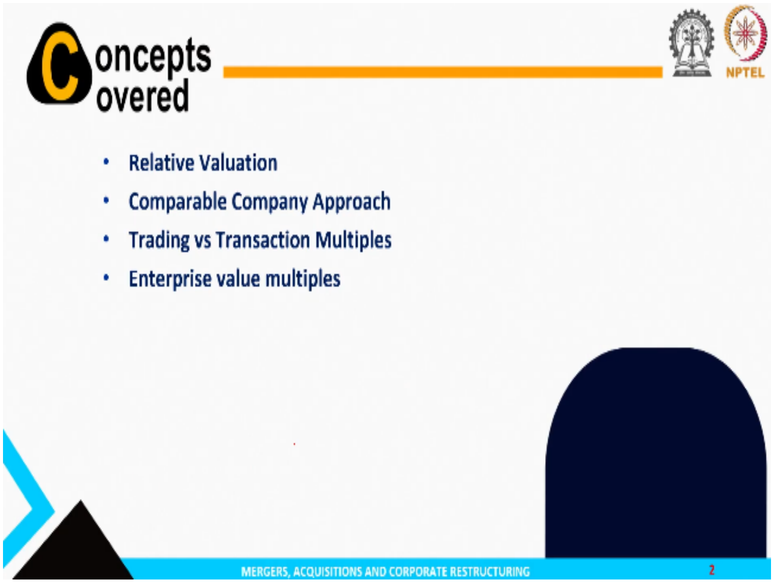
**Mergers Acquisitions and Corporate Restructuring**
**Prof. Chandra Sekhar Mishra**
**Vinod Gupta School of Management**
**Indian Institute of Technology – Kharagpur**

**Lecture – 22**
**Valuation in M and A Relative Valuation - 2**

Hello friends welcome to another session on mergers acquisition cooperate restructuring, in the previous session we talked about the valuation of companies.

**(Refer Slide Time: 00:36)**

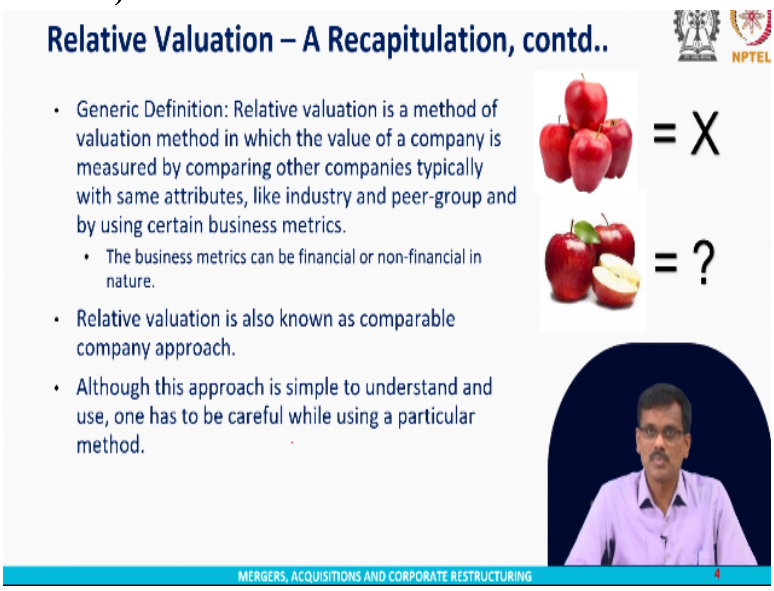



And specifically we talked about the valuation of equity and in this case we will be continuing with the previous session that is using relative valuation or comparable company approach for valuing companies or equity and they consider that we are going to discuss relative valuation, comparable company approach, trading versus transaction multiples, enterprise value multiples. In fact the concept the keyword that we are going to use in this particular session is almost similar like the previous session.

**(Refer Slide Time: 01:06)**


And then we have these are the keywords valuation, enterprise value, valuation multiples, EBITDA multiple and other forms of EBITDAR multiple or extension of EBITDAR multiple, enterprise value to sales multiple and also enterprise valid non-financial metrics.

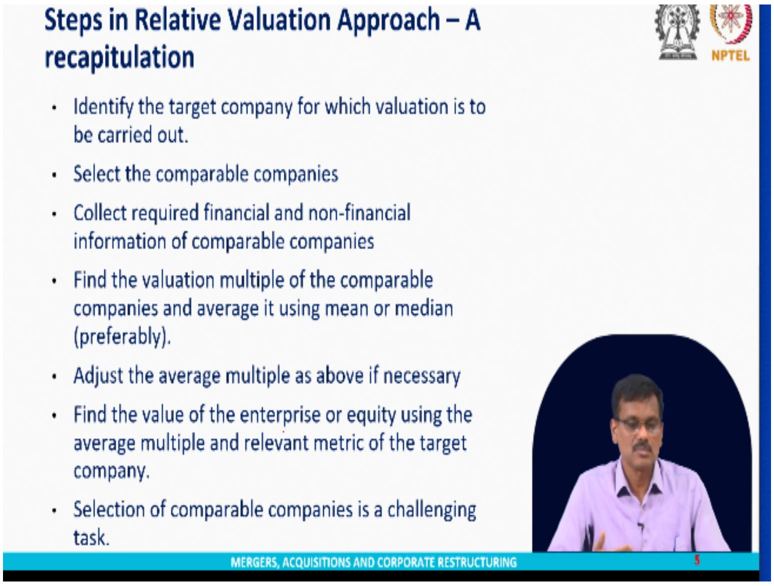
**(Refer Slide Time: 01:24)**




So in the previous session to recapitulate the generic definition error is it is a validation method by comparing different similar companies with their single parameters and as well as looking at their financial as well as non-financial parameters and then compare. So if company x is valued at let us say 10 million rupees and similarly company y attribute suppose in terms of particular parameter company y is twice of company x in that case we can say value of the company y can be twice of company x that is what relative valuation.

