Management of Fixed Income Securities
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Lecture - 48
Bond Investment Strategies - III

Welcome back, so in the previous class we discussed about the how this active bond strategies generally work, in that particular context we discussed about the horizon analysis to decide that which strategy is better and as well as also we discussed about the little bit about the analysis with respect to the credit analysis of this particular bond.

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So, we will expand that particular discussion in today's session and these are the different concepts what will be covering of in today's class, one is your industry analysis, then company fundamental analysis, asset liability analysis, indenture analysis, fundamental valuation strategy. So, these are broad concepts what will be covering up.

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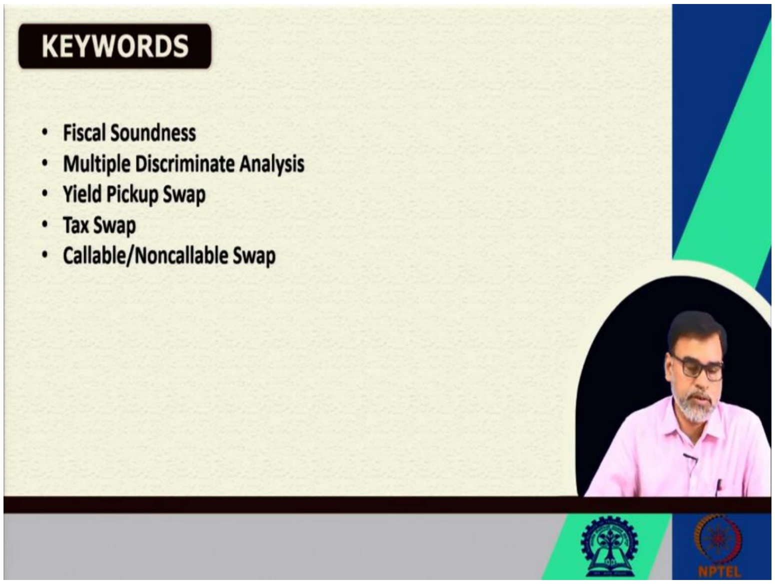

And these are the different keywords you will come across in today's session like fiscal soundness, multiple discriminate analysis, yield pickup swap, tax swap, callable or noncallable swap. So, these are the different keywords that you will come across while discussing or while analysing the bond investment strategy in today's session.

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So, let us see that what do you mean by this industry analysis? As a scholar of the finance, you most of the idea about the industry analysis that is the basic notion of the fundamental analysis we are going to do about the stocks about the kind of other assets, also we analyse or we try to decide that whether we should invest in that particular asset or not. There also we look at the prospect of the industry and look at the different characteristics of the industry.

And accordingly, you decide that whether that industry is a good candidate for the investment or not. In that particular process what are the things basically we see or we examine? Whenever you look at the industry analysis mostly first of all you look at the growth of the industry, the growth rate of the industry. What is the growth rate? Whether the industry is growing or not? And the industry is a development states: the stages of industrial development.

So, in that case what basically we can see that whenever you look at the different stages or we can say that this is the industry life cycle, the cyclicality of the industry. That means what every industry has the different phases you can start with beginning stage or the infant stage, then over the period of time it will increase the growth will take place then it will reach in the maturity stage.

Then once it will reach in the maturity stage then after that some declining trend also can be observed because the more or less the industry will be stable then further growth may not be possible in that particular context. So, it is very much important to understand that the industry is in which states and what kind of competition the industry has, what kind of market structure the industry has.

There are different types of market structure like you have a competitive market structure, you have a monopoly market structure, you have a monopolistic market structure there are different type of structure. Whether the industry is highly competitive or there is a possibility of any kind of monopoly gain the investor or the particular industry is able to generate. So, in that particular context it will give a broad idea that what is the growth prospect of that particular industry.

So, within that consideration it is also useful for the investor to decide that whether they should go and invest in that particular company who is issuing that particular bond or whether that particular company belongs to that industry or not. Trend what about the different parameters in terms of the industry characteristics, how that particular industrial company is changing over the time.

How the different parameters are performing? So, that is also quite important from the industry analysis point of view. And another most important thing is regulations, the government regulations. What kind of regulatory norms are implemented with respect to that industry? Whether the industry is highly regulated or is there any specific regulation which has been imposed on that particular industry which can hamper the growth prospect of that particular industry.

Or it is beneficial for the industry to grow? So, that also has to be examined while investing in a bond which is coming from that particular industry. Then obviously we have the cost of the capital and the cost of the labour whether the industry is a labour-intensive industry whether it is a capital-intensive industry and what are the labour issues in that particular industry whether labour is cost effective or not.

And how the cost minimization can be possible within that particular framework that is also very important prospective or important considerations? So, that also has to be examined.

