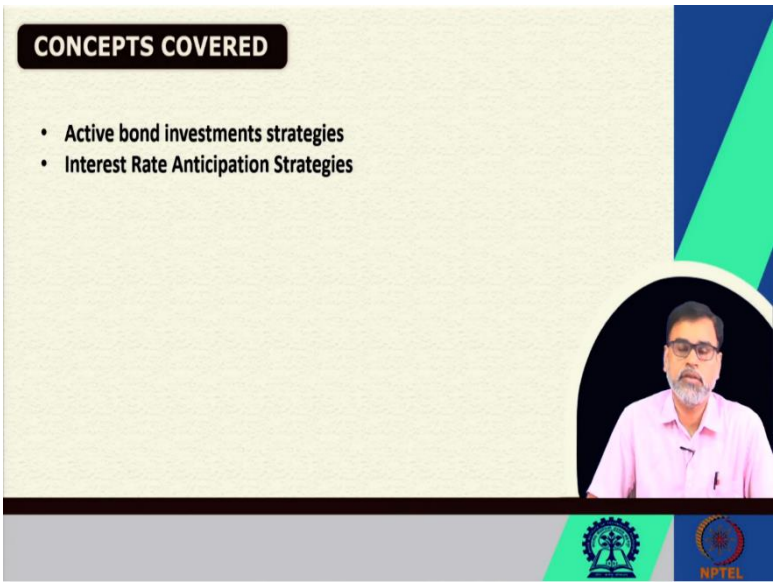

So, in this particular session will be covering of the one particular types of the strategy that is called the active bond investment strategy. Then, within that active bond investment strategy one of the strategies is basically the interest rate anticipation strategy. So, largely the today session will be covering of the different methods or different kind of approaches which are generally, the investors use while investing in the bond.

And they are trying to adopt the active investment strategies and mostly it will deal with the different kind of methods which are related to the interest rate anticipations.

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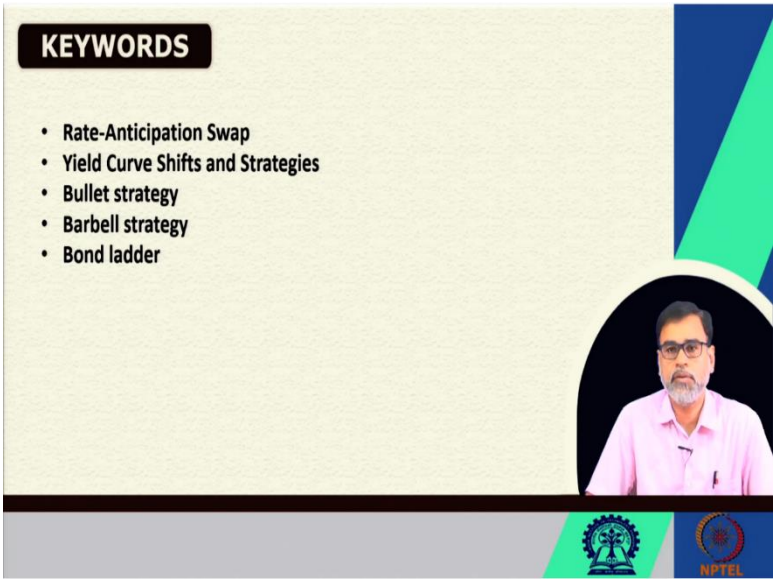

So, while going through this particular session you will be coming across different type of keywords like rate anticipation swap, yield curve shifts and the concepts like bullet strategy, barbell strategy, bond laddering strategy or bond ladder. So, these kinds of words basically will come across whenever we discuss about the active bond investment strategy and mostly which is related to interest rate anticipation strategy.

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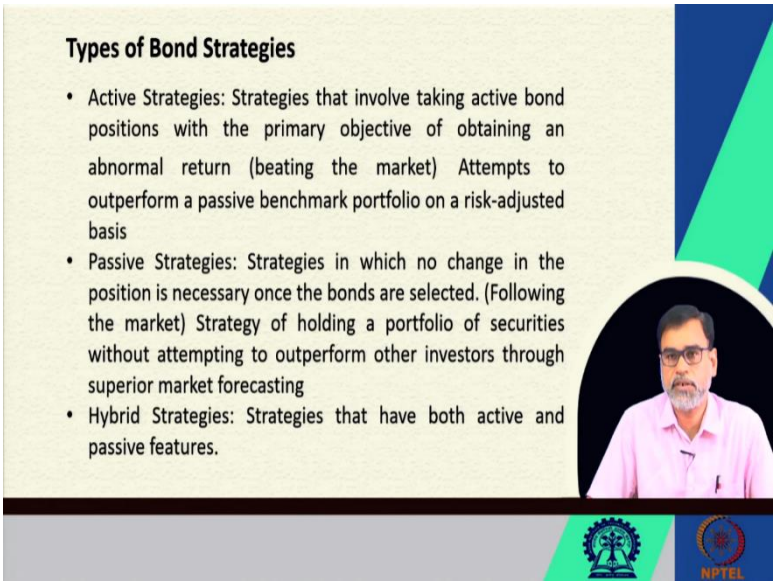

So, here you see whenever you talk about the different types of the bond strategies. What are those different kinds of strategies generally the investors adapt? Whether it is bond or it is a stock or any other instrument whatever instruments we use, generally broadly we have two types of strategies that are investors adopt, one is active other one is the passive. So, if you are adopting both you are basically adopting the both type of strategy for your analysis.

Like some part is related to passive part and some part is related to active part, then we can call it the hybrid strategy. So, we have then broadly can categorize it in terms of active strategy, passive strategy and the hybrid strategy. So, if you are going to use both active and passive strategies to some extent in your investment management then, we can call it the hybrid strategy. So, in that case what basically we can see what do we mean by this active strategy.

