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

#### Module No # 04 Lecture No # 20 Valuation in M and A: Asset Based Valuation

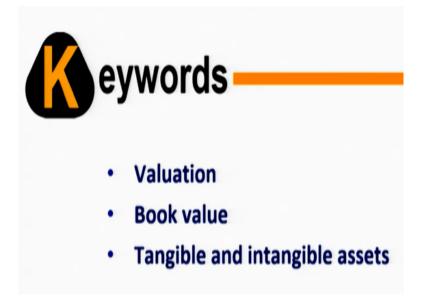
Hello friends welcome to another session of merge's acquisition corporate structuring in the previous session we have discussed about valuation of companies we are going to continue that in this class also. In the previous sessions we talked about valuation using cash flow applause we also discussed about value in the synergy which is an important aspect of marginal acquisition. So we will, continue the evaluation in this particular session and this particular session will be focusing on asset based valuation.

(Refer Slide Time: 00:53)



And in this we will talk about acid evaluation we will talk about book value approach replacement cost approach and also talk about different approaches for valuing intangible assets. Because intangible asset play a very major a major role in the company's validation and also, companies growth revenue etc., is affected by the holding of intangible assets.

#### (Refer Slide Time: 01:19)



And see that the keywords we have valuation book value, tangible and intangible assets. (Refer Slide Time: 01:27)

# GA

Asset Based Valuation	
<ul> <li>Generic Definition: Valuation of a company can be defined as summation of assets held by the company. It is also known as sum of the parts method of valuation. Assets held by the company can be tangible or intangible. Long term or non-current assets</li> <li>Tangible assets, like plant and machinery, land, building</li> <li>Intangible assets, like, patents, copyrights, franchises,</li> </ul>	
<ul> <li>Short term or current assets</li> <li>Inventories</li> <li>Trade receivables</li> <li>Cash and cash equivalents</li> <li>Other current assets</li> <li>Investments</li> <li>In group companies and subsidiaries</li> <li>Other long term investments</li> </ul>	

Coming to the generic asset based valuation. So what we say here the company value can be there when we estimate the value of the company by summing up the assets held by the company. So the company has got 5 different assets so, find out the value of assets A 1 to asset 5 sum them up and that is called the value of the company why the company why this particular violation is used? Because at; the end of the day the investors fund the company in terms of cash or; whatever securities, whatever resources?

And that gates translate in different assets so that way the value of assets together can be taken as value of the, company that is the argument access. And the assets can be in the form of current or non-current long term or short term. Long-term assets could be building machine plants facilities vehicle etcetera shorter message could be inventory receivables cash etc., at the same time assets can be tangible as well as intangible.

So tangible assets could be planned building machinery inventory cash for that, matter other non-current or current intangible assets could be for example patents, copyrights, franchises, licenses, goodwill, location all those things can be there as intangible assets. But when you look at the intangible assets as a valuation point of view in this particular session we are looking at those intangible assets which are part of the balance sheet.

Similarly company can have short term, asset like inventory receivable cash and other current assets and company also can have other assets like investments in maybe group companies, on the market or some other long-term investment could be debt investment or could be equity investment different companies. So if they are also held by the company you have to value them separately like in other assets sum them up to find out the value of, the company. **(Refer Slide Time: 03:35)** 

## Different approaches for valuation of assets

- · Book value: as per books of accounts of the company
- · Market value: valuing the assets as per prevailing market value
- Replacement cost: the amount it would cost to replace the asset at current market price
  - · Replacement cost and market value are not same

So basically we are actually talking about the famous accounting equation which talks about our balance sheet equation which says that assets is equal to equity plus liabilities. So in that case from here we can also find out assets separately then we can find out as equity is equal to assets minus liability that means this method can be also used to find out the value of equity. So find, the value of assets then remove the value of liabilities that gives a value of equity.

Now how do you value the assets should you take the existing value or something else one has to look at that. So different methods of valuation of assets one is the book value when you say book is called books of accounts of the company. So as per the books of accounts of the company whatever valuable assets are, there just are them of all assets except the fictitious assets add them up and that is the value at wood classes together.