And but one has to be very careful using the particular multiple and it is possible required then we can make one can make some adjustments, because exactly getting comparable company may not be that easy. In fact it will be difficult to find out exactly comparable company so we get more or less comparable. So in that case we may do valuation adjustments either upward or downward.

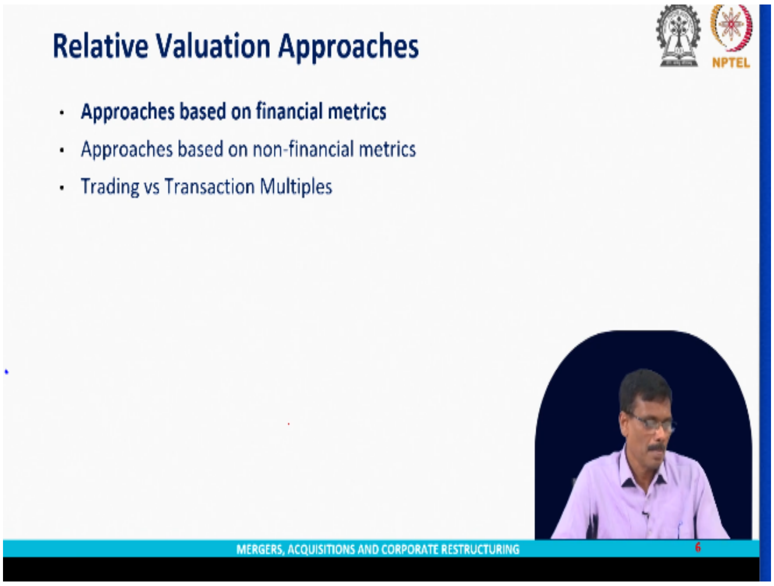
**(Refer Slide Time: 02:29)**




And the major challenge in comparable company approach is to find out the comparable company group. So, that we can take their multiple and, average them to used for the valuation of target company. So to find out the target company which you valuation has done then you have to look at the comparable companies and then we will require we will collect certain financial and non-financial information about those comparable companies and then we have to find out the valuation multiple they make the average of that.

And once you have the average multiply with a particular metric or the financial metric or non-financial metric that is secondary. And then find the value of the company and if required certain adjustments can be made either upward or downward this is the step.

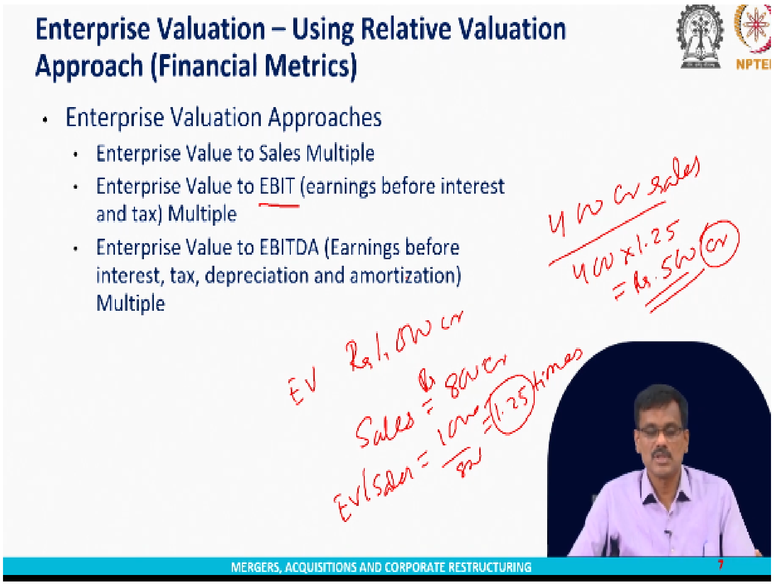
**(Refer Slide Time: 03:16)**




And then valuation comparable company valuation can be made based on both financial as a non-financial metrics and then another important point is that in case of merger acquisition already there might have some M and A taken place in a particular sector. So those deals what are the valuation there and from there the valuation multiple can be taken to value the target as such because target valuation here is for the purpose of merger acquisition. So, if you have similar merger acquisition deals taken place that has taken place.

Then, we can take that as a reference point for value in the target what wants to find out the real. Similar companies sector deals as such not that suppose you are doing a valuation of energy sector company. So we must have comparable deals in energy sector not in some other sector. So that is one challenge when you look at the transaction multiples. So a trading multiple is that where look based on the market trades we get the multiple as trading multiple transaction multiple is that when you get the amended transaction from there you get the value multiple that is called transaction multiple.

**(Refer Slide Time: 04:34)**




Coming to the second method because in the earlier class we talked about relative valuation for value equity shares directly. In this particular session we will be talking about valuation of enterprise or company as a whole, because when you are acquiring company as a whole. So in that case we have to find the value of the enterprise separately and subsequently we may have to find out the value for share because at the end of the day we have to offer a value to the shareholders of the target company.

So you are talking about the enterprise valuation approaches enterprise driven by this several value drivers several things are there and certain metric that in enterprise valuation you have is called enterprise valuation to sales multiple that means we have sales given for a particular company enterprise value is also given for control code company. So in that case if the for example is the enterprise value will in the subsequence I will talk about how to calculate, enterprise value?