Active strategy is basically nothing but here this strategy basically involves taking these different active positions in the bond investments. And the basic objective is basically getting some abnormal return or the investors always try to beat the market. So, if you are having a benchmark kind of index which is available in the system likes bond market indices. Then, whatever return the bond market index is giving.

So, if the investors objective is to get more return what the bond market index is giving then, we can say that the investors are basically trying to adopt the active strategy. So, that's why they always attempt to outperform the passive benchmark portfolio on a risk adjusted basis. So, over the period of time frequently they change their positions the investors basically change their positions.

And the basic objective is to get more return what the particular benchmark portfolio is providing. So, that is basically in general term we call it the active strategy but, whenever you talk about the passive strategy here generally if the investor is adopting a passive approach. Here, the no change in the position is necessary once the bonds are selected, that means the investor basically follows the market.

So, they try to always replicate the market or the market in the sense we are referring to the bond market index which are already prevailed in the market. So, whatever return the bond market index is giving the investors are always trying to get that return. So, this is a strategy of holding a portfolio of securities without attempting to outperform other investors through superior market forecasting.

So, in this case the investors do not change their positions frequently they generally hold on to their particular portfolio for a reasonable period of time and their basic objective is to follow this particular market or what the index is giving whatever return the index is giving they always try to get that return or whatever return the particular bond market index is providing. Then, already what we have discussed that the active strategy and passive strategy.

If you are combining these two then, or some part basically we can follow the from the active point of view and some part you can follow from the passive point of view that means both the features are involved in terms of the hybrid strategy. So, the particular strategy which are both active and passive features we can say that these are a part of the hybrid strategy. So, these are the different type of bond strategies for the bond investors always use while investing in the bond market.

So, today we will largely focus on the active strategy part and gradually we can move towards the passive and the hybrid strategy.

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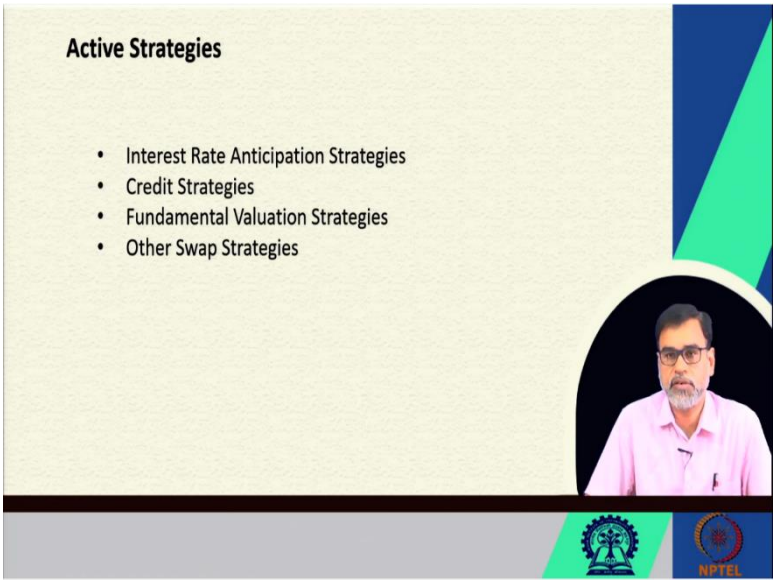

So, let us see what are the different types of active strategies which are available in the system or in the market? So, if you see that broadly you can categorize them into four, one is your interest rate anticipation strategies then you have the credit strategies then fundamental valuation strategies then different type of swap strategies. These are the different type of active strategies for the bond investor always adopt while investing on market and with a basic objective of to maximize the return or to minimize the risk.

So, again within these four strategies whatever just now we have mentioned here in this case, one by one will discuss what is the typical process generally, the investors follow while adopting this strategy and also largely this session will cover of the interest rate anticipation strategies then gradually, we can move towards the other strategies.

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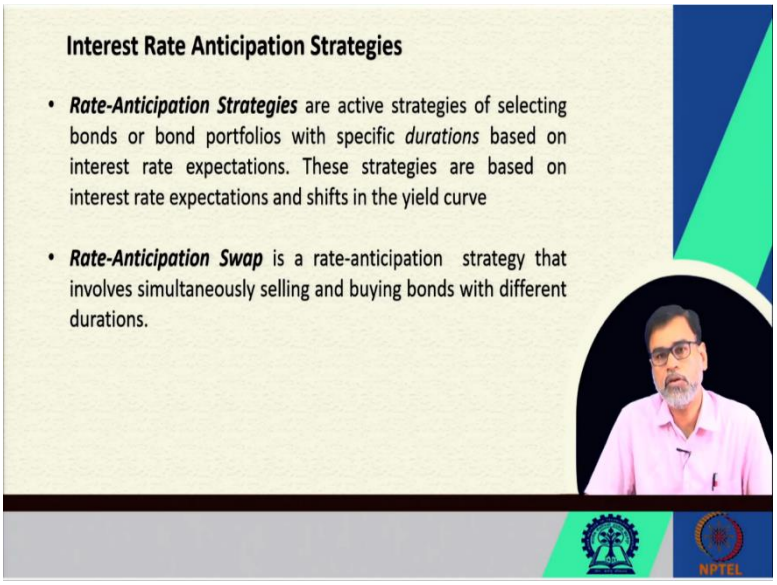

So, whenever you talk about the interest rate anticipation strategy. So, here it is basically a kind of strategy where the investors try to select the bond or the bond portfolio with specific durations based on the interest rate expectations. How the interest rate is going to change? How the interest rate is going to move? That is the basic criteria to decide that particular bond portfolio.

On the basis of the change in the interest rate or expectations about the change in interest rate the investors basically try to make that particular strategy. So, that's why these strategies are basically based on the interest rate expectations and these shifts in the yield curve. How the yield curve is shifting? And yield curve will shift whenever there is a change in the interest rate.So, depending upon the interested expectations and change in the interest rate.