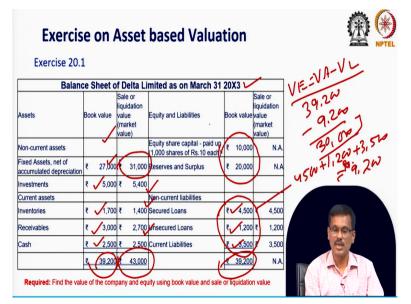
And then remove the value of liabilities and that gives value of equity now book value may have its limitation because book value is historical in nature you might have purchased an asset long time back so today the value could be something more or something less. So that, is why they say that book value may not be the right approach to value the companies and whether this value of assets for that matter.

So then you wonder what can happen one can look at the market value so what if happens one can always go and find out each estate what is how much it will face if it disposed of the market that is called the market value. So instead of taking the value of the asset, from the balance sheet as it is find the value of those assets separately in terms of market sum it up and that gives the value of the company together that is one approach.

Third approach is that replacement cost approach that means if this asset is replaced today and another asset and the constructed is another as replace another asset is constructed today with same type of obsolescence and, depression etc. Because if you construct an asset today it will be new so factoring that how much acid is old so if you asset the as if you replace the acid in same condition how much am I going to incur that is called the replacement cost approach.

And replacement cost and market value is not same replacement cost means I have reconstruct the asset as if in the same condition market is that, you go to market and show the asset talk about your asset how much it can face. So there are 2 different values so in that case your book value market value and replacement cost approaches they may be difficult but one for once is thinking that will go for this particular valuation one can always apply one of these approaches.

#### (Refer Slide Time: 06:40)



So let us have a small exercise on this we have a company delta limited, on a thirty first march 20X3 on that day we have the balance sheet this is an extract one balance is summary balance sheet. The company has non-current assets fixed sources made of depreciation accumulate depreciation net fixed assets 27000. Similarly company has investment the extent of 5000 companies inventory to the extent of 1700 it has receivables to the extent 3000 and is a, cash rupees 2500 this is as per the books of accounts.

And the company has liabilities 4500 unsecured loan secured on 4500 unsecured 1200 and current liability 3400. So if you look at these three together so 4500 + 1200 + 3500 nothing but rupees 9200 is the value of 2 all liabilities together non-equity liabilities. Then if you are going by simple book value 39200 is there total assets or total liquid minus 39,200. So 39,200 - 9200 that gives us 33000 rupees the value of equity in fact since all the assets are considered and value of assets manage value of liability as per, account equation is automatically equal to value of equity.

So VE = VA - VL A means assets L means liability so already you can calculate 10 +20000, 30000 why this particular approach is better that is 39200 minus this one. Suppose there is a fictitious asset of let us say x 1 rupees in that case evaluation of total comes to, 39200 + x in that case as per books of as per books of accounts. But for valuation of the company you will not consider fictitious as fictitious asset the value is going to be 0.

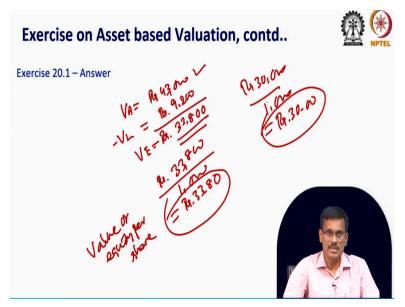
So we will consider only the non-factory successes so in that case find the value of this separately remove the equity reliability separately find the value of equity even a value of equal is, given directly. It is advisable that value of the assets find separately remove the value

of liable that should give the value of equity even the amount is same that is the better approach to follow asset.

So this is as per the book value of the company as per the existing books of accounts but as you discussed this asset may have a different value if you go and goes to the market. That means the, company is liquidating this asset today the sale value or the market value is going to be these fixed assets can be disposed of a 33000 investments can be sold. In the market with 5400 inventories will face little lesser 1400 300 rupees less receivable so also going to suppose you are going to sell it in the market to somebody third party.

It is going to face maybe 2700 and cash is not going to be changed because cash will be remaining 2500. So instead of considering this book value we will consider the value of the that is it as for the market that gives us 43000 rupees valuation.

