Financial Management for Managers
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Lecture 48
Cost of capital 2

Welcome all. Now, we are in the process of learning about the Cost of Capital Concept, I initiated this discussion in the previous class and it was just beginning at that time. So, now will be, we will be proceeding further with the remaining discussion on this concept of the cost of capital. As I told you in the previous class that is a very important concept and everything means with regard to the overall evaluation of any project or any say investment proposal, largely depends upon the cost of capital.

And we use this cost of capital as a, say a discount rate also for calculating the present value of the cash flows. So, since, it is a very important requirement of the financial management as a whole, so we are learning about the cost of capital. So, in the previous discussion, in the introductory discussion or in the initial discussion, we discussed some just basic points of that what is the cost of capital and then see how we calculate it.

And the concept of the cost of capital which we use in the process is called as the WACC – Weighted Average Cost of Capital. So, we learned about the beginning of or just initial discussion about the Weighted Average Cost of Capital. And now, we will take up the further issues and then we will learn about how to calculate the cost of the different instruments of the capital or the different instruments of finance or different sources of finance, which is largely you can say, 2, internal and external sources of finance.

So, in case of the internal we talk about the cost, means the equity not the cost but the equity funds, even the preference capital is also there, but for calculating the cost of capital we treat the preference capital like the debt capital. So, we have the two kinds of the capitals equity capital and preference capital. And then we have the external sources of finance which is a debt capital, borrowed capital.

So, for all these 3 different sources, there are 2 internal and 1 external we will learn about how to calculate the cost of capital for these individual sources and then how to arrive at

that WACC – Weighted Average Cost of Capital and there will be will apply the concept of the flotation cost also. So, before we move forward into the different other important concepts of the cost of capital, I would like to discuss one important concept here.

And that important concept here is the company cost of capital and the project cost of capital. So, we discuss here that for example, the firm is already into existence, they are already into the business and they are manufacturing different products or their say into the different business activities already. Now, they want to introduce a new product or maybe the new service or maybe the new business activity, they want to add, maybe in the same line of the business or into the different line of the business, which you call it as a diversified line of the business.

So, that investment proposal or that investment opportunity will be treated as a independent project or a new project, which is owned by or which is going to be established by the existing firm. So, here we will learn about or the question arises, which costs of capital will be important for considering it as a discount rate or the cost of capital?

Because it may be different that the cost of capital or the average cost of capital for the existing firm is different and the cost of the capital with regard to the sources of the funds, which we are going to use for the new project they are different. So, which cost of capital we will have to talk about and we will have to say or sometime it may be possible that there is a mix of the sources of the funds.

Partly they are coming from the internal sources, partly they are coming from the external sources for the new project also and the funds mix or the financial mix is largely same. So, which cost of capital we should be applying for the new project, for the new investment proposal, whether the cost of capital of the new project or the cost of capital of the existing firm. So, here it is a very important clarification I think we should be clear about that.

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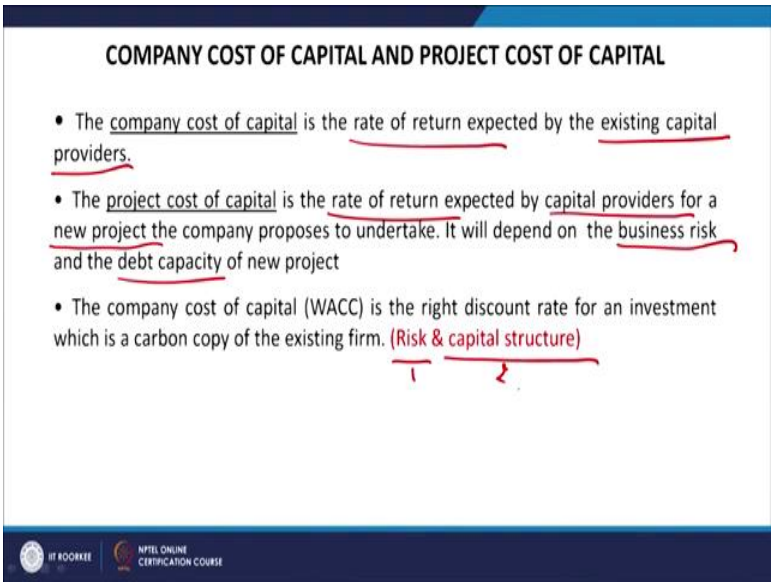

So, when you talk about the company cost of capital, it is basically the rate of return expected by the existing shareholders. It is basically the rate of return expected by the existing shareholder or the capital providers. This is the company cost of capital. And when you talk about the project costs of capital, it is basically the rate of return expected by the capital providers for the new project, for this new proposal, the company proposes to undertake, it will depend on business risk and the debt capacity of the new project, debt capacity of the new project.