So let us say if the enterprise value for a particular company is 1000 crore and the sales of that company this is enterprise value in sales with the companies let us say 800 crore. So in that case we can say enterprise value to sales of the company is 1000 by 800 that comes to 1.25 times. So like this if you have enterprise value sales of let us say 5, 6 companies and like 1.25, 1.3 like that

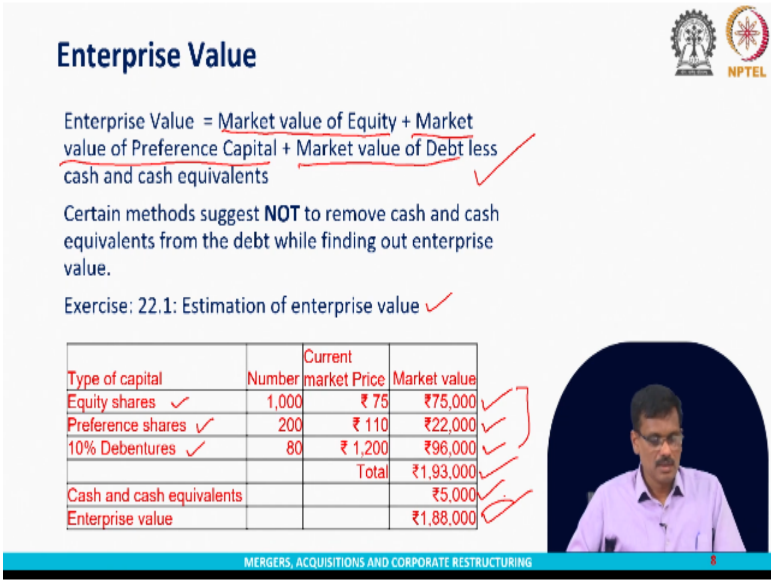
So that is the holy post multiple and we can take the average of that and then we can find the value by come multiplying this with the sales of the target company. So assuming this 1.25 times is a comparable company and is average let us say it might target our target has a let us say 400 crore is the sales of the target company. Then 400 into 1.25 that comes to rupees 500 crore is going to be the value of the target. So we are taking 1.25 as a reference for enterprise value sales multiple.

So that we apply that for the target and do that same approach is followed is very simple method. So you have to find the values and multiples take the average and take the average reference and multiply the particular parameter like in this case; sales and do that. Similar things also can be done with the help of EBIT earnings before interest and tax EBIT actually talks about operating profit. So that it is not affected by the capital structure of the company.

Otherwise company has taken a loan or non loan financial equity financial debt and equity together does not make any difference. So it is taking the profit before interest so that you can compare, the company respectively how they are actually financed. So like that similarly we will get the enterprise value EBIT multiple and get it. Next is enterprise value to EBITDA multiple. So earnings before, interest, tax, depreciation and amortization that is called EBITDA multiple.

So similarly we will find the enterprise value and then divide by EBITDA that gives enterprise value EBITDA multiple in the subsequent slide we have more explanation about this, because in mergers and acquisition this particular valuation is very frequently used when you look at a M and A deal people will talk about what is the EBITDA multiple of that particular company where the deal has taken place for the target for that matter. So that is why you have more explanation about this particular multiple in the subsequent slide.

**(Refer Slide Time: 08:15)**



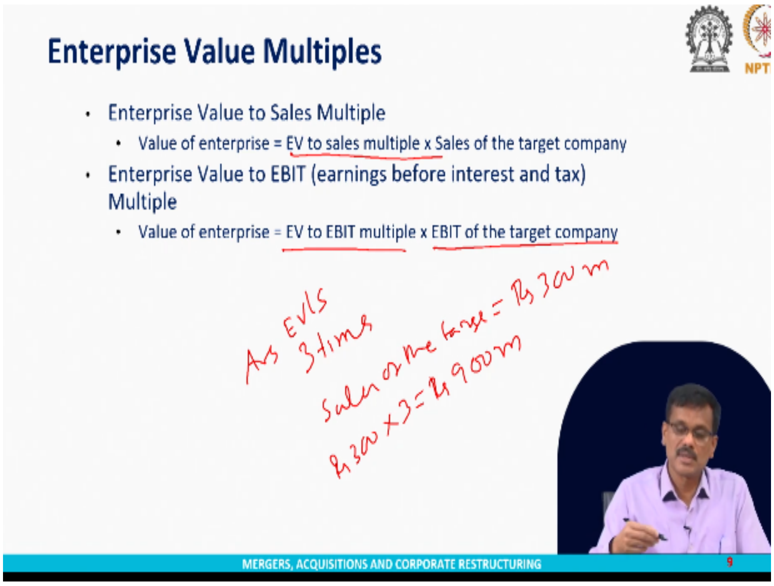

So before we go for EBITDA multiple let us look at how do you calculate the enterprise value. So enterprise value as per given by different authors we talk about the value of the company together. So first what we do we take market value of equity keep in mind we are talking from the market point of view. Then we take out the find out the market value preference capital assuming the company has preference capital then we add market value of debt and having got this 3 particular value.

The author suggests that take the cash and cash equivalence separate from that and that gives the enterprise value because a cash and cash equivalence holding that may not be adding to the value of the company. So the author suggest that you remove that cash and cash equivalence and then we find enterprise value some authors also suggest that cash and a cash equivalents can be taken as operating assets. So it is part of the enterprise value that.

But there could be differences as this refer 1 is following a particular approach 1 should be consistent in that 1 cannot say which is which particular method is exactly correct another is another exactly wrong, we cannot say that. So both the methods can be used as long as you are consistent we can use one of the method and go ahead assets. So if you look at this particular example here we have got enterprise value estimation this company has equity shares, preferences shares and debentures.

We have a number of the instruments type of capital number then we have current market price. So when a multiplied number with the current market price we get the matter market value. So market value of equity shares 75000 similarly for preferences 22000 and debenture is it 96000 so all 3 together gives us 193000 and applying this particular approach we remove the 5000 rupees of cash that company has. So the enterprise value of the company comes to 188000. So this is the way one can find out the enterprise value of a company.