(Refer Slide Time: 10:16)



And so 43000 is the value of total assets in tops of market so rupees 43000. And from that you take out the value, of liabilities that we have already calculated here that is 9200 so 9200 is removed so that gives us rupees 33800. So 33800 is the value of the company value of equity a value of asset a value company is 43000 in terms of market value. And you remove this 9200 value, liability that will be 33800 and this company has 1000 shares.

So in that case 33000 that is value of liquid that we calculated so 33800 divided by 1000 share that gives a rupees 33.80. And if you find out the value of share as per book value so 30000 divided by divided by 1000 share that gives a rupees 30 per share. So that is value equity

value of equity per share as per market value of the assets and as per book value assets as it is so one can find out.

Similarly so simple thing is that you find the value of each asset separately sum them of remove the value of liabilities whatever is removable comes that comes to after that your result is called value, of equity and that value of equity can divide it by number of sales that gives you value of equity share per share.

(Refer Slide Time: 10:16)

### **Advantages of Asset based Valuation Method**

- Simple and direct approach
- Easy to understand
- Suitable in case of liquidation of company
- Favorable for sectors like real estate
- Suitable for companies where income is generated primarily out of assets held by the company – like banks

So asset based valuation has got its inherent advantage and limitation advantage is that is simple and direct you have got the assets with us yourself find the asset value separately and add them up that is simple to add and then subtract the liability. It is easy to, understand because your company exists company is having the assets companies got the money from the stakeholders and put the assets.

So find develop assets remove the variable that gives the value of the net asset value that is called the value of the equity. Easy to understand and it is suitable in case of liquidation some of the combinator is liquidated how much you going to get for the, shareholders? So value them find the total value remove the take pay the liabilities whatever left over is value of equity.

So but this is suitable for a company where the value is driven more by the assets held by the company that means the asset is hail that gives maybe rent maybe some interest something like that. Some the major income all those things income for the companies as if coming by, coming from holding of the asset that is good. So particularly real estate value suppose your

company real estate so in that case we can simply find out the real estate value market that is the value of total asset the company remove the liability targets value of equity.

Also in case of finance companies because their assets are in terms of securities deposits other banking companies, other finance companies. Then they have given loans so they are the essential financial assets so they have got the value of those in the point of the market in terms of asset. So add them together remove the liability account value of equity so that sector also it is followed that is because the major income of the banks or financial services sector companies come from the assets held by them.

Either that asset giving interest to them or some dividend to them or some capital gain for that matter so the revenue of the company's major driven by the assets held by the bank for that matter in that case possible it can be used but there are certain limitations on this particular approach.

(Refer Slide Time: 10:16)

#### Limitations of Asset based Valuation Method



- Book value is historical in nature.
- Estimation of market or replacement value is not easy.
- Does not consider the going concern aspect of the company.
- Does not attach importance to company's future earnings.
- Value fetched at the time of actual disposal of asset can be different from the estimated value.
- Does not consider intangible assets of the company that drive the value, since they are not part of the balance sheet.



 Intangible assets, that are not part of the balance sheet (like, brand, image, reputation) need to be valued separately and added to the value of the company. This is not a simple process.

First limitation is that the book value is historical nature so for that matter one goes for replacement, cost approach the market value of the asset approach. But that is the because it has been purchased sometime back what is shown in the today's books of account may not be right value to reflect for the asset held by the company. Same you have to estimate market value or replacement asset value market value estimation or replacement cost estimation of an asset is going to very cumbersome very, difficult exercise.

It is not going that easy company you will have millions of assets valuing them separately is going to be a very difficult job is asset for that matter. So that way it becomes very it is very is not practically possible less practical assets. And it is also considered that as if the company liquidator that means company continuing in the business has its value relevance. But here, talking about as a component dispose that means the going concern the company is going to be there in future is not considered by this approach we are not looking at the future.

Similarly we do not to look at the com somebody is investing today in the company they are looking at the future running capacity. So future earning capacity is not considered in the supply just talks about historically what, this company is holding an asset value them and get the value of the company that is another thing. Then what are you thinking that yes we will be getting this value of a disposing asset but actually you dispose of the asset what you estimated is you may not get that it may more it may be less.