So, it means, it may be a different situation, that the sources which we have been using for the existing firm or for the existing operations of the firm they are different and the sources which we are going to use for this project. Because sometimes what happens that, when the new project or the new investment proposal is undertaken, it may be possible that, IPO or the FPO may not be possible, followed on say public issue or the public offer may not be possible because people are not sure about the success of the new project.

People are not sure about the success of the new venture. So, largely it may be possible that for the new project or for the new venture, the capital is coming largely as a investment from the existing firms maybe from their reserves and surpluses or from their retained earnings and partly we are going to borrow the funds from the market. Whereas,

in case of the existing firm, the capital is coming or it has already come from IPO – Initial Public Offer by way of selling the equity shares in the market and very lesser amount of the dividend we have, sorry, very lesser amount of the debt we have issued or maybe that raise the funds by way of the debt instruments from the market.

So, this all depends upon that, what are the sources of the funds for the existing firm and for the new project? If the source of the funds are same for the new firm, new project as well as for the existing firm, then it is always better advisable to use the existing company cost of capital as the cost of capital for the new project. So, we are writing here third point, the company cost of capital, which is the weighted average cost of capital is the right discount rate for an investment, which is a carbon copy of the existing firm.

If now, the two things must be, means the two assumptions must be verified in case of the new proposal that you can use the company costs of capital, existing cost of capital of the company as the cost of capital for the new project also provided the sources of the funds are same as we are using for the existing operations of the firm or existing processes of the firm. And second important requirement is risk profile or risk complexion of the new project is also as same as of that of the existing firm.

So, it means if the risk profile is same and the capital structure is same, second requirement is the capital structure. So, this is the first requirement and this is the second requirement. If the risk profile is the same of the new project, if the new project is very-very risky, then I think we should use a different cost of capital or different discount rate for discounting the cash flows, cash inflows especially for arriving at the NPV of the new project.

But if the risk profile is same as that of the existing operations of the firm and capital structure is also largely same, then in that case, the existing cost of capital as a discount rate for discounting the cash flows for the new project can be used. So, we will have to be now careful in this case that what cost of capital or which weighted average cost of capital we have to use and how to use that as a discount rate will largely depend upon from where the funds are coming and what is the risk profile of the proposal.

For example, I talked to you about that fruit beer project of the Anchor industries. So, in that case, probably you cannot use the existing cost of capital, because the product is totally new in the market and it carries as compared to the existing products of the firm, the larger amount of risk and so, if the risk involved is high, so, in that case, you can think about that the higher discount rate can be used or the higher cost of capital can be used, because in that case means say, risk profile is higher.

And we always understand it, that largely the rate of return say goes along with the risk associated with any investment proposal. So, risk and the return, they have to be coexistent. So, depends upon what kind of the proposal is this, the new proposal is this and how it is different from the existing operations of the firm. If it is same in terms of risk as well as the capital structure, then in that case, I think the existing cost of capital can be used as a discount rate.

But if the risk is high and the cost of, sorry if the risk is high and the capital structure is also different and largely it happens that for the new projects the capital structure normally remains not as same as that of the existing firm. So, it depends upon that from where the additional capital is coming, it is coming as a borrowing or it is coming as a the investment by the existing firm. If it is coming up as a investment by the existing firms from the reserve and surpluses or from retained earnings, then fine, you can say the risk profile is low because largely the capital is from the internal sources.

But risk profile has to be checked from the product profile, product profile angle also, the product which we are going to manufacture or the service which we are going to generate and their acceptability in the market, their salability in the market, all these factors have to be kept in mind. So, normally I would conclude this particular component that normally we should use the existing cost of capital, which is the existing weighted average cost of capital of the firm, if the risk and the capital structure profiles are same.