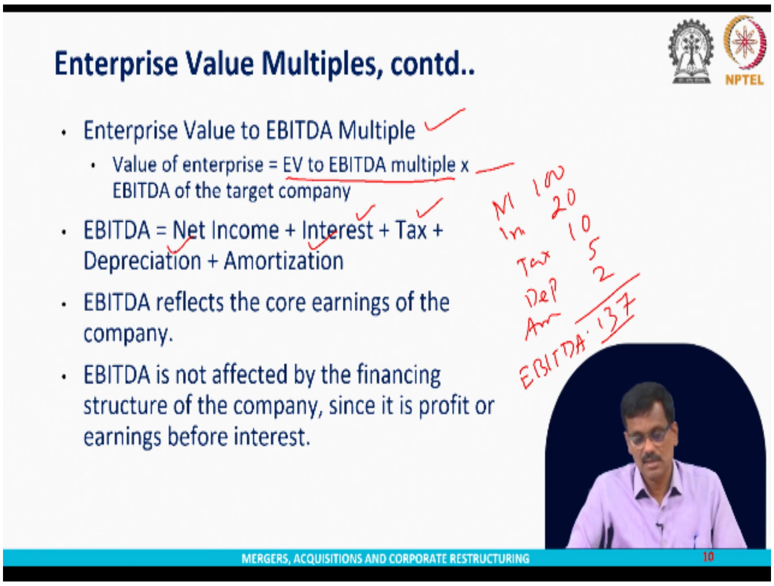
**(Refer Slide Time: 10:23)**




Next is that we have to find out the multiple so we discussed in previously we can have enterprise value to sale. So in that case we get the multiple so if you got average enterprise value to sales a particular for a comparable companies let us say 3 times and sales of the target is let us say rupees 300 million in that case this is average EV to sales multiple then in value of the company will be rupees 300 million enterprise value will be rupees 3 that comes to rupees 900 million.

So this is the way one can find out the value of enterprise by using enterprise you have to sale. Similarly, we can also find out the enterprise value EBIT multiple of different comparable companies, find out the average for that and multiply the EBIT to the target company then get the value assets. So we will explain more in terms EBITDA multiple in subsequent slides.

**(Refer Slide Time: 11:26)**




So as a continuation of enterprise value to EBITDA multiple so value of enterprise is taken as value to EBITDA multiple is average for the comparable companies into EBITDA of the target company that gives us the value of the enterprise and EBITDA the formula is that a we can find out the EBITDA directly given from the income statement or you can also indirectly you can find out so when you look at EBITDA earnings before, interest, tax, depreciation amortization is nothing but net income that is called profit after tax.

Profit after tax net income + interest + tax + depreciation + amortization that gives us EBITDA. So say the net income is 100, interest is 20, tax of the company let us say was 10 and depreciation is let us say 5 amortization let us say 2 in that case 137 is the EBITDA of this particular company and EBITDA why it is so popular? EBITDA reflects the core earnings of the company it is before depreciation and why it is before depreciation advantageous.

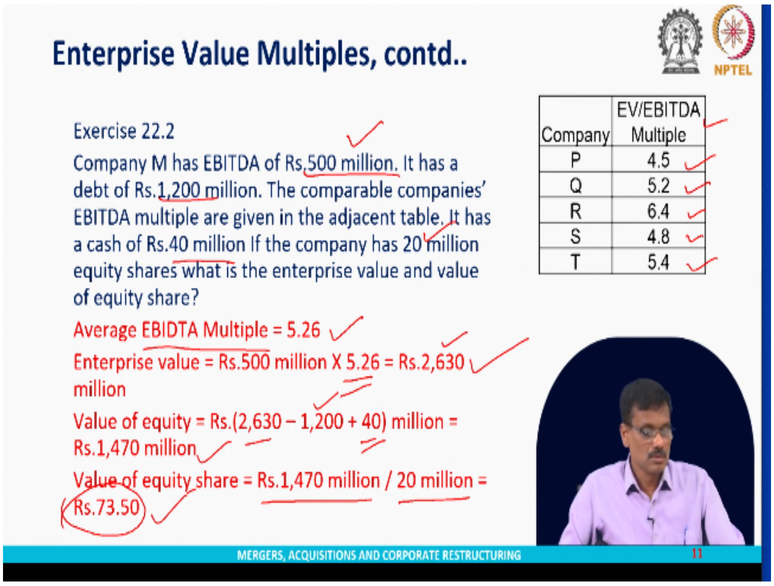
Because the companies may have new assets or old assets all company will have legacy they might have assets of earlier year and that case their depreciation may be lesser. New companies are likely to have newer assets their depreciation going to be higher. So in that case company may be doing same operation because of more or less depreciation company may be showing more profit or less profit is more depreciation less profit is less, depreciation more profit, otherwise the companies are similar in nature.

So in that case it is better to take the neutralize depreciation take the profit before depreciation, so why interest because you interest because the company can you finance with debt or debt and equity or equity only in that case it is better that you. If I take the profit irrespective of the financing of the company. So that is why they taken us up because the company is fully financed by equity then there is no interest the company has finance by debt.

And if there is an interest in that case comparing them will be difficult in terms of profit which is after interest, so that case we look at the profit before interest. So again that case we look before interest and depreciation amortization is 1 and 7 so before tax because, companies may have better tax planning or not better tax planning because of that the effective tax of a company could be different from the other company it is although the profit before tax would be same.

So in that way it is better that one should go for core earnings EBITDA reflects the core earnings and also not affected by financial structure of the company, since it is profit or earnings before interest.