And accordingly, the movement of the yield curve the investors basically decide the strategy that where to invest and whether they should invest in the long-term bond or they should invest in the short-term bond or they should invest in both. If they are investing in both then which one, they should buy which one they should sell. So, these kinds of questions generally always investors try to answer through the prediction of the interest rate.

So, interest rate expectations are the major factors to decide that whether they should invest in what kind of bond they should invest.

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So, here we have one particular strategy called the rate anticipation swap. The rate anticipation strategy is basically a kind of strategy where the investors simultaneously selling and buying the bonds with different durations or different maturity.

In this case the investor is basically taking both the positions at a particular point of time simultaneously they are buying the bond and they are selling the bond but the term to maturity or the duration of this particular bonds will be different. That basically they will do on the basis of the reduction of interested rates. How the interest rate is going to move? That basically will decide them that whether they should invest in that particular bond or not.

And even if they are investing then which bond they should buy and which bond basically they should sell.So, that is basically called the rate anticipation swap.

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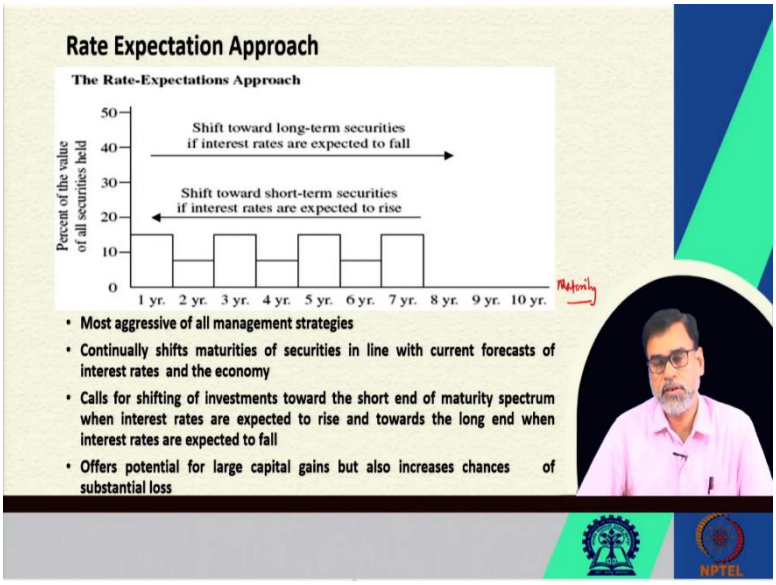

So, here let us understand the basic notion of the rate expectations approach. Here if you see that generally the rate expectation approach it is one of the most aggressive strategy or the active strategy for the investors. And in this particular approach the investors basically continuously shift the maturities of the securities in line with the current forecasts of the interest rate and the economy.

How this particular interest rate is going to be changed and how the economic conditions are going to be changed accordingly they basically shift the maturity of their securities. So, in this case if you see that they will call for shifting of investment towards the short end of maturity spectrum, when the interest rates are expected to rise and they will move towards the long-term end when the interest rates are expected to fall.

So, what is the logic in that, what is the basic understanding in this particular context? So, if they are expecting that the interest rates are expected to rise or they are assuming that the interest rate is going to rise in the future. So, then what they basically do they shift their investment towards the shorter maturity bonds or if they are expecting that the interest rates are going to fall then they are basically going for the long-term bonds because, in the longer-term period they can get more return from that.

So, that's why if you look at this particular figure these are the term to maturity or the duration these are the maturity. So, if you see basically the percentage of the value of all the securities where they are holding in the portfolio. If they are expecting that the interest rates are going to rise then what basically they will do, they will go towards holding more securities which are the short-term maturity bond.

And if they are expecting that the interest rate is going to fall in the future or in the long run then they will go towards the long-term maturity bonds. So, in that particular context within that particular process this particular strategy will offer a high potential for large capital gains but also increases the chances of substantial loss. If the interest rate will not basically move as per the expectations, then the investors basically may incur the losses.

But there is also high chance of high return if they will follow this kind of strategy in the market.So, because of this we can call this strategy is one of the riskiest strategies or it is one of the most aggressive strategies in terms of the bond investments.

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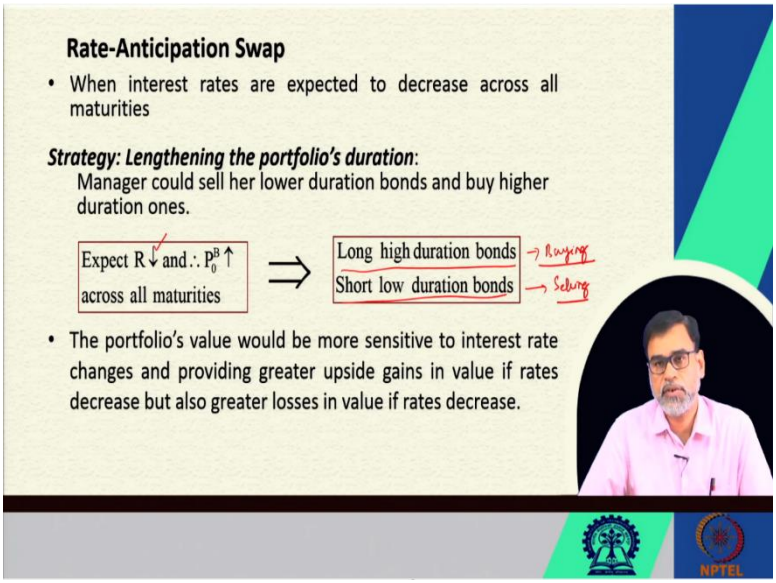

So, let us explain it in this particular way, let when interest rates are expected to decrease across all maturities assume across all maturities the interest rates are expected to decrease. So, how basically the interest rate anticipation swap is working in that particular case. So, what is the strategy the investor can adopt? The investor basically can adopt the strategy of increasing the portfolios duration.