Another thing is that this particular approach does not consider the intangible assets of the, company which is not for the balance yes the company may have intangible asset like patents in the balance sheet we value them and are them. But the company's value revenue cash flow may be driven by something else which is not factored in the balance it assets so those are not considered we will discuss more about them that in the intangible asset methods approach.

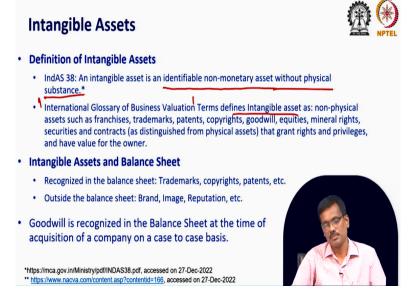
So these are, the inherent limitations of asset based valuation that is/has why we feel that we find that yes in case of insolvency bankruptcy etc., the asset based valuation method is used very frequently. Otherwise for a going concern for a running for growing company for that matter this particular method is not used very often. In fact most of the people use a discounted cash flow estimate the cash flow, discount them and do the find the valuation or maybe one can go for something else called while your company related to another company that is a relative value.

So we will discuss relative valuation subsequent session so that is why we say that yes asset based valuation method may not be suitable for a growing concern or growing consumption which is going the company's existing. Company is going to have lot of revenue future cash flow etcetera is going to be there in continuity. So in that case this method is not applicable so that is why this method is not that popular.

And although we discussed in the previous session about the free cash flow method in the subsequent session we will talk about the valuation using comparable company relative evaluation. In this, rest of the session will talk about talk about talk about intangibles if the company has

intangibles how do you value them? Even if you are going asset weight valuation or even just look at that yes the company has a lot of windows how to value them are these intangible assets of the company maybe or may not be part of the balance sheet.

#### (Refer Slide Time: 18: 08)



So how to define intangible asset IndAS or, Indian account standard in as like IFRS internal service deputy standard in consonance with that IndAS 38 deals with intangible asset that says that it is an identifiable non-monetary asset without physical substance. It is a non-monitor asset identifier can be identified but there is no physical substance that is called the intangible asset as per IndAS 38.

But we have also a generic, definition a very good definition for that matter by international glossary of business valuation. And so that organization terms define the intangible asset as a non-physical asset. May be a franchise, may be a trademark, maybe a book patent, may be copyright, may be goodwill, may be equipped is in some other company mineral rights may be some securities in somewhere there may be some contracts. Are, distinguished from the physical assets that grant rights and privileges and a value for the owners.

That is not that I just hold it intentional acid is valuable but it is holds valuable that is going to either help me reducing the cost enhance my revenue have a better price have better technology something is there going to going to be there by holding the asset. As an example companies may have, lot of patents but patents have both commercial life as well as legal life. So I might have a patent or copyright but that pattern or corporate is not commerce commercial life is not their means this patent is not going to help me in any way. I am not going to get any cost reduction I am not going to get a better service I am not going to do the jobs little with less effort or is not going to give, me extra product feature for that I thought the repatent could be there but is not going to lead to that. In that case even if you have the value of asset as per the book value it could be there but for the valuation purpose that antimonial asset value has 0.

Because it is value has no the intentional asset has no commercial value you may have legal value because you may have a right to use this, patent or copyright for as for the copyright ad you are going to use for x number of years. But it does not have a commercial value so that is what it has to give some rights some privilege something extra one has to be able to get by using that particular copyright.

For example if I get a franchise of a multinational companies product to sell I will be producing and selling as per the specification, of that company. And because I am using that multi MNC brand or logo or franchise I am able to sell it because customers like the demons is product. But I will be taking care of the requirement of that company specification and that leads to revenue for my unit. That is why I hold another name for that I may have to pay and that franchise may give me license to do that for number of years.

Since I have paid that amount for doing that job and have some revenue at my end and that revenue are possible without having that particular franchise then I can value the franchise. I might have paid x rupees but I can always find the value of the van size that you may more than x or less than x that is another point as but that is a valuable thing for me. Similar develop a copyright develop pattern that, helps me do my business in better more efficient manner.

So I get something extra and that extra is I can value and then I can find out the value of the intangible asset. Intangible assets can be part of balance sheet I have discussed it may not be for example trademark copyrights patterns we bought it we invested regarded it can be part of balancing. But there could be some intangible asset, which is not water balance for this brand of the company image, reputation.