**(Refer Slide Time: 14:10)**



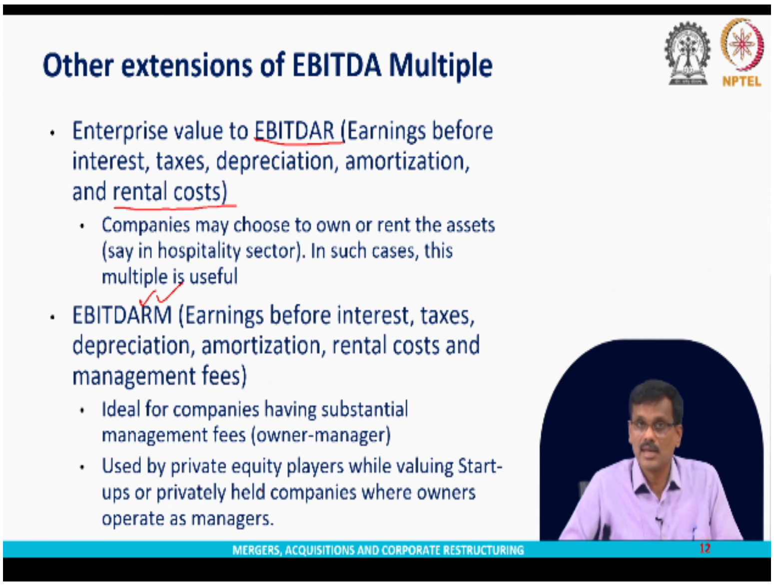

So we, have an example here that is company M has EBITDA of rupees 500 million. It has a debt of rupees 1200 million and the comparable company there are 5 comparable companies P, Q, R, S, T they are able to multiple is calculated by using the formula and then we got this 5 figure and we have to find out the value for share include using this multiple and it has got 200 million debt it has got also 40 million of cash and it has got 20 million of shares.

The first thing that you do in the first step is that find the average of EBITDA multiple so average EBITDA multiplex enterprise value to EBITDA comes to if you average this it comes to 5.26 times. So enterprise value as per the formula is 500 million EBITDA into 5.26 a multiple that comes to 2630 million at the value, but when you find out the value of equity we have to remove the debt and also you add back the cash.

Because when we acquire the company the cash is going to be in the business we are going to get that if you are not going to get the cash then we do not have to add the cash. So when we are looking at the company, company in its balance it has the cash. So when you acquire the company cash is going to come to the enterprise which is acquiring. So in that case so 2630 valuation that we got we remove the debt of 1200 million and add back they cash that gives us 1470 million is the value of equity by using enterprise value.

And which is calculated using EBITDA multiple so power shared comes to 1470 million and 20 million shares are there so 73 rupees 50 paise is the value for share of this particular company.

**(Refer Slide Time: 16:06)**




So we can let us go to other approaches of extension EBITDA so here there is a one recently it is being used enterprise value to EBITDAR that is so it is EBITDA but also before rental costs. So why this particular method is appropriate in such case in case is that there could be 2 different companies operating same way the revenue, cost structure is almost similar, but 1 company is actually having depending on the more and assets rented another company having assets under the owned by them.

So in that case they are not comparable truly so it is better that because your company's owning asset the depreciation is removed, but a company is not owning assets but actually paying rent for the renting the assets. Then they are not comparable, because for a company which is owning add or remove depreciation whereas this company another company which is using similar assets but paying rent for that they are not removed.

Other could be several sectors like hotel hospitality sector the hospital low hotel companies actually they acquire properties and lease or rent and then use it for hotel business or hospitality business. So there is your, rent is going to substantial amount they are assets. So in such cases they suggest that we can remove the rent also while find out the multiple. So instead of EBITDA we go for earnings before interest, taxes, depreciation, amortization and rent.

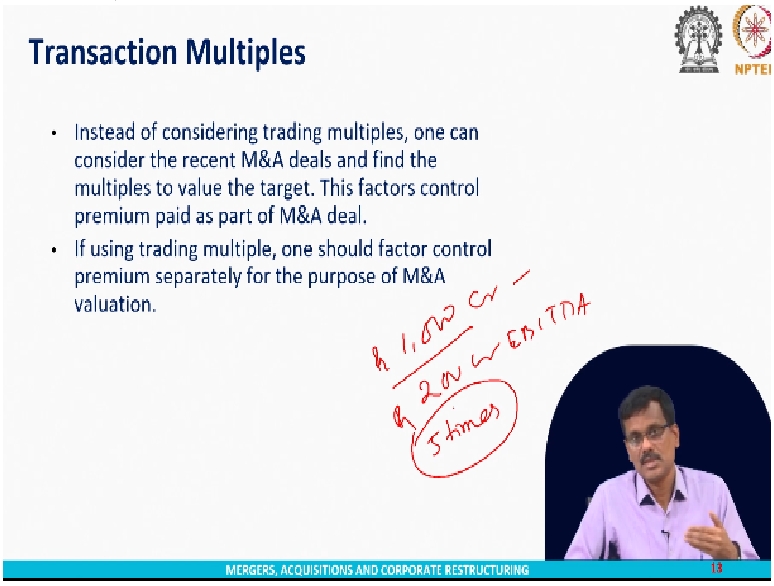
So there you go and as we did the multiplication in case of EBITDA multiple finding average then multiplying with the average multiple of the particular parameter, same thing will also be applicable here but instead of beta we go for EBITDAR. Then another multiple which is being very much used in case of a valuation of privately held companies typically those company's startups and privately held here the owners are actually managing and they manage the company they also take them salaries fees management fees for that matter.

Because they are spending, time on that so in that case it is suggested that let us go for because there can be another company which is not managed by the same owners. So it could be something different assets and the management fees can also vary substantial between company to company. So there is suggested in such cases it is that the management fees actually removed when you find out that so besides the rental cost we also remove rental you remove the previous and also management fees and so it becomes EBITDARM.