Portfolios maturity period basically they can increase lengthening the portfolios duration. So, in this case what the portfolio manager can do or the bond investor can do? They can sell their lower duration bonds or the bonds having the lower duration or the lower maturity and by the high duration ones.So, that means what is the logic here in this case if they are expecting that the interest rate is going to be down, that means the rate is down.

Then in that case what will happen the price will increase across all the maturities. So, which will imply the long high duration bonds means buying, buying this long duration bonds and short means it is basically selling, selling the low duration bonds. Even if in their portfolio there are some bonds which are the shorter-term maturity or short-term duration, they can sell that and they will buy the bonds having the longer-term maturity.

So, already what we have discussed the portfolio's value would be more sensitive to interest rate changes which provide the greater upside gains in values if the rates decrease but also greater losses in value if the rates decline. As per expectation if the interest rate will not decline then there is a high chance of the losses in that particular case.

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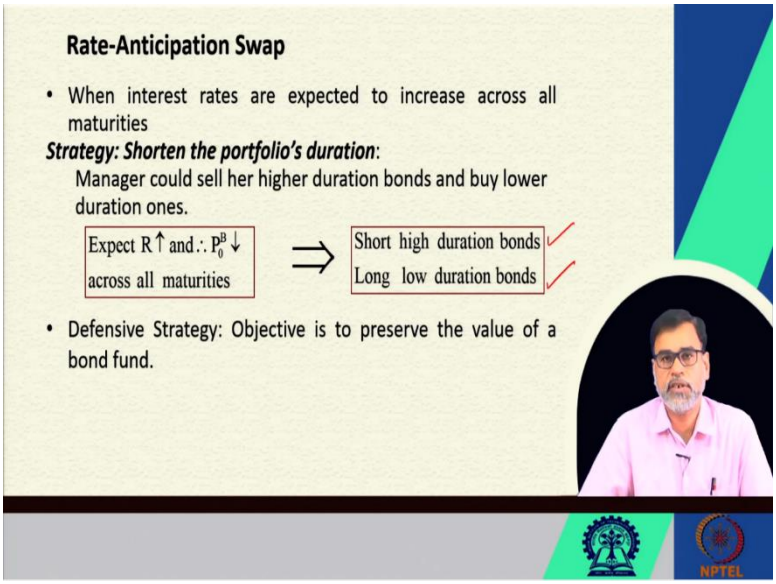

In the same way, if you see that the interest rate is expected to increase across all maturities. Then, what this investor can do or the portfolio manager can do they can always reduce the portfolios duration. So, to reduce the portfolios duration they can sell the higher duration bonds and buy the lower duration bonds. So, the expected interest rate is going to up then the price will be down across all maturities.

Which basically implies the selling the high duration bonds and buying the low duration bonds that is what we have mentioned here. So, the objective is to preserve the value of the fund, what basically they are allocating for the bond investment. That is what basically what we can think of or we can see about when the interest rates are expected to increase across all the maturities.

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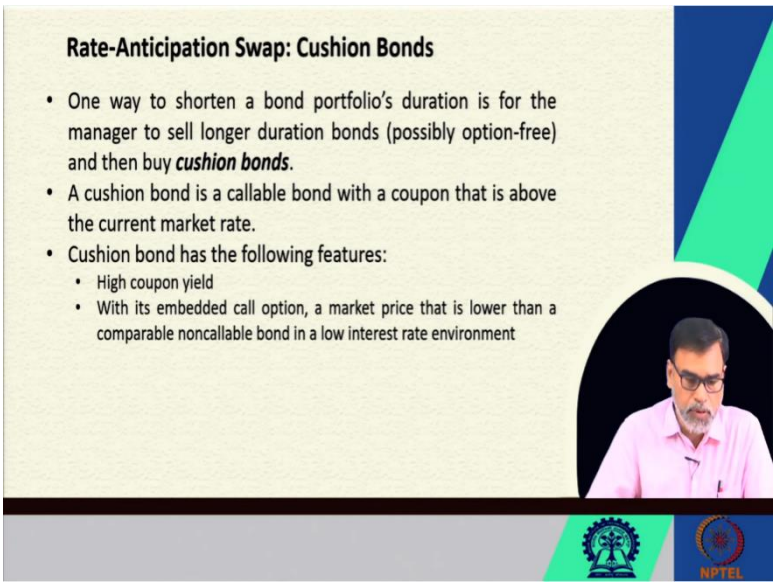

So, another way also the rate anticipation swap can work using the concept of the cushion bonds. What is this cushion bond? One of the ways to reduce the bonds portfolio duration is to selling the longer duration bonds and buy the cushion bonds. So, generally the longer duration bonds what the investor is selling, possibly they should be option free they should not have any kind of embedded options, but whenever you talk about the buying of the cushion bonds.

What do you mean by the cushion bond? The cushion bond is basically a callable bond with a coupon that is above the current market interest rate. You can look for a bond which is callable and the coupon rate is above the market interest rate. So, that's why the coupon bond has the following features it should be high coupon yield and with it is embedded call option

a market price that is lower than a comparable non-callable bond in a low interest rate environment. These are the two features what you can think of about holding a cushion bond.