But if the risk is more, then you can use the higher discount rate or the higher cost of capital. And if the capital structure is also different, then certainly it must be risky, then again we should use comparatively the higher cost of capital as a discount rate for the new project, otherwise, the existing cost of capital or the weighted average cost of capital

of the firm can be used. Now, we talk about as I told you that we will have to now learn about calculating the cost of the different sources of the funds.

Because, ultimately we are going to end up for say, this concept or learning of this concept of the cost of capital that is in the form of the weighted average cost of capital, and weighted average cost of capital it will be possible to be calculated, if you know the cost of capital of the individual sources of the capital, and I told you in the beginning of this lecture, that normally the capital comes from three sources, 2 are internal, 1 is external. In the external also there can be multiple sources.

But, if you call it as one source as a whole, then it is called as the debt, external source of the funds is the debt, it can be the long term debt, it can be the short term debt and in the internal sources, it is largely the equity capital and partly it is the preference capital, but for calculating the cost of capital, for the purpose of calculating the cost of capital, we treat the preference capital also as same as the debt capital. So, process of calculating the cost of the preference capital is also same as the process of calculating the cost of borrowed capital or debt capital.

There is a process of calculating the equity capital is different? Calculating the cost of equity capital is more complex, because there is the issue of the payment of dividend and the dividend is always unstable, dividend is always unstable. So, if we have the profits, but we require those profits within the firm for the reinvestment purpose, then we will not declare the dividend. So, the entire amount of the profit will be reinvested back into the business. So, what is the cost of equity in that case?

Sometimes, if we the high profitability and we do not require the funds internally, the firms tend to pay the higher amount of dividend whereas in case of the low profitability, still the firm's want to pay the dividend, dividend level comes down. So, means the cost of capital will be associated directly with the dividend being paid by the firm to the equity shareholders. And since that amount of the dividend is not pre decided, it is not certain. So, the calculation of the cost of equity becomes a complex job.

Which is not the case in case of the borrowed capital, in case of the borrowed capital, the cost of capital is basically the interest cost at which we have borrowed the funds from the different sources, whether it is a short term source or it is a long term source, we know we are going to pay a fixed charge on that borrowed capital and that fixed charge is basically the interest and we are say, in all the situations, whether the firm is earning the profits or the firm is incurring losses, firm has to pay that cost of capital in all situations, in every circumstance.

And say, in the situation or in the event of profitability, the cost of debt will remain same, in the event of loss making situation the cost of debt will remain the same. So, cost of debt is going to remain the same, it is stable, it is prefixed. So, it is largely easy to calculate the cost of the debt, whereas, it is not the case in the equity. Similarly, for calculating the cost of the preference capital, when you calculate that cost of preference capital that is also associated to the dividend we are paying back, but see the dividend on the preference shares is largely pre-decided or prefixed.

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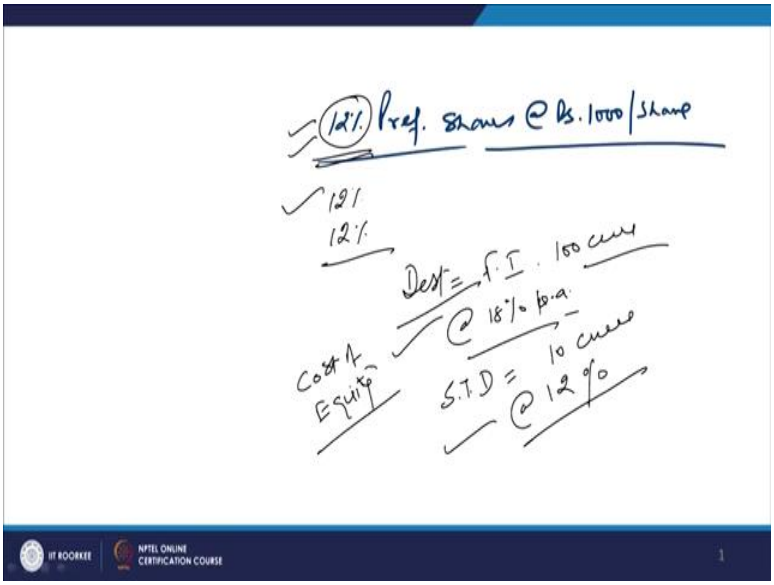

When the preference shares are issued in the market what we write here, we write normally 12 percent, preference shares at the rate of rupees 1000 per share, this way we write, this is a normal standard language, 12 percent preference shares at the rate of rupees 1000 per share. So, it means, in this case this, what it is written here is that is the,

what is this 12 percent? This rate is already decided, this is the rate of the dividend which will be paid or returned back on the preference shares.

