**Management of Commercial Banking**
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**Lecture 12**
**Valuation of Bank Stocks 2**

So, after the discussion on the equity valuation using the discount flow models, which includes the dividend discount flow, the operating cash flow and as well as the free cash flow to equity, we have another approach we use for the valuation of the stocks that is called the relative valuation techniques.

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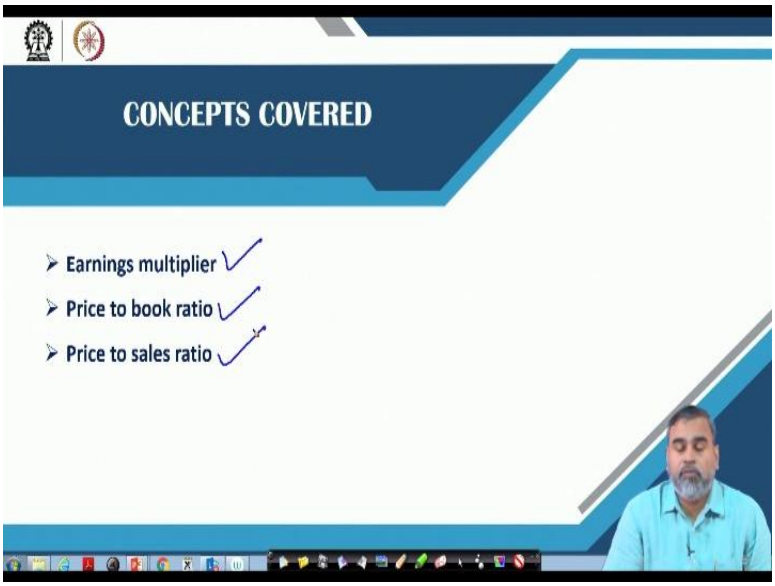


In relative valuation techniques, we are using the different ratios for the valuation of the stocks and there is a relationship between the discount flow models and the relative valuation techniques also. So, which are those measure ratios we use for relative valuation? For the relative valuation we use the earnings multiplier, which is nothing but the price to earning ratio. We can use the price to book ratio or market to book ratio, either of these names can be used for this. Then also we can use the price to sales ratio. These are the measure ratio which are used for the valuation of the equity in the relative valuation sense.

So, whenever you talk about this, you will find that, this will give you idea how it is different from the dividend discount flow models. In the dividend discount flow models what basically we are trying to do, we were trying to basically find out the intrinsic value of the asset.

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