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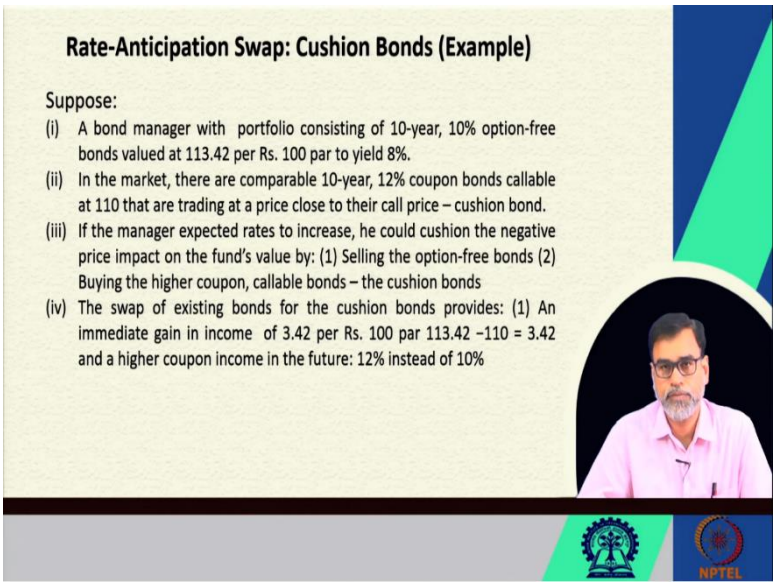

So, how this cushion bond concept works? Let us take one example, suppose a manager with a portfolio consisting of 10-year 10% option free bond, which is let valued at rupees 113.42 per Rs.100 par and the objective is to yield 8%.

In the market, there are comparable 10 years 12% coupon bonds which are callable at a price of 110, that are trading at a price close to their call price that is let called the cushion bond.

So, what the manager can do? If the manager expects that the interest rates are going to increase then, he could cushion the negative price impact on the bonds value. Selling the option free bond and buying this higher coupon callable bond that is basically the cushion bond.

So, the swap of the existing bond for the cushion bond generally provides an immediate gain of the 3.42 rupees per 100 rupees that means (113.42- 110) =3.42.

And a higher coupon income in the future: 12% instead of the 10%. So, that is basically we call it the concept of interest rate anticipation swap using the cushion bonds.

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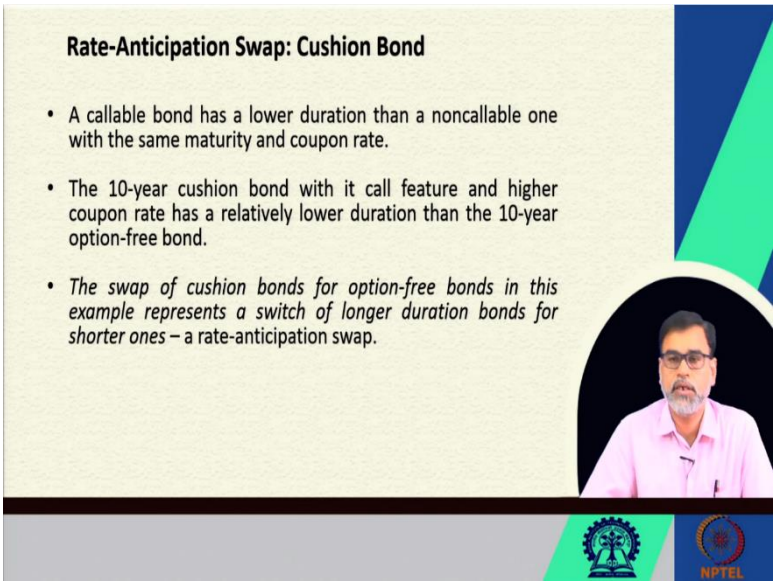

So, a callable bond has a lower duration than a non-callable bond with the same maturity and the coupon rate and the 10-year cushion bond with it call feature and higher coupon rate has relatively lower duration than the 10-year option free bond. So, if in this example if you look at the swap of the cushion bonds for this option free bonds represents a switch of longer duration bonds for the shorter ones, that is basically nothing but a rate anticipation swap.

We are swapping with a cushion bond with an option free bond and generally, in that particular process we are switching of a longer duration bond for a certain bond. That is what basically what we can think of in this particular context.

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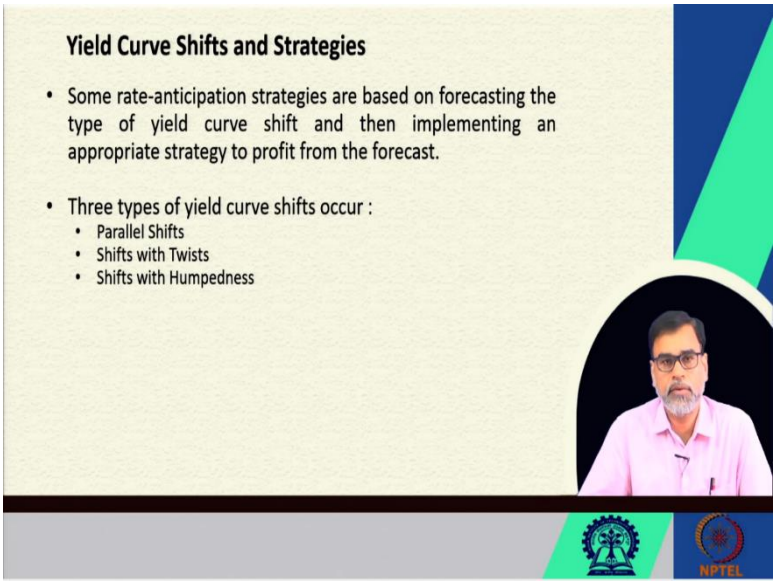

So, then we can also see the yield curve shift. So, some of the rate interest rate anticipation strategies are based on the forecasting the types of the yield curve shift and then

implementing on appropriate strategy to profit from the forecasting. So, there are already we have discussed this part there are three types of yield curve shift can occur. There may be a parallel shift there may be shift with some twists and there can be a kind of humpedness in that particular shifting. So, there are three ways the yield curves can be shifted.