So, we write it like this 12 percent preference shares at the rate of return is 1000 per year. It means this is the 12 percent rate of dividend we are going to and it is prefixed and largely in India we issue the say cumulative preference shares, cumulative preference shares. So, what happens, that in the one year, in the first year of the business, for example, if there is no profit available or sufficient profit is not there, so this dividend cannot be paid by the company or a company want to postpone this dividend.

So, in the next year, in the second year dividend has to be paid as the double of the rate 12 percent for the first year and 12 percent for the current year. So, it has to be paid at the rate of 24 percent so it will keep on accumulating. So, it means cumulative preference shares when we issue, largely we issue the community preference shares because if it is a non-cumulative preference shares, then in the event of non-profitability or non-sufficient profitability, the preference shareholders will not get any return.

So, to protect their interest, government insist for, regulatory agencies insist for that the firms must issue the cumulative preference shares, so that the subscriber to the preference shareholders are entitled to the dividend in every circumstance, though the payment of dividend can be postponed from the year of the less profit or the loss to the year of sufficient profit or more profit. So, that means the firm is also running, so operations and the providers of the capital are also getting the good return.

So, that keep on accumulating and the cumulative dividend has to be paid in the year of the profit and in that year the dividend for the previous years also has to be paid. So, since this rate is pre decided, and in case of the debt capital what happens? In case of debt, we normally borrow from the bank, for example, we are borrowing some amount of 100 crores. We are borrowing from the financial institutions. So, what we are doing here that rate of interest is already decided.

For example, it is at the rate of 18 percent per annum. So, this 18 percent per annum is what? Basically it is a cost of the debt or we are going to borrow the short term debt or

the short term borrowing we are going to have and that is for the 10 crores, so that rate of interest is at the rate of how much? 12 percent. So, it means, this cost of the capital is also known, in case of the long term debt we are borrowing from the financial institutions 18 percent is our interest.

For the short term debt we are borrowing from the banks 12 percent is the interest and for the preference capital we are issuing the preference shares at 12 percent, it is prefixed, the percentage is prefixed with the share that is a 12 percent preference shares at the rate of 1000 per share. It means, in these all three sources, the cost of capital is very easy to determine, because already it is given. So, it is the rate of interest which we pay back to the source from where the funds are borrowed, and to the preference shareholders who subscribed to the preference shares of the company.

So, it is very easy to calculate the cost of these three sources, but as far as the cost of equity is concerned, cost of equity is concerned. So, it is very difficult because I discuss with you the reason of volatility or uncertainty, because whatever the return we pay to the shareholders, that return is the dividend and dividend is not certain, you all agree with me that dividend is not the right of the equity shareholders, it depends upon the state of the profitability of the company.

If the company's earning the sufficient amount of the profits, then board of directors, is the right of the board of directors to decide whether to pay the dividend in any particular year or not. If the board of directors decide that sufficient profits are not there, or whatever the profits we are earning that needs to be reinvested back in the business also. So, no dividends will be paid. So, and the flexibility in the hands of the equity shareholders is that if they're not satisfied with the performance of the company.

Or the dividend being paid or not being paid because of one or the other reasons, so, and if the company shares are listed in the stock market, are being traded in the stock market, then they are at the liberty of selling the shares in the market, in the secondary market and getting rid of this investment. So, both ways it is the flexibility to the company also, to the company management also, to companies boards also as well as to the shareholders is available, especially in case of the listed companies.

But, yes, the companies who shares are not listed in the stock markets and that does not happen, it happens only in case of the Private Limited companies. So, Private Limited company' management is basically very close knit, but in case of the public limited companies the issue of dividend arises. So, their shares are being publicly traded in the market. So, if they are not satisfied with the policy of the company or the policy of the board of directors, they can get rid of this investment and they can sell it off in the, their shares in the market because they are not getting the dividend.

So, that depends upon what is our requirement? Whether our requirement is a regular income requirement or it is a long term investment requirement? If it is the regular income requirement, then you should look for that kind of the shares, where the regular dividends are being paid, but if you are looking for the long term investment, then you are indifferent whether you are paid the dividend or you are not paid the dividend.