They are not factored in the balance sheet we cannot just think that we are good and we can put that value for that we cannot sell certify we are good and put a value for that. So that is not so goodwill may be there for the company but goodwill is not valued by the company on its own just think that because people, appreciate this company that cannot be. Goodwill is recognized only when you acquire a company and that acquisition can lead to calculation of goodwill on a case to case basis.

So goodwill is a part of the balance sheet is because of mergers and acquisition not thus that company has felt good and put a value of the goodwill for that matter. So there are certain intangible assets are part of the, balance state there are certain intangible assets were not part of the balance sheet. All these have to be valued then you put the value of the company by adding the value of tangible assets that gives a new value of the company for that matter.

So there are different approaches to find out the value of intangible asset let us discuss one by one.

(Refer Slide Time: 23:38)

## **Approaches for Valuation of Intangible Assets\***

- Market Approach: when active market is available for the intangible asset (suitable for software)
- Cost approach: The expected amount to be incurred to develop similar intangible asset in its present form adjusting for any depreciation or obsolescence. It is suitable for internally generated intangible assets like technology, software, etc.

One is that your market approach that means it is active, market is there I have a patent I can sell it somebody is going to buy that pattern for x rupees then value of the patent is x rupees. I have a franchise I have a license there is a third party which can buy and from where I got the franchise license they do not have any objection. In that case the third party pays an extra piece or by rupees to me that y rupees the value of the franchise for, that.

So I can add that as a value of the intangible asset called franchise so that is called the market another is cost approach. Cost approach typically for those intangibles created by the company and used by the company. So then if I today I do that I develop that intangible asset maybe R and D for that matter how much am I going to incur and taking care of any obsolescence how much I am going to incur, like replacement cost.

So that is called the cost approach for the valuation so both the approaches are there they are not easy to calculate but we have one every it is required on us to actually go for that the calculation of the intangible asset.

#### (Refer Slide Time: 24:46)

# Approaches for Valuation of Intangible Assets, contd..

- Income approach: The present value of expected cash flows or future cost savings due to ownership of the intangible asset. This is adjusted for any future cost and discounting factor.
  - Relief from Royalty Method (RRM): The expected savings from royalty payment by owning the intangible asset
  - Multi-period Excess Earnings Method (MPEEM): Estimate the cash inflows attributable to the particular intangible asset and find the present value after adjusting for expected expenses. It is useful in case of technology start-ups.
  - With and Without Method (WWM): the difference in value of the firm with the intangible asset and without the intangible asset – using discounted cash flows.
  - Greenfield Method: Project the cash flows of the firm (like in case of discounted cash flow approach) assuming that the intangible asset is the only asset of the firm or company.

Beside that the records other methods values and intangible assets another method is called income approach. That means when you say income approach as, called what extra the company is going to generate because of that particular holding that particular asset intangible asset either expected cash flow extra revenue adjusted for the cost or extras. Some cost savings because of that because company may be able to do a particular process with more efficiency with less cost.

So that cost saved is nothing but the extra cash flow adjusting for tax extra, cash flow and if I can estimate the extra cash flow. Because of cost saving because of this particular intangible asset then I can take the present value that can give me the value of the intangible asset. So that is the generic principle we have to adjust for any future cost also you have to adjust for a discounting factor.

So one of the methods is called relief from royalty method that means if I am going to have this intangible asset I am possibly saving a royalty. That means if I do not have that intangible asset I may have to take it from outside some third party another party and for them I have to pay some royalty. So by going for intangible asset on my own I have saving that royalty that saving and royalty is my the benefit expected savings with associated cost you take out then take, the present value that is called the value of the intangible asset.

Then another approach is called multi period excess earnings model that means again is another way of approaching the valuation of intangible asset in terms of benefit to the company here what will happen? We will estimate the chaos inflow tributable to the use of that particular intangible asset. That extra cash flow hoist is going to, come because I am using the asset because I am going to have more product feature and that will lead to more per price.