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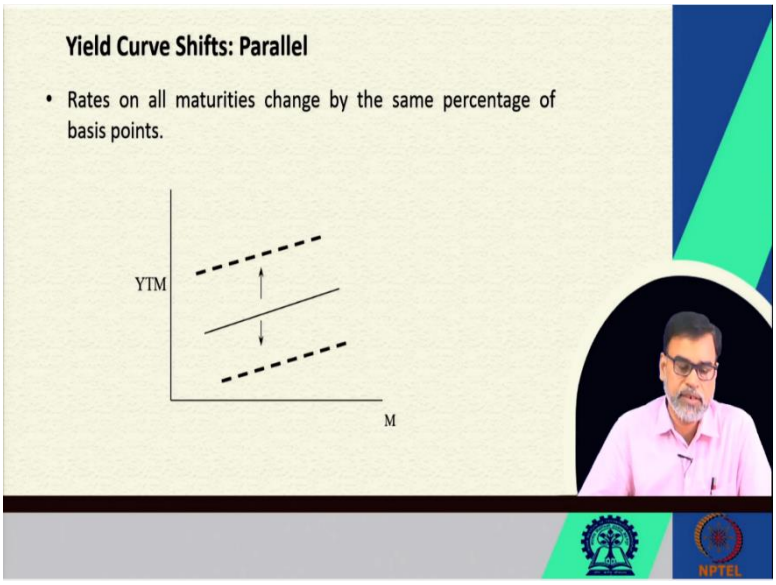

So, whenever you feel that the interest rates on all maturities sends by the same percentage, the interest rates of all maturity change by the same percentage or the basis points then we can say that that is a parallel set.

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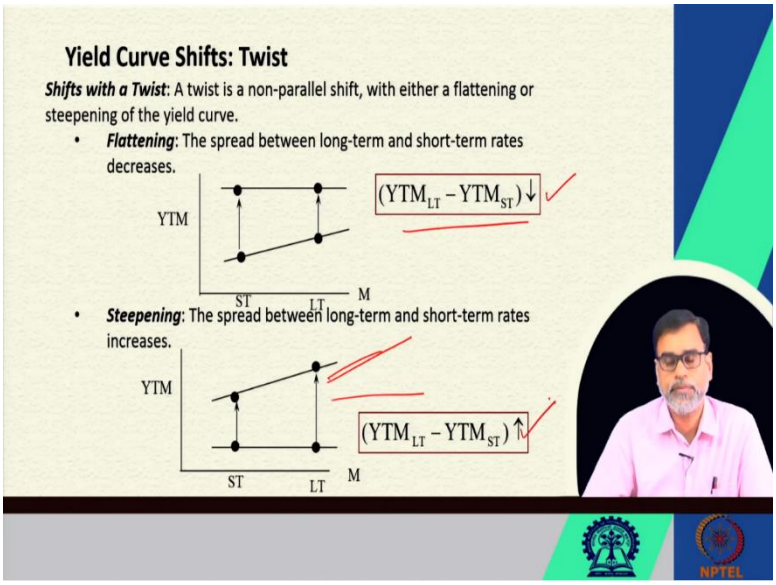

If you find that a twist in that case, that means a twist is a non-parallel set either a flattening or a steepening in the yield curve? Whenever there is a flattening of the yield curve then you will find that the spread between the long term and short-term rates decline. Yield to maturity

what you are getting from a long-term bond and the yield to maturity from a short-term bond that difference will basically decline in this case.

But if you are assuming a steepening yield curve then what will find the spread between the long term and short-term rates basically increases. So, your yield curve basically will shift in this way, this is the way basically it is shifting from these two this will be shifting in this way. So, that is why the YTM of a long-term security and YTM of a short-term security if you take a difference of these two, then basically it is increasing.

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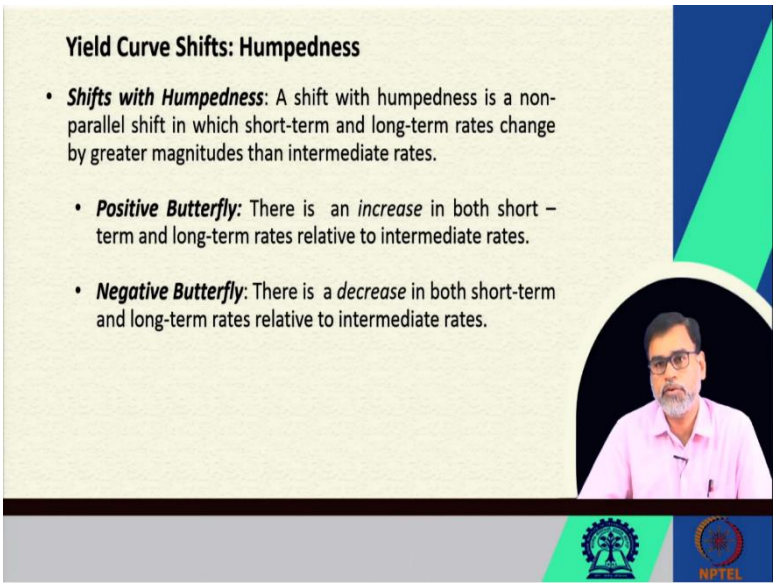

But whenever you look at the humpedness, a shift with humpedness basically is a non-parallel shift again in which the short term and long-term interest rate change basically, always more in magnitude than the medium term on the intermediate rates. So, there are two things we can observe here one is positive butterfly other one is the negative butterfly. So, in case of positive butterfly there is an increase in both short-term and long-term rates relative to the intermediate rates.

And if you look at the negative butterfly, there is a decrease in both short term and long-term rates relative to the intermediate rates. That is what basically we can observe in terms of the yield curve or the humpedness curve what we can observe in the market.