Because ultimately, even if the dividend is not paid, it is going to be reinvested into the business and that is going to increase the value of the firm or the overall equity of the overall capital base of the company. So, ultimately the proportion of the shareholders wealth is going to increase. But there comes a problem for estimating the cost of equity, because of the not certainty of the dividend to be paid by the company to its shareholders. So, there will be the problem which we will discuss when we will reach other equity capital.

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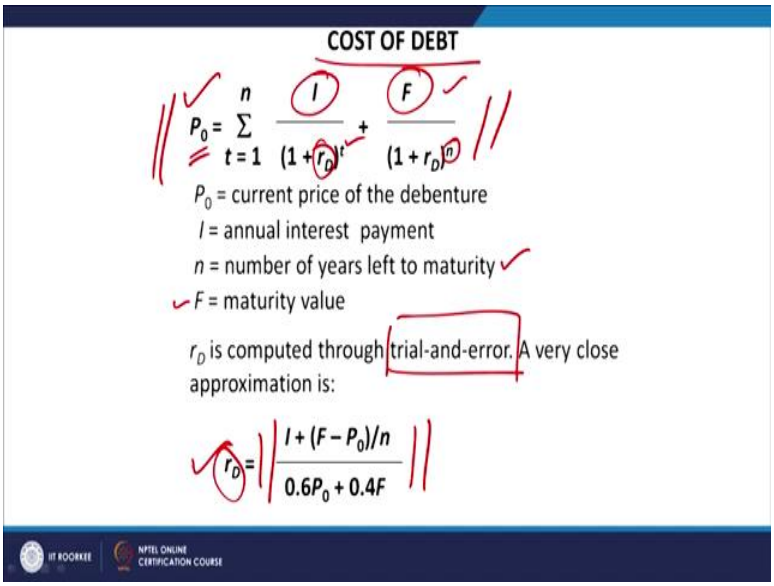

Now, we will start with the first capital, source of the capital and here we call it as that the first source of the capital is the debt capital and cost of the debt capital can be calculated very easily, very simply, because largely it is given to us. So, in this case, for example, this model is given to us, these are the components of the model where you are given here as P 0 is equal to sigma n, t is equal to 1 and then it is I divided by 1 plus r d power t plus F that is the F divided by the 1 plus r d power n.

Now, what this model stands for? With the help of this model, you can easily calculate the cost of the debt. So, what are the components of this model first is a P 0, what is this P 0? Current price of the debenture or the bond at which that bond is selling in the market or that debenture is selling in the market. And I is the annual interest payment, this I is the annual interest payment and that is for the number of years that is a t that for how many number of years this interest will be payable that depends upon the duration of the loan or the duration of the bond or duration of the debenture.

n is a number of years left for the maturity, that is a total, this is the current year and then is the number of years for which that debenture is purchased or the loan is borrowed from the market and F is the maturity value, this is the maturity value. So, means you get two components back, one you get the interest and second you get the maturity value. So, it

all depends upon that if the interest is being paid by that bond issuer or the company who has issued the bonds in the market or the debentures in the market.

If they are paying the interest periodically, regularly, maybe 5 monthly or annually, then at the time of the maturity of the bond, only the principal amount will be returned. And if they are reinvesting back, if you have opted for the option that I do not want the interest periodically, even my interest should be reinvested back in that case, in the majority sum, it will be returned with the principal amount and the interest on that.

So, it means in this case, what is the case? We are now with the help of all these components, we are going to calculate the cost of the debt or the cost of the debt instrument, it can be bond, it can be debenture, it can be loan also, for the loan it is little different, but for the debenture and bonds we are talking here like this. So, you can say that your P 0 is equal to, P 0 is basically the current price of the debentures.

And in this whole case now, for example, current price of the bond we are knowing and that interest which is payable that is also explained, that every year this much interest will be paid by the bond issuer in the market and this much amount will be available as maturity value. So, in this case, we may not be able to find out what is this r d, r d is basically the interest available on this, basically you call it as 1 plus r d basically it is a discount rate you can say, which makes your investment which you are going to make in the market is a P 0.

Because ultimately in every investment instrument what happens? That whatever the interest we get back and the maturity values we get back after the period of that bond or the loan or maybe that debenture that should be at least equal to the amount which we are investing today. And this is basically the process of calculating the NPV of the investment in which we are making to subscribe the bond and then we are getting the inflows back.