So and it is used by private equity players when they try to value a startup or a privately held companies and where owners are also operating as managers. So that case we do that if the managers are separately there then not the owner then it is different thing, but the managers are same as owners, because they might have taken lot of salaries or perkysites from the company because their owner they are deciding also.

So that is why it is better to find out the valuation before the find out the profit before the management fees is there. Again, the more same thing overall approach remain same we have to go for EBITDAR multiple then find the average and multiply with the EBITDARM of the target, company and find the value of the company.

**(Refer Slide Time: 19:49)**



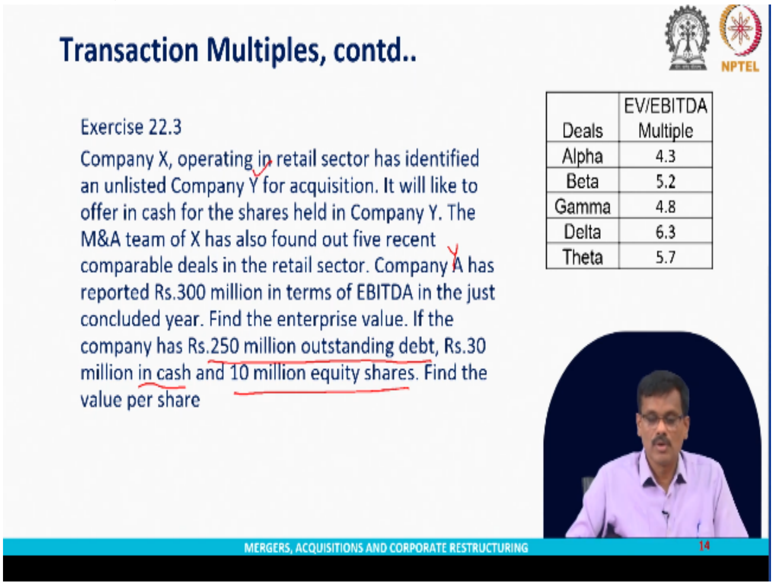

Then another important factor that we; discussed in the previous in this particular session in the beginning that instead of considering trading multiple. Trading multiple comes from the market. If suppose share prices share is traded in the market and there is a share price is 150 rupees and earnings per share of the company is 5 rupees. So, price only multiple comes to 150 by 5. So in that case wave of a trading multiple but it is suggested in case a merger acquisition that find the multiple to value the target get the transaction multiple.

What was the transaction and how the multiple is there? Suppose a particular motorcycle has taken place where the enterprise value is calculated at let us say 1000 crore and that company has value 1000 crore also paid to them till is done and the company has lesser 200 crore of EBITDA. In that case so the transaction multiple is 1000 by 200 comes to 5 times. So if your company is in similar type so you can take this 5 times as the reference point for valuing your target.

So instead of taking the trading multiple and do that you can as will go for transaction, because M and A factors a control because when you acquiring company you get some controlling benefits you can decide you can choose the strategy for the company you can have possibly more remuneration incentives for the manager also. So you have the control about the company decision making process. So that is why you like to pay something extra and that has been factored when you a deal is announced by a particular company.

If somebody is using a trading multiple in that case this somebody has to use a premium so whatever value you get by using trading multiple, we have to add a control premium and then that can be offered to buy the shares of the target. So transaction multiple you are using then deep control premium adjustment is not necessary, but trading multiple is used then control premium adjustment is necessary.

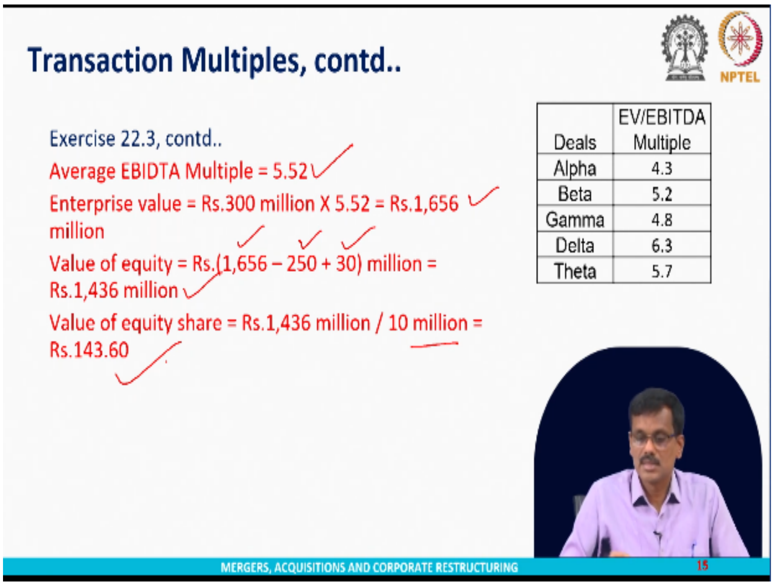
**(Refer Slide Time: 22:02)**




So let us look at 1 or 2 exercises on this so like this in this case we have a company X operating retail sector it has identified some 4 different companies where deals have 4 different deals are taken place involved 4 different companies and the deal took place the EBITDA multiple was found out in those details. So this EBITDA multiples are given here 4.3 to 5.7 respectively and recent comparable deals there sector and the company has reported 300 million in terms EBITDA in the just concluded year.

And so we have to find out the enterprise value of the company y and so in this case what happens so 250 million is the debt of this company also 30 million in the cash the company has and 10 million number of shares are there. So what is the value of this company y.