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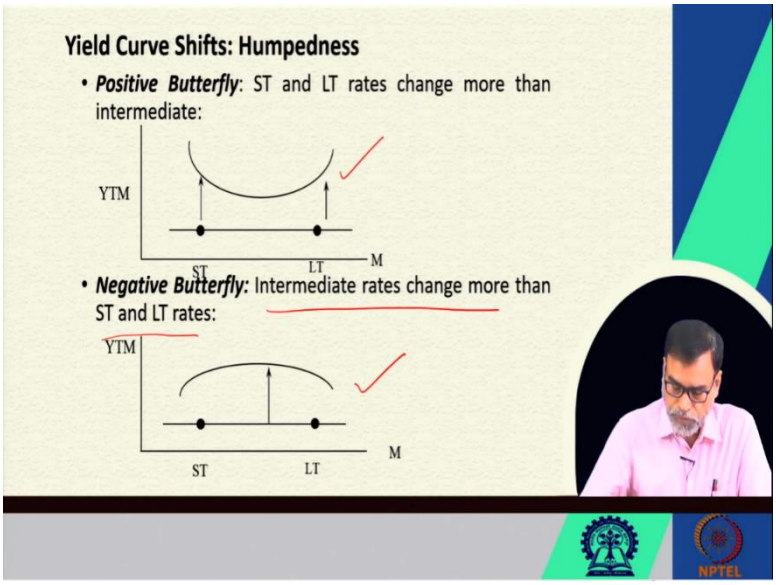

So, it will look like this, if you look at the positive butterfly the short term and long-term rates change more than the intermediate. In this case negative butterfly if you look at the intermediate rate change more than the short term and long-term rates that is basically, we call it the negative butterfly. That is for the humpedness curve case we can observe this.

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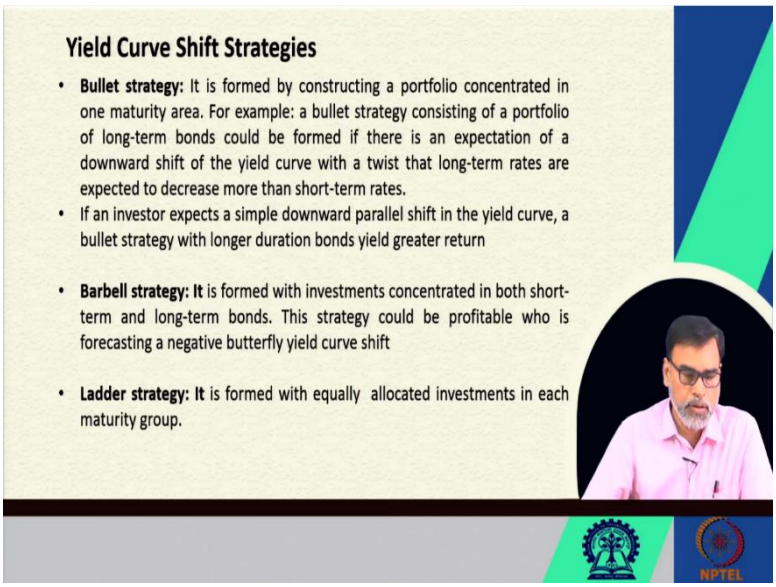

So, whenever we look at the yield curve shift strategy generally look at the three types of strategy one is bullet strategy, barbell strategy and ladder strategy or we call it also the bond laddering. What do you mean by the bullet strategy? Bullet strategy is generally formed by constructing a bond portfolio which will be concentrated in one maturity area, one maturity domain.

For example, a bullet strategy consisting of a portfolio of the long-term bonds could be formed if there is an expectation of a downward shift of the yield curve with a twist that the long-term rates are expected to decrease more than the short-term rates that means largely the investor will hold the long-term security bonds. Mostly, the bonds down to maturity or the duration will be quite long.

If they will go for a barbell strategy that means, what do you mean by this if the investor expects a simple downward parallel shift in the yield curve, then the bullet strategy with longer duration bond will yield get greater return in case of the bullet strategy. So, if the investor expects a simple downward parallel shift in the yield curve, then a bullet strategy with longer duration bond yields the greater return.

Then, we have the barbell strategy what do you mean by the barbell strategy? Generally, it is formed with investments which are concentrated in both short term and long-term bonds and these strategies generally will be profitable, if any investor is forecasting a negative butterfly yield curve shift. Where the intermediate interest rates are more than the short term and long-term rates and the barbell strategy will work better in that particular context.

Then, we have the ladder strategy. The ladder strategy is basically formed with equally allocated investments in each maturity group that means equally you are allocating the same amount of the funds of different bonds having the different maturity. So, this is what basically call it the bond laddering.

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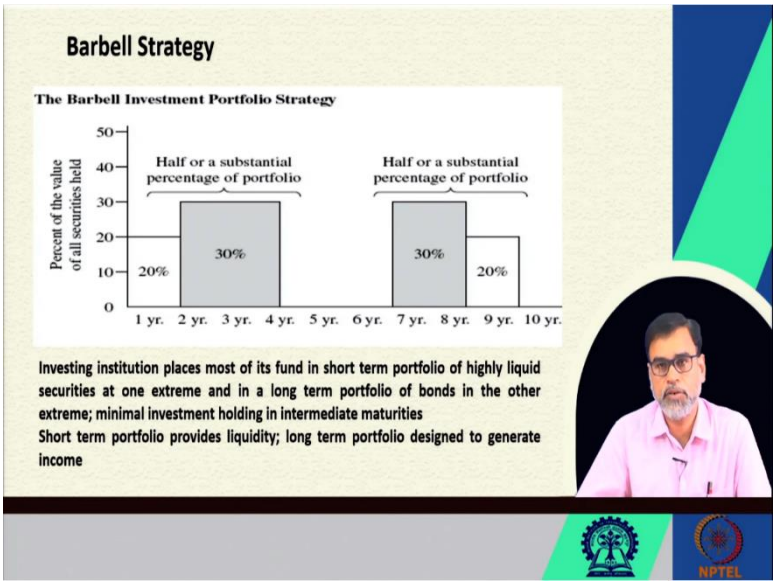

Let us see what do you mean by the barbell strategy, barbell strategy already we have discussed that here the investing institutions or the investors basically place most of the funds in short term portfolio of highly liquid securities at one extreme and a long-term portfolio of the bonds in other extreme and minimal investment in the intermediate maturities.So, the short-term portfolio will provide the liquidity and the long-term portfolio basically will generate the income.