So, inflows come in the form of interest and the maturity value and we have to discount it at certain rate and that discount rate is called as the interest available on that this debt instrument or in the bond of the debenture. So, this rD is basically the bone of contention

here, which we have to calculate, if normally when we buy the bonds or debentures we are given that, we will be given this much of the annual interest and will be given this much of the maturity value.

But sometime they remain silent on telling what is the rate of return in terms of the percentage and that is the basically the r d that is a cost of the debt and for calculating the cost of the debt, what you have to do is? Now, in this case, because we are making this investment P 0 in the market for buying one bond and then this side, the right hand side will be available as the return in the form of interest and in the form of the maturity value. So, this P should be equal to the discounted value of i and F.

So, it means both the sides should be equal so, that minimum your NPV is 0, you want that that minimum your requirement or minimum requirement is NPV from this investment should be 0, so that whatever I am investing in the market over the number of years in the form of interest and maturity value, this amount comes back to me. So, this needs to be discounted, this interest in flow as well as the maturity value in flow needs to be discounted at a certain rate and that is written here as rD.

And rD is basically the interest available or the expected rate of interest, which is available from that investment or maybe the subscription to that bond of the debenture that is basically a debt instrument. Now, rD is computed through the trial and error all the times because, in case of the for example, in case of the say you remember that is IRR internal rate of return available from any capital investment proposal, there are also we were using that trial and error and here also, we have to use the trial and error.

We know the absolute values, we know how much annual interest I am going to get. We know that how much maturity value we are going to get for this investment into one bond or one debenture, but what is the rate of interest can be easily calculated and for that you have to follow this approach, which is called as the trial and error approach. So, it means that discount rate at which the discounted value of all the interest inflows and the maturity inflows becomes equal minimum to this, the purchase price of that debt instrument is called as the discount rate or the interest rate available from that investment opportunity or from that investment instrument.

Now, sometimes what happens, this trial and error complex process becomes a little complex, this process becomes a little complex. So, we have the shortcut also, if you do not want to follow this method of the trial and error, so, what can you do is, you can use this method which is called as the approximation method. This is called as the approximation method where you can use this I plus F minus P 0 divided by n. And then, here in the denominator, we use a 60 percent of the purchase price which is P 0and 40 percent of the maturity value, which is F.

So, I is the interest, F is the maturity value, P 0 is the purchase, price of the debenture, n is the number of years for which the debenture is being purchased or the maturity period of that debenture is n, number of years left to maturity, 60 percent of the purchase price plus 40 percent of the maturity value, if you use this model, then directly without using the trial and error method, you can calculate this rate which is called as rD or the cost of the debt, which is called as the cost of debt.

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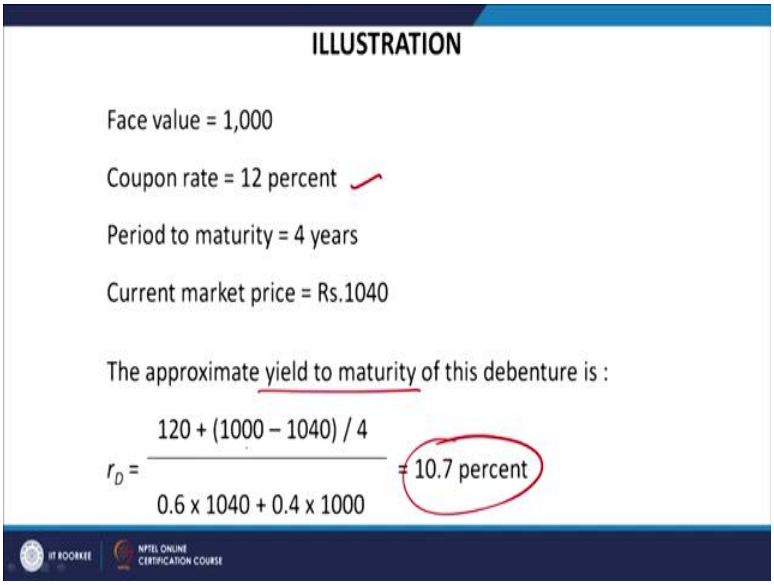

So, how it is to be applied? We have used a illustration here. Now, look at this illustration. For example, the face value of any bond or debenture is 1000. Coupon rate which is being said that this much of the interest will be paid, coupon rate is 12 percent. Maturity period is 4 years and current market price is, current market price is the 1040. A

bond which is having the face value of the 1000 rupees is being sold by the issuer in the market as the rate of 1040 means, that bond is being sold at a premium in the market.