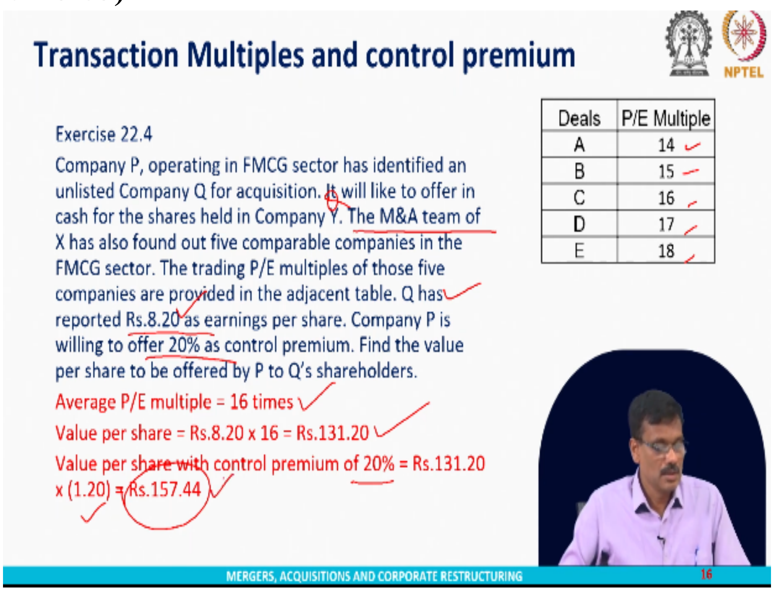
**(Refer Slide Time: 22:58)**




So first of all we find the average EBITDA multiple that is come to 5.52 times enterprise value is 300 million EBITDA into 5.52 that comes to 1656 million, value of equity is that the take the value of enterprise remove the debt add the cash and that comes to rupees 1436 million and divide by 10 million share that comes to 143 rupees 60 paise the value of the share of this particular company that one can offer to buy. Since, it is based on the M and A deals so they no need to add any control premium.

But it is not if it is best taken by trading multiple then control premium can be considered so let us look at another example where it is based on trading multiple.

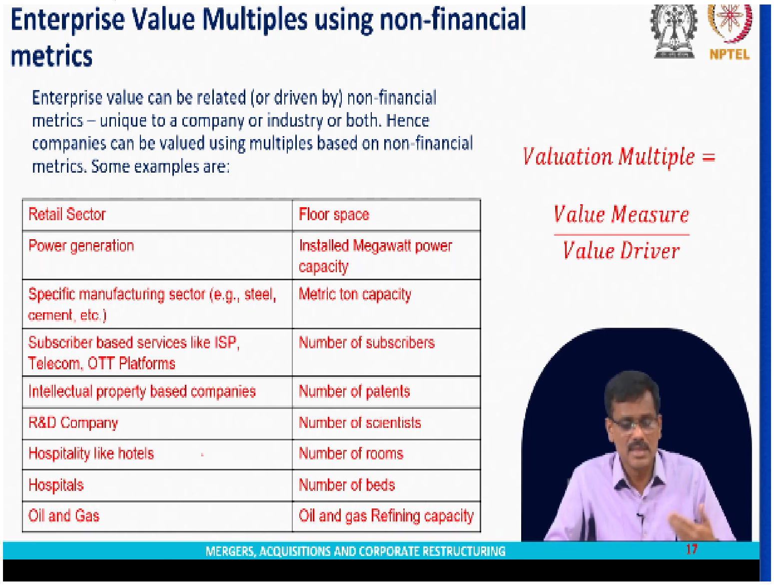
**(Refer Slide Time: 23:53)**




So we have another company P which is in operating FMCG sector it has identified a company called Q and also the coffer in the company Q for the so M and A team as and found 5 different compared companies in the FMCG sector and the trading multiple of these companies are 14, 15, 16, 17, 18 and Q has 8.20 as earning per share and company P is willing to offer 20% as a control premium to acquire these components share.

So first of all what you do we find out the average P multiple that is comes to 16 and this company has 8.20 as the profit earnings per share into 16 that comes to the value we traded it is going to 131.20 there is no further adjustments to that, but since we are going to acquire this particular company by, and then get the control over that in that case the company is willing to pass on 20% control premium. So 131.20 into 1.20 comes to 157.44 rupees. So this is the way how to use or apply control premium when you try to acquire a particular company.

**(Refer Slide Time: 25:29)**




And then having talked about in the previous sessions as well as this particular session we talked about the enterprise value using, financial metrics, but nowadays we also have come across certain multiples that is using the non-financial parameters. So for example there is a retail sector so retail sector if you have got where you people go and buy the products they are major operating metric parameter is that how much space they occupy. So the floor space in the square feet let us say square feet area for that matter.

So the company is going to more valuable if the company has more effect first floor space for that matter. So instead of finding out the; valuation based on financial metrics like the EBITDA, EBIT sales or something like that. One can find out the valuation for square feet area occupied by the company. So because more area leads to more types of inventory stocks kept in the business and more value can be driven more sales etcetera can actually takes place that is why this particular method is used.

Similarly in case of another example called power generation sector for a power sector company the installed power megawatt power whatever that may be or gigawatt power for that matter that is the ultimate thing. So the power company can have more revenue from the customers if they have the power sector, if they have the capacity to produce and supply those power assets. So in that case we go for valuation enterprise value in the numerator like we did in the earlier cases.

But in the denominator we look at the megawatt power capacity of the company so let us say we do a comparable component deal has taken place where x rupees has been paid for buying the company and are valuing the company, for that matter and the company has y megawatt power. So x by y gives us the power megawatt power value of the company under x by y can be used to value a company which has got let us n units of megawatt power. So n into x by y gives us the valuation of the particular target assets.