So, the barbell strategy is basically works in this particular direction.So, the half or a substantial percentage of the portfolio will be always put either in the short-term bonds or in the long-termbonds.So, we can always keep or always you can put the maximum amount of the funds in short term securities or we can keep it in the long-term securities that is what basically is a part of the barbell strategy.

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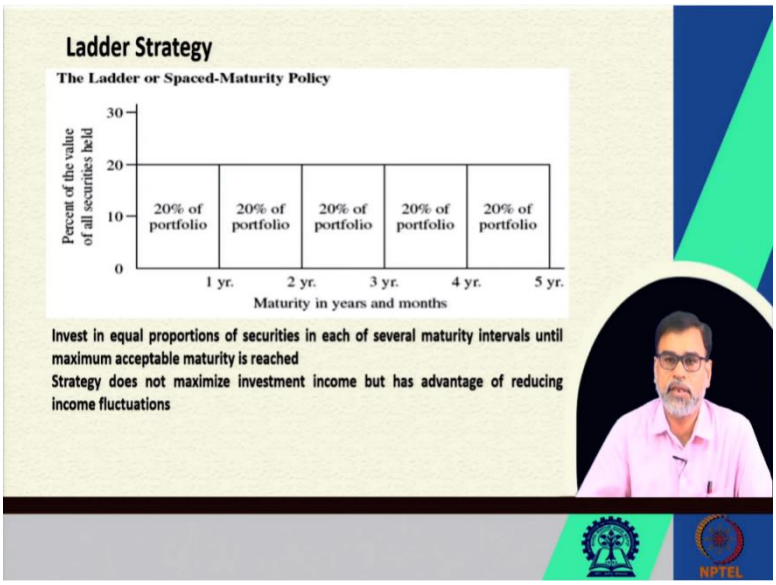

Then, we have the ladder strategy or also we can call it the spaced maturity policy or spaced majority strategy. So, here the equal percentages of the funds are allotted or allocated to the different bonds having the different maturity. To invest in equal proportions of securities in each of several maturity intervals until the maximum acceptable maturity is reached. So, here let we have taken up to 5 years maturity, so 20% of the portfolio should be invested in one year maturity bonds another 20% in 2 year another 20% in 3 year like that.

So, this strategy does not maximize the investment income, but it has an advantage of reducing the income fluctuations. If there is a disparity among the interest rate fluctuations, then somewhere whatever gain you are getting that can be adjusted with the losses or whatever way you have incurred the losses that can be adjusted with the gains.

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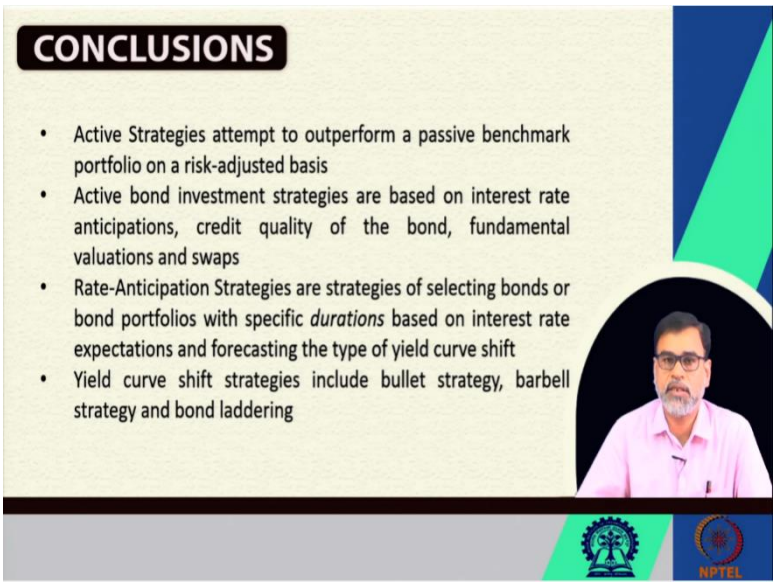

So, what we have discussed that the active strategies basically attempt to outperform a passive in smart portfolio on a risk adjusted basis and active bond investment strategies are generally based on the interest rate anticipations, credit quality of a bond, fundamental valuation and swaps and all these things that will be discussing in the forthcoming sessions. And the rate anticipation strategies are basically selecting the bonds or the bond portfolio with a specific duration.

Which are based on the interest rate expectations and forecasting the type of the yield of shift and yield curve shift strategies include the bullet strategy,barbell strategy and the bond laddering.

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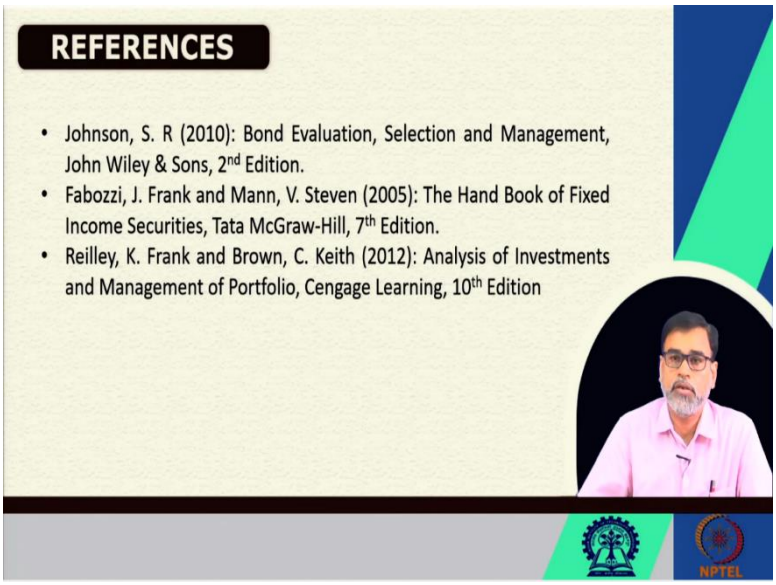

So, these are the references.

Thank you.