I may have some cost for that production but that extra price minus extra cost of producing that gives me it comes to me because of having this particular technology or intangible asset. So find out those values in its life and take the present value that gives us the value of the, integral asset. Typically your new technology startups they have got very good technologies how do they value this?

So as acquiring companies I look at it I take the technology for extra revenue or extra cash flow extra benefit I am going to get. So that I do the present value and put a value then I get the value then I offer to buy that company because the company may be hiring only an intangible, asset and they get it and they may be happy with that particular value. So what extra I am going to get by using that is called the value and we have to do it for multi period estimation you have to do that.

Then another is that we through doubt so if this intangible asset is there what the value of the company? If the intangible asset is not there what; the value of the company? Take the difference, that value is nothing but the width value minus without that gives us the value of the intangible asset. Then there is one more popular method that is called green field method so again we also that means here compare grain field method and a multi period excess earnings method at MPEEM they seem to be similar.

But in green field method what talking about you are looking at the far which, has got only one intangible asset the intangible asset is not the firm has no value. So the firm value is nothing but the value of the green field means a new thing they are coming up new idea new product new service new technology typical new technology that the asset of the company and again yes how much are you going to get x cash flow. Because of you this particular technology and put the value, of that and discount them forecast.

The cash flow discount them and sum it up that gives us the value of the company as per green field method so intangible assets are very important for in these days. So for example

pharmaceutical companies they have depend on these intangible assets like patents for or formulas for their products they also depend on the intangible as a technology they have. Several, companies like manufacture sector or service sector we have technologies maybe the technology is developed by them in-house or maybe the technology they have outsourced from somewhere.

And that technology helps them generate more revenue reduce the cost subsequently add to the cash flow for the firm and these days the value of the company revenue of the company cost of the company is not, necessarily driven by the assets held by the company. It is something which is beyond the balance sheet but very much fair by us.

For example if I am you we are using FMCG products that will FMCG is a product available by a local producer. An FMCG product could be available by a MNC so as a customer I may go for the product given by the reputed MNC or Indian company for that matter reputed company. Although the quality the functionality tests everything is same for this reputed product we say with the locally made product.

I may be or the customer may be willing to pay x rupees extra big to the reputed product because the company has reputation. And so the efforts put up by the reported company versus the local north repetitive company may be same the assets may be same the revenue in number, but revenue may be different. The number of units sold could be same or numbers could be more because in more demand for them.

Or even if numbers could send I may become that company reported company able to charge a higher price for the same product. So that extra price is because of the reputation of the company and company will like to cast upon this reputation and they can get more revenue and, subsequent more cash flow that is called the extra revenue extra cash flow because of holding intangible asset.

Having the intangible asset may be may not be part of the balance sheet but that intangible asset drives the revenue drives the cash flow so the substrate drives the value. So it is essential that one has to estimate the value of intensive asset. Because these days intangible assets are paramount, and there are several companies. Even in services sector also because of reputation could be banking company further because of reputation we may go to one bank but not other bank for deposit.

Even if they offer same interested but still because of the custom relationship because of the way they treat the people. I may go to x bank or not to y bank in that way x bank is able to command higher, revenue higher cash flow compared to y bank all the scale operation could be same and that extra is because of the intangible which may not be part of the balance sheet. So then you are going to acquire a company these things have to be valued separately. **(Refer Slide Time: 32:43)** 

## CONCLUSION

- The valuation of company or enterprise can be found out by summing up the value of individual assets.
- Value of equity can be estimated by deducting the value of liabilities from the value of assets.
- · Assets can be tangible or intangible
- Asset based valuation might not be suitable for all circumstances.
- In the subsequent session, relative valuation or comparable company approach method of valuation shall be discussed.

So the conclusion valuation of assets can be we can find the value of assets separately sum them up find the value of the company. And once you, have the value of the company you remove the value of liabilities that gives the value of equity and then you divide number of shares it gives value per share. Assets can be both tangible and intangible and but asset based validation method may not be suitable for all circumstances all cases.

And intangible asset valuation is another important ingredient in case of asset based valuation and in the, subsequent session the next session will talk about relative valuation or a comparable company approach. If I have got to value a company i may have some comparable companies compared to their; for their certain metrics what with the value of this company the target company that will discuss in the next session so thank you and happy learning.