Coupon rate being promised is 12 percent and your maturity period is 4 years. So, it means, when you use the approximation method, you can see that rate of return available from this investment proposal is how much? 10.7 percent, 10.7 percent so, this rate of interest is 10.7 percent, coupon rate is 12 percent. So, it means what we are writing here is, the approximate yield to maturity of this debenture is how much? That is 10.7 percent.

So, it means, in this case, when you are saying the coupon rate is 12 percent, coupon rate is 12 percent means when you are reinvesting the interest back so total yield available from the total investment will be 12 percent. But if you want to talk about here the yield or the interest rate available, so interest rate is 10.7 percent which will become the coupon rate of 12 percent.

So, we are using here simply means, you call it as the coupon rate, we are saying 120 is the coupon rate that is basically the interest available and then we have this the face value and maturity value. Sorry, this is our P0 is the face value, this is the maturity, this P0 is the current price, F is a face value, then is the 60 percent of the purchase price, market price and then 40 percent of the your face value.

So, if you use this approximation method, you can say that discount rate of this cash inflow is 10.7 percent or the interest available from this project is or this particular bond instrument is the 10.7 percent. So, you should not get disguised by the 12 percent as a coupon rate. Actual return, actual rate of interest available from this investment proposal is 10.7 percent, this will become 12 percent, when, on the cumulative basis, the interest being earned annually will be reinvested back then it will become the 12 percent.

But otherwise, this is basically the rate of return available or the rate of interest available from this particular debt instrument is 10.7 percent. So, this is the way we can calculate the cost of debt. Now, in case of the bank loan. How to calculate the cost of the bank loan particularly in case of the banks? Because we use the multiple sources, we use the bonds and debentures, we use the bank loans, we use the commercial paper also. So, different

multiple instruments are used for raising the debt from the market, both the long term debt and the short term debt from the market.

So, in case of the debentures we have seen that what is a model available, or if you do not want to use a trial and error method, we can use the approximation method. But in case of the bank loan, what interest or the, what cost of that capital should be considered as a cost of capital. So, there in that case means, bank loan means the current rate of interest will be the cost of capital, it may be possible that the firm has borrowed the loan, existing firm who is going to start the new investment process or the new project they are going to undertake their existing borrowings rate of interest is 13 percent.

But currently the interest to be asked or to be charged by the bank on the borrowing is 12 percent. So, it means the cost of capital, for existing cost of capital on the bank borrowing to the form is 13 percent but on the new borrowing from the bank is 12 percent. So for us the current rate of interest to be charged by the bank is important and that we are going to consider as the cost of the bank borrowings that we are going to consider the costs of the bank borrowings.

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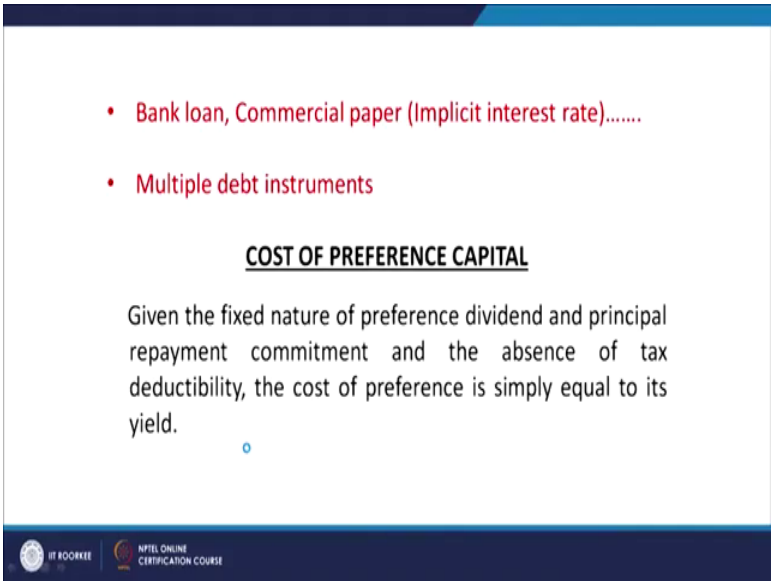

Similarly we have the other instruments like commercial paper and other short term instruments. So, how to calculate the cost of commercial papers? When you talk about

the cost of commercial paper, commercial paper is basically that short term debt instrument which is sold in the market. And in the commercial paper how it is different from the normal debt instruments is that the normal debt instruments, we make investment and the avenue where we make the investment in those, in those debt instruments they pay the interest back to the investor.