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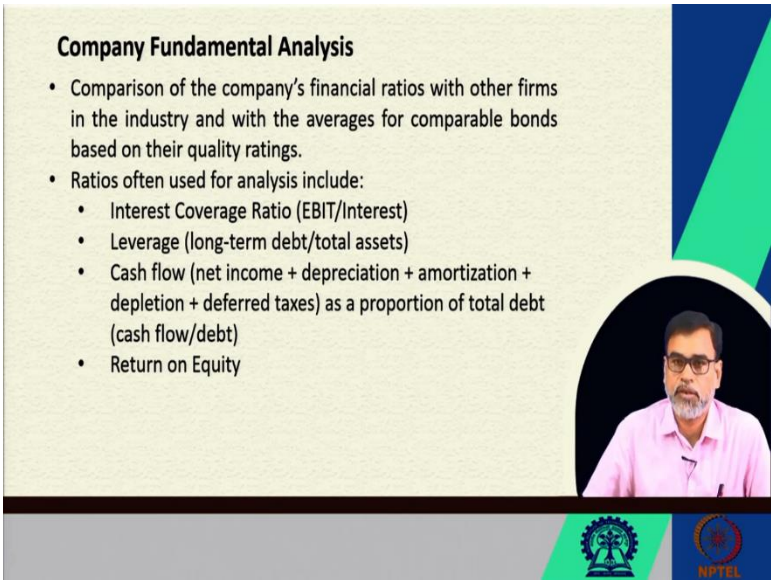

So, after this industry analysis the investors should look at the company fundamentals. Let it they will find that this industry is a good candidate for the investment. Now it is advisable to take the investment positions or to buy the bonds from that particular industry or to invest the bonds which are coming from that particular industry. Then we have to see within that industry which company.

So, whenever we are looking at the company fundamentals then generally, we always compare the company's financial ratio with other companies within that particular industry or with the average of the comparable bonds based on the quality ratings. Within the same rating what are the other bonds are available and all those financial ratios what basically look at. We always compare those particular financial ratios with the other funds which are operating within that industry.

So, whenever you look at these financial ratios generally, we look at the most important ratios are basically the financial risk of this particular company. So, the financial risk means generally look at the leverage, the leverage ratio which is nothing but the debt to equity it can be measured in various ways. You can measure total debt by total equity you can measure the total debt by total capital which includes both debt and equity.

It can be long term debt by total assets it can be long term debt by total capital. It can be also your total assets to total liabilities so there are different ways the financial risk of the particular company can be measured which is nothing but the financial leverage. And the most important parameter for the always the investors generally look at that is called the interest coverage ratio.The interest coverage ratio is nothing but the earnings before interest and tax to the total interest payments what the particular company is supposed to pay.

That means how much profit the company generating whether that is sufficient enough or that particular profit is able to cover up all the obligations with respect to the interest payments. So, that basically is very important whenever look or we analyse the bond investment perspective. If you are trying to examine whether the issuer has the creditworthiness or the company has the creditworthiness to repay the interest to the investors or not, it is very much important to look at the interest coverage ratio. So, these are the ratios what we are discussing here these are all tentative ratios or some of the ratios, the ratios analysis can be also increased to other ratios. Then the other parameter or other factor you have to look at that is cash flow. That means their net income plus depreciation plus amortization plus your deferred taxes plus depletion.

And all which is as a percentage of the total debt that means the cash flow to the debt ratio. We look at the cash flow condition of this particular company whether the cash flow what the company is generating that is basically is able to or how much cash flow the company is generating with respect to the debt whatever they have already incurred. So, that’s why whether it is good enough for the company to generate sufficient amount of cash flow from the debt whatever they have taken.

By that they will be fulfil these interest obligations or the principal obligations whatever they have. The return on equity is a performance parameter; it is the total equity whatever the company has that basically how much return they are able to generate from this and they can pay to the investors. So, in this case what basically we can look at return equity, return on assets these are all the performance parameters.

It is the profit by total equity that what basically we can say. So, in this case and you can also look at the liquidity parameters of the company, how much liquidity condition of the company has how strong the liquidity position of the company is that also can be looked upon, can be checked upon and whether the company's cash positions are relatively better or not. So, that also will help the investor to decide that whether the company's financial condition is comparable with the other entities within that particular industry.

And how they basically perform within that particular domain? So, by that it will be easier for them to decide that whether the company's credit worthiness is there and by that they will have the confidence to invest in that particular company expecting that the future expected cash flows what the company is supposed to generate that can be realized from that particular company. So, this is basically about the company fundamentals.

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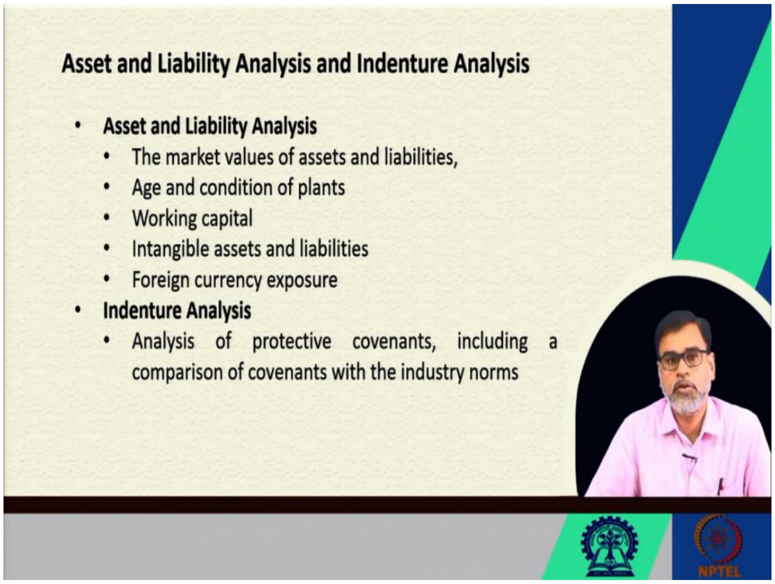

Then they can also look at the asset and liability, also the indenture provisions of this particular bond what the company is trying to issue. So, in terms of the asset liability analysis they can look at the market value of the assets and liabilities. The agent condition of the plants if this particular company is generating it is a manufacturing industry and all then you can look at that. What is the working capital condition of the company.