So because the value and the value associated paramos like revenue cash flow etcetera is driven by what the install capacity of this particular power sector, power generation company. Similar there could be other manufacturing sector like steel or cement for that matter in that case the metric ton capacity of production could be the ultimate drives, if they have more capacity to produce, they can then there is more valuable that is the argument.

In fact this is very much used for such companies when we are acquiring, a company for the assets held by the company we are not bothered about the companies management, because we have our management. So in that can manage new expansion in terms of acquisition let us say megawatt let us say metric ton capacity, steel capacity is there. So we are acquiring the companies because they have the production capacity.

So that case the valuation can be related to production capacity so value per metric ton could be the reference point and similar nowadays we look at different service providers like earlier we had internet service providers a telecom service where you also have now you have OTT platforms where you have access to movies, web series, etcetera. So those companies also may be targeted by another similar pair so for them one value driver the content they have second value driver is how many subscribers they have.

Even if they have so much content as their capacity to show but they may not have that many subscribers that company is not going more valuable we may not target. So if more work subscribers are there then because more subscriber does not mean they have to develop a more content they should have actually the bandwidth to give the content or show the content the different users as so number of users is the ultimate value driver for them.

So in that case those companies can valued by number of users so whatever value the company you can get the enterprise value divided by number of OTT users for that or subscribers for that matter. So, value for subscriber that is what so in that case if my target has certain subscribers accordingly I can find the value of my company using that particular reference point. Then we have companies in having intellectual properties they have got patents copyrights for that matter so how many patents are this company has.

So that could the value because more the patent more this company is valuable so instead of finding out on finance and metrics we try to find out the enterprise value to the non-financial metric like patent in this case and do the valuation. Similarly there could be some technology companies R and D companies where their key scientists are there key people are there who have got very highly qualified and they contribute to the recession development of the company. So these people so company is more valuable.

If they are more and or more and more R and D scientists for that matter like you, have an example of bell labs which is into lot of networking technology production patterns for that matter. So there we can look at either patterns or the valuation driver or the scientist they have as a valuation value driver for that matter. So number of scientists but one has to keep in mind that. If you are targeting such company which has got good number of scientists or good number key people who drive the activities company as an acquirer.

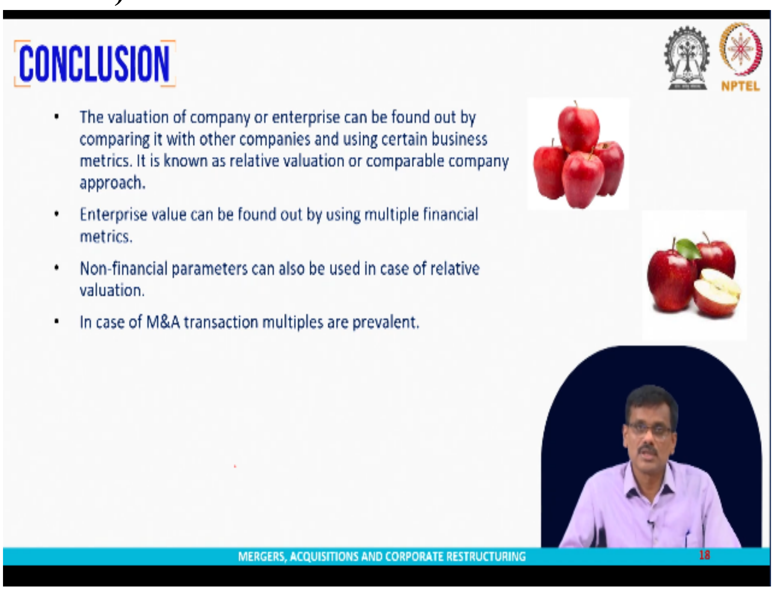
We have to ensure that those people are actually continuing, because they are the value drivers if that is not taken care then this value is valuation normal tool has does not make any sense. So that is one caveat that I wanted to say here the another com sector called hospitality hotels whatever tourists will be definitely coming people coming, staying tourist or office people for that matter for business segment for tourists some people come and stay in the hotel. The major thing that is required in case hotel is the number of rooms.

So number of rooms is the value driver more number rooms there they can entertain more number of visitors are occupants to this particular hotel for that matter. So we will go for value per hotel room capacity, this company or the hotel or hospital sector has that is the ultimate value driver. Similarly in case hospitals the number of beds because we have patients coming to the hospital but since beds are not there this the patients may return back or they have to you can entertain them also.

Because these are to admit it in that case forget about the outpatient sections of the inpatient, so in patient revenue whatever cash flow whatever that may be that depends on what the capacity to hold as many in patients so number of hospital beds in hospital could be the value driver. Another example like an oil and gas sector we have got refining capacity, so we will do this is refining its company so instead of going for some financial metrics one can go for non-financial metrics.

And these non-financing metrics are also used and appropriate in case of companies which might not have started having as much revenue and profit itself. So financial metrics might not be that robust in that particular computer the company might have just been set up and then the now the company is looking for being commercially successful. So there the numbers are not available. There the available number could be very small in these cases it is better that one goes for metrics of non-financial in nature like this in exam this is suggested example one can look at different other parameters looking at the type of company or sector that company belongs to.

**(Refer Slide Time: 34:18)**



So with this we discussed about the enterprise valuation using financial metrics we also talked about enterprise valuation can be done by using non-financial metrics and we have to say careful that choose those non-financial metrics which are actually value drivers for that particular company, and we have multiple metrics are there non-financial parameter can be used and in case of M and A transactions also multiples are prevalent in that case M and A transactions taken then we do not have do any control premium adjustments.

If you are doing the valuation based on trading multiple for first position one has to make an adjustment for the control premium. So we will continue with this valuation session in subsequent session also.

**(Refer Slide Time: 35:09)**


So, thank you and happy learning.