If we are subscribing to the bonds of any company, then we make that investment and in return company gives us the interest on our investment. And at the end of the period of that bond or the life of the bond, they return the principal amount but in case of the commercial paper no interest is paid rather commercial papers are sold at a discount and redeemed at par, they are sold at discount and redeemed at par. What does it mean?

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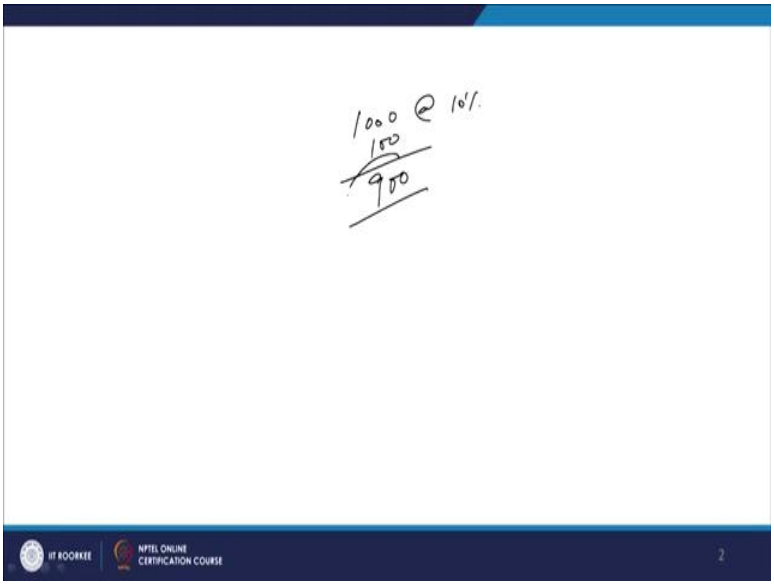

Now, for example, a commercial paper of 1000 rupees will be sold at a discount of 10 percent. So, it means 10 percent on this will be 100. So, it means 1000 rupees maturity value commercial paper will be sold in the market for 900 rupees. So, you are investing 900 rupees for buying one commercial paper and on the maturity you will get back 1000 rupees. So, it means we do not pay the interest on the commercial paper or the issuers never paid any interest on the commercial paper.

Rather they issued at discount redeem at par. And that difference between the purchase price and that maturity price is known as the interest or the return available on the commercial paper. So, it may be the commercial paper or it may be the bank loan or it may be the short term borrowings, all these different sources have the different costs of capital and how to calculate the cost of bond, we have seen how to calculate the cost of the debenture, we have seen.

The bank in case of the bank loan, the current interest rate to be charged by the bank will be the cost of capital and in case of that instrument like commercial paper, which is largely used for the short term borrowing in India, the commercial paper can be issued for minimum for the seven days and maximum for the one year not for more than one year's maturity, the commercial paper can be sold in the market and second thing is the minimum investment requirement in the commercial paper is 500,000 rupees, 5 lakh rupees and subsequently investment in the multiple of the 5 lakh rupees has to be there.

So, I can say it is also not again a retail investment instrument, it is not for every individual. It is normally for the companies, banks, financial institutions. So, minimum maturity period is one week, maximum is one year that is the commercial paper and the minimum subscription or the investment is 5 lakh rupees and subsequent investment in the multiple of the 5 lakh rupees. So, since the maximum maturity period is one year, so you can agree with me that it is a short term investment instrument for the investor and it is a short term borrowing instrument for the borrower or for the company.

And largely commercial paper is used as the source of funding the working capital requirements. So, different sources different costs of capital, but finally, on all the debt instruments long term and short term, we can easily calculate the average cost of debt or average cost of borrowings. So, how to calculate the average cost of debt or average cost of borrowing that I will discuss with you in the next class. Thank you very much.