And in today's context we are giving also lot of importance for the intangible assets like your intellectual properties, you have the skills, managers ability. So, all kinds of things have to be considered whether the competent managers are there within the company who can perform better who can generate the positive future cash flows in the future. So, that's why the money whatever has been invested or will be invested, you have should have the confidence that that money can be properly utilized.

So, in that particular consideration you can observe that the intangible assets also have a strong role to understand whether the company's position is good or not, whether it is advisable to invest in that particular company or not. Then last but not the least you have to also look at the foreign currency exposure.

How much the foreign exposure the company has because they are exposed to the foreign currency risk which also has to be looked at? Then they have the indenture analysis where generally we look at the analysis of the protective covenants including a comparison of covariance with the industry norms. So, that is basically related to the endangered provisions of the bond issuer. That also has to be examined before taking a decision whether we should invest in that particular company or not.

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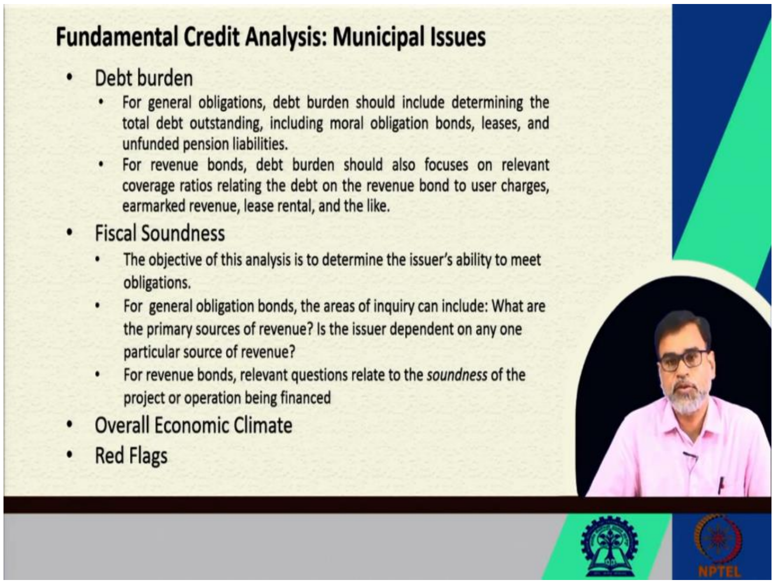

So, if you look at these are the things whatever we have discussed, these are related to the corporate bonds common general corporate bonds. But if you are going for a fundamental credit analysis with respect to the municipal bonds then what are the things generally, we look at, because the municipal bonds are generally issued by the local governments or the local bodies. They are not par with the corporate bonds already we have discussed extensively about the different types of the municipal bonds.

And what is the objective of issuance of the municipal bonds and all these things. So, here if you see that what are those things we should look at whenever we see this or we analyse this municipal bond issues. So, whenever you look at the municipal bond issues, we look at the first of all the debt burden. So, already we know that the municipalities or municipal bonds are categorized as the general obligation bonds or they can be considered as the revenue bonds.

So, for the general obligation bonds the debt burden should include the determination of the total debt outstanding including the moral obligation bonds leasing and unfunded pension liabilities for the government has or the local government has. But for the revenue bonds if you are calculating the debt burden of that particular local body it should focus on the relevant coverage ratio which are related to the debt on the revenue bonds to the user charges, earmarked revenue, lease rental like that.

So, these are the things you have to look at whenever you are looking at the revenue bonds. So, that way first factor is basically debt burden how much debt burden the particular local body has or local government has. Second is the fiscal soundness, what do you mean by the fiscal soundness? The fiscal soundness is basically what it basically covering up the issuer's ability to meet the obligations.

The analysis is based on to determine the issuer's ability to meet the obligations. So, for general obligation bonds what are the things you have to inquire, what are the primary sources of revenue from where the particular government or local body is able to generate the fund by that they can fulfil their obligations? Second is the issuer dependent on any one particular source of revenue or their source of revenues are multiple that also we have to understand.

And for revenue bonds generally relevant questions are related to the soundness of the project or the operation being financed. For what reason the particular money is utilized whether the particular project is really has the potential to generate the required amount of revenue which can pay this interest and other kind of payments to the bond investors. So, this is about the revenue bonds.

Then also we look at the overall economic condition or economic climate and the red flags. Red flags in the sense with respect to certain typical situations unemployment and other situations which can arise within that particular domain by that also has to be checked upon.

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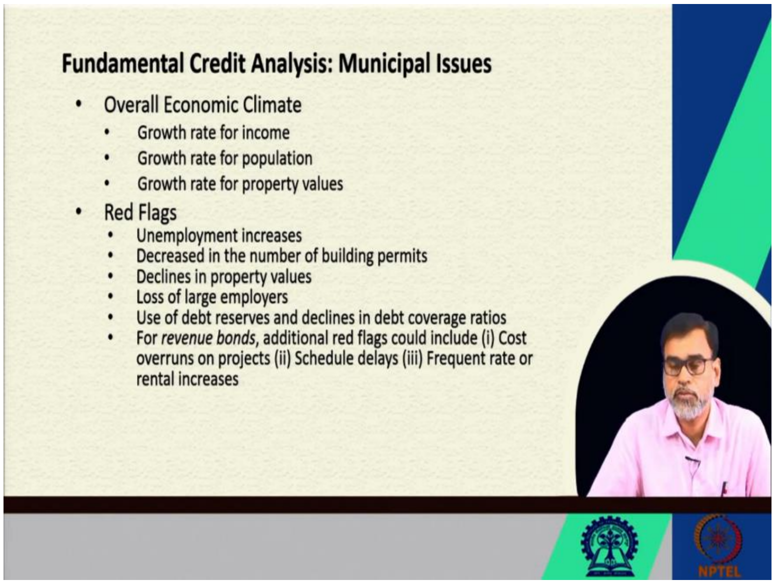

So, whenever you look at the overall economic climate, what are the things we look at? We look at the growth rate of income, the growth rate for the population and the growth rate for the property values within that domain because property tax and all these things also is a major revenue source for the local bodies or the local government. So, the income, population, the property values; these are the major factors generally look at which specific to that particular government which can give you the idea about the overall economic climate. Then the red flags, red flags are like the increase in the unemployment, decrease in the number of building permits, decline in the property values, loss of the large employers, use of debt reserves and declining in the debt coverage ratio.

And if you look at the revenue bonds the additional red flags can include the cost overruns on the project, schedule delays, frequent rate of rental increasing. So, these are giving a signal that this particular local body is not performing well or the operating or the financial performance are not good enough.To conclude that this particular local body or the municipality can cover up the expected or the required amount of cash flows what is required for paying these investors, who are investing in these particular municipal bonds.

So, these are the overall things what basically we have to look at whenever we go for the fundamental credit analysis of the municipal issues.

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Then if look at the foreign bonds the foreign issues then broadly whenever you look at the foreign issues these are the three types of risk always, we should analyse. What are those three types of risk? One is your cross-border risk which is nothing but the risk which is arising due to the changes in the political, social and economic conditions in the countries where the bonds are issued and where the company or the where the company is incorporated. So, these are the cross-border risk.

It can be sovereign risk that means this is basically related to the risk where the government is unable or unwilling to service its debt because due to the political changes or due to some instability in the political scenario. The government is basically unable to service its debt that is basically called the sovereign risk. And the most important risk is the exchange rate risk which is completely market determined and that is largely market determined.

Although there are different exchange rate reasons or exchange rate systems, we have but still if you look at there is always a fluctuation of the currency with respect to another currency. So, whenever look at the exchange rate risk that is basically relates to the ability of the foreign government to purchase the foreign currency to meet its debt obligations whether that is possible or not.

If it is not possible then or we can find there is some kind of problems arising in that particular context. Then we can say that we are much more exposed to the exchange rate risk that is also has to be examined in that particular context. So, these are the credit analysis what basically we have to do.

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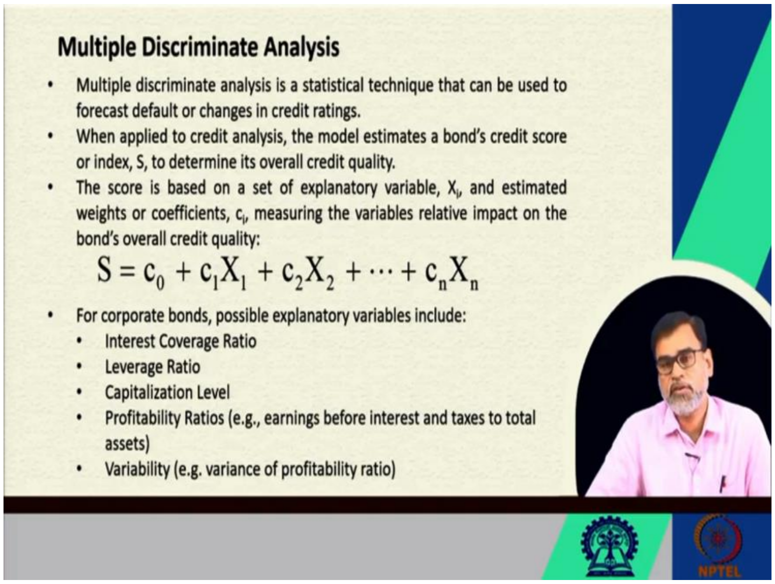

Then we have the multiple discriminate analysis generally it is a statistical technique what basically can be used to forecast the default or changes in the credit ratings. And generally, when we apply this particular multiple discriminate analysis to the credit analysis, the particular model basically estimates a bonds credit score or an index let that is represented as S, to determine the overall credit quality of that particular issuer.

And the score is generally based on certain explanatory variables. This is a regression model that what we can say and accordingly we find out the weights or the coefficients which basically measures the variables relative impact on the bonds overall credit quality, how this particular explanatory variables are affecting the credit quality of the bonds that basically we are trying to analyse.

For example, if you are looking at a corporate bond, we generally take the variables like interest coverage ratio, leverage ratio, capitalization level, profitability ratio like ROA, ROE and all these things. Then the variability or the volatility of the different parameters, like variance of the profitability ratio and all these things. Then we try to examine that how these factors are explaining the credit quality.

And accordingly, we can decide that whether the bond has a good rating or there is a possibility of change in the rating and which generally measures the overall credit risk of that particular bond and accordingly the ratings also get affected.

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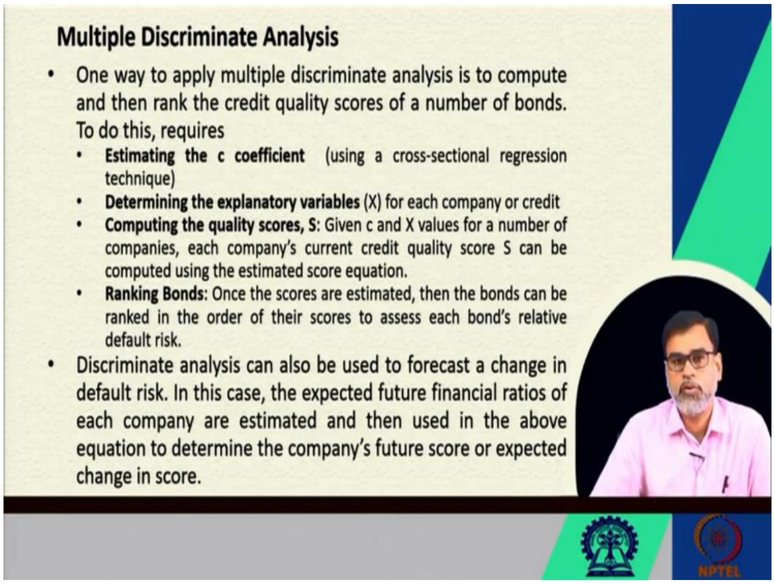

So, one way toapply this multiple discriminate analysis is to estimate or compute the score then rank the credit quality scores of numbers of bonds. For that you require these coefficients you can get it using a cross sectional regression technique. Then you find out these explanatory variables like for each company or the credit then compute the credit score once you get the c values or the coefficient values, index values for a number of companies.

Then each company's current credit quality score can be computed. Then you rank the bonds, once the score is estimated the bonds can be ranked in the order of their scores to access the bonds relative default risk. And the discriminate analysis also can be used to forecast a change in the default risk and in that case the expected future financial ratios of each company are estimated.

And then used in the equation whatever just now we have estimated or we have specified to determine the company's future score or the expected change in the score.

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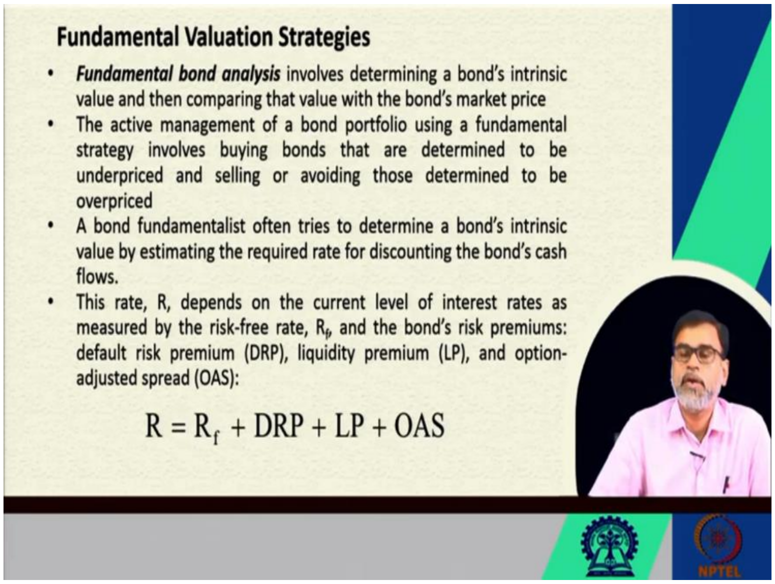

So, then we have another strategy that is called the fundamental valuation strategy. This is a basic strategy what can be adopted. These basically involves the determination of the bonds intrinsic value and then compare that value with the bonds market price which is the basic investment strategy from the beginning whenever we invest in the market, we follow the strategy.

So, the active management of a bond portfolio using this particular approach involves buying the bonds that are determined to be under-priced and selling the bonds or avoiding those bonds which are determined to be overpriced. So, the bond fundamentalists who are adopting this particular approach generally, trying to determine the bonds intrinsic value by estimating the required rate or the discount rate.

Because to calculate the intensive value we need the cash flow, we need the discount rate and also the time and once the bonds future cash flows are available then we find out a discount rate we discount the bonds cash flow with respect to that discount rate, find the present value of the bonds that is nothing but the intrinsic value of the bond. Then you compare that intrinsic value with the market value then accordingly you decide that whether the bond is overvalued or it is undervalued.

And the discount rate though basically is nothing but it is minimum rate that is the risk-free rateplus risk premium depending upon the nature of the risk what the issuer has. Then you have the liquidity premium then you have the option adjusted spread all these components already we have discussed. Your term structure theory explains this and option adjusted spread also we have already discussed.

So, you can find out your discount rate using these variables or using this kind of premiums and as well as the risk-free rate then you use that particular discount rate with respect to the future cash flows what you are expecting from that particular bond in terms of the interest payments and as well as the face value of the bond. Then you find out the intrinsic value then you compare it with the market value at what price the bond is stated in the market. Then accordingly you decide that whether the bond is overvalued or it is undervalued.

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So, fundamental valuation you can any of the methods can be used you can use regression, you can use multiple discriminate analysis, you can also use the option pricing models, you can also use the binomial interest rate trees and all these things to estimate the various spreads which will be used for the fundamental valuation strategy.

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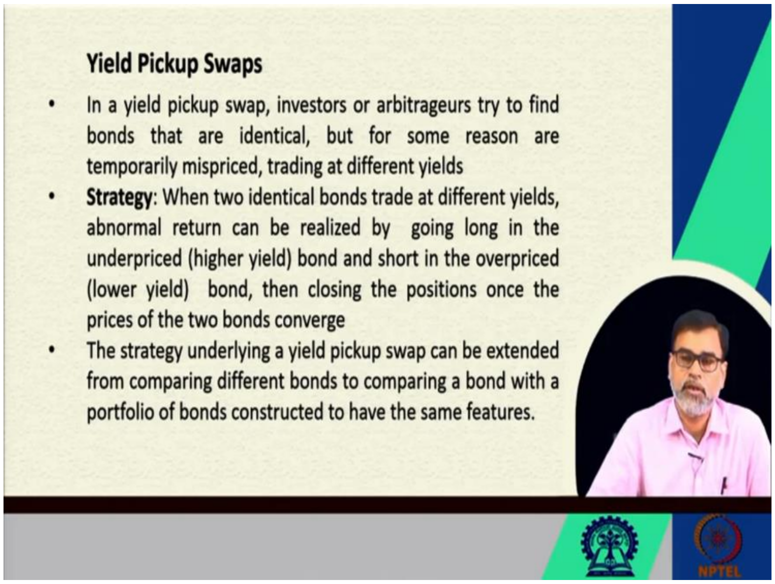

So, apart from this we have some other type of active investment strategies also which are available, one of them is yield pickup swap. What is yield pickup swap? In this particular swap the investors basically try to find the bonds that are identical but some reason they are temporarily mispriced that means they are trading at the different yield. Characteristics are same but for some reason the yield is different.

So, what is the strategy you can adopt in that case? When the two identical bonds trade at the different yields then the abnormal return can be realized either by going long in the under-priced bond or the higher yielding bond or short in the overpriced bond or the lower yielding bond. Then closing the position once the prices of the two bonds converges that means there is arbitrage opportunity which can prevail because the law of one price does not hold in this particular context.

So, we have to find out for what reason this particular spread differences are there or yield differences are there and accordingly this particular strategy can be adopted. So, the strategy underlying a yield pickup swap also can be extended from comparing different bonds with a portfolio of the bonds which are the same features that also can be used can be adapted so that is called the yield pickup swap.

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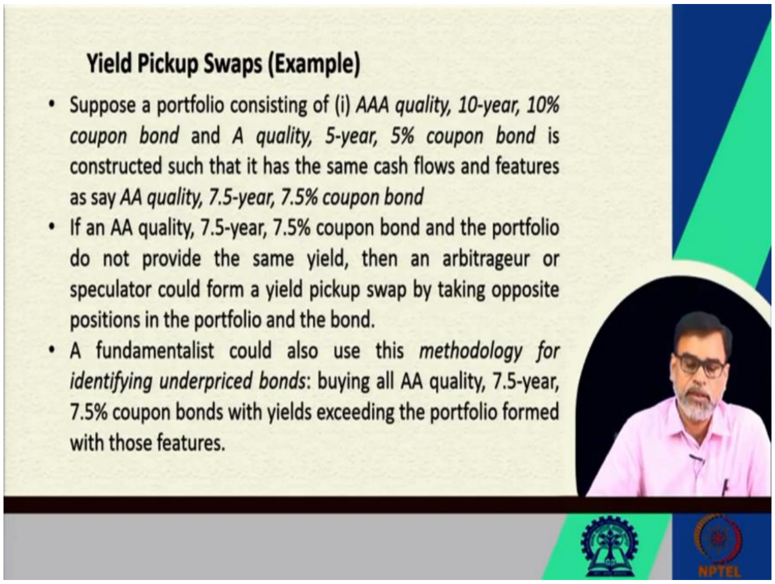

So, if you take one example, let suppose a portfolio consisting of a triple A quality bond maturity period 10 years 10% coupon bond and another bond having A quality that is sound to maturity is 5 years 5% coupon bond. So, this is a portfolio whatever you have and it has the same cash flows and features like say AA quality bond like that AA quality another bond which of the maturity period is 7.5 years and 7.5% coupon bond.

So, if AA quality bond having 7.5-year 7.5% coupon bond and the portfolio do not provide the same yield then the arbitrator or speculator can go for the yield pickup swap by taking the opposite positions in the portfolio and the bond. So, a fundamentalist could also use this methodology for identifying the under-priced bonds, buying all AA quality 7.5-year 7.5% coupon bonds with yields exceeding the portfolio form with those features average it should provide 7.5% return.

But if it is not happening then there is a possibility, we can generate some abnormal return in that particular case.

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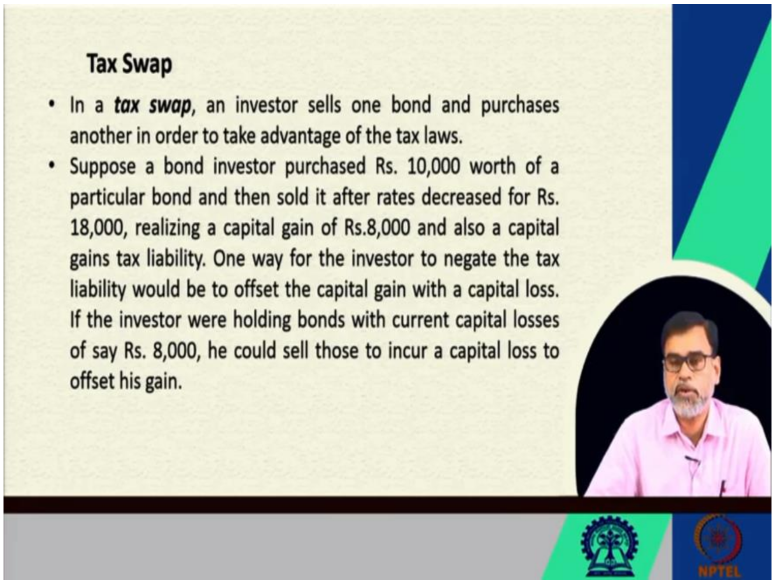

And another type of swap is called the tax swap. So, here the investor sells one bond and purchases another in order to take the advantage of the tax law. So, how it can be explained? Let suppose a bond investor purchased 10,000 worth of a particular bond and sold it after the rates declining to let the interest rate has decreased and the price has risen to 18,000 realizing a capital gain of 8,000.

They are basically exposed to or liable to the capital gain tax. So, one way for investors to negate this tax liability would be offset the capital gain with a capital loss. So, if the investors were holding the bonds with current capital losses of let rupees 8000, he could sell those to incur a capital loss to offset its gain. If they are already holding and where there is a loss possibility, they can offset that particular loss by selling that particular bond with a loss.

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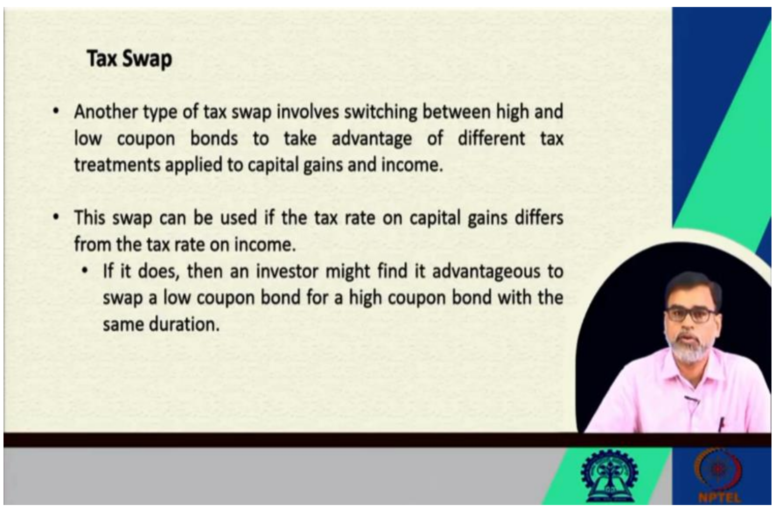

Or another type of tax swap generally involves switching between high and low coupon bonds to take advantage of different tax treatments applied to capital gain and income. And this swap can be used if the tax rate on capital gains differs from the tax rate on the income. So, if it does then an investor might find it advantageous to swap a low coupon bond for a high coupon bond with the same duration.

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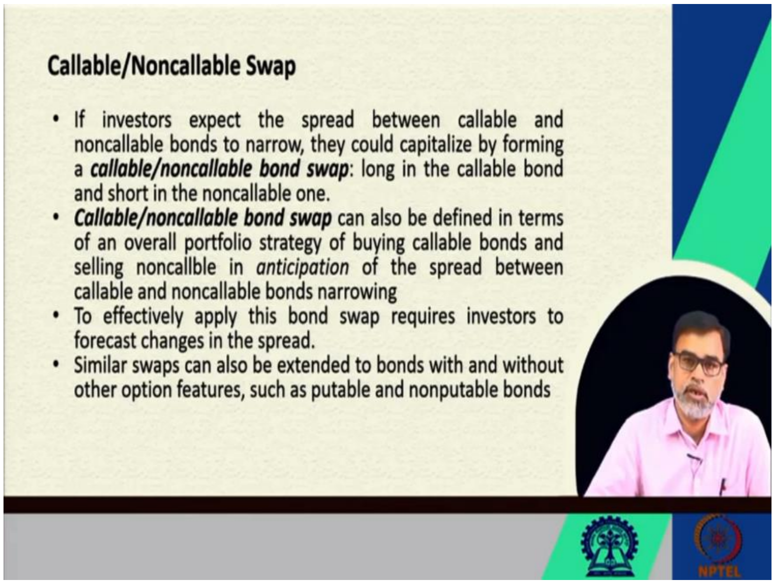

Then we have another swap that is called the callable or non-callable swap. If the investor expects a spread between callable and non-callable bonds to narrow they could capitalize by forming a callable and non-callable bond swap. Long in the callable bond and short in the non-callable bonds and this can be generally defined in terms of the overall portfolio strategy of buying a callable bond and selling the non-callablebonds in anticipation of the spread between callable and non-callable bonds are narrowing or reducing.

And to effectively apply this bond swap requires the investors to forecast the changes to spread. And similar swaps also can be extended to other type of bonds with and without other option features like put features like puttable bonds or non-puttable bonds and all these things.

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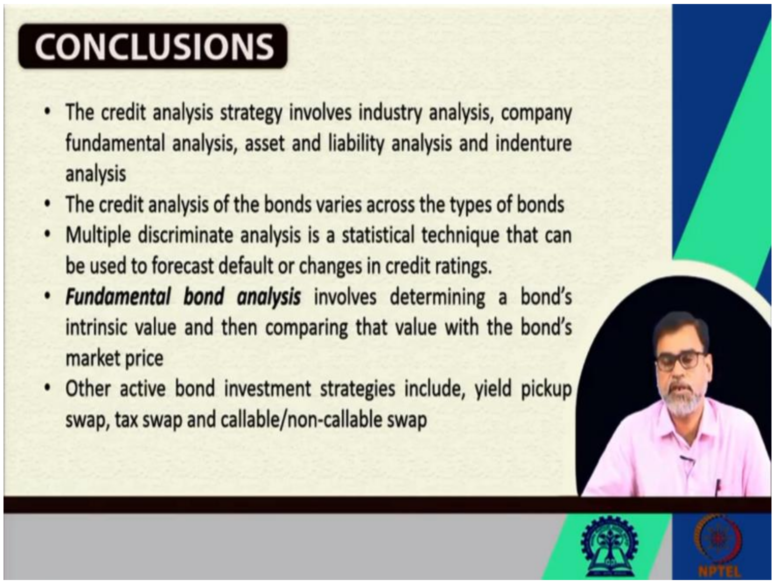

So, what we have discussed the credit analysis which involves the industry analysis, company analysis, asset liability analysis and all these things and the credit analysis of the bonds back varies across the types of the bonds like it is different for the corporate bond and the municipal bond then the foreign bonds and all these things. Multiple discriminate analyses are a statistical technique that can be used to forecast the default or changes in the credit ratings.

And fundamental bond analysis generally involves determining the bonds intrinsic value and then comparing that value with the bonds market value, accordingly the investor can take their positions and other bond investment strategies generally include the yield pickup swap, tax swap, callable or non-callable swap. So, this is all about the active bond investment strategies where the investors generally adopt while investing in the bond markets.

Further we will be discussing about the other strategy like passive strategy or the hybrid strategies and other things.

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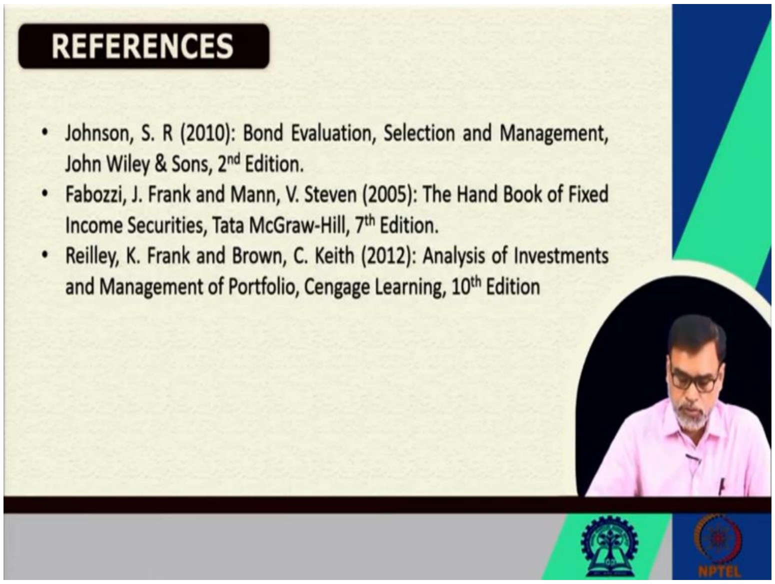

These are the references what you can go through.

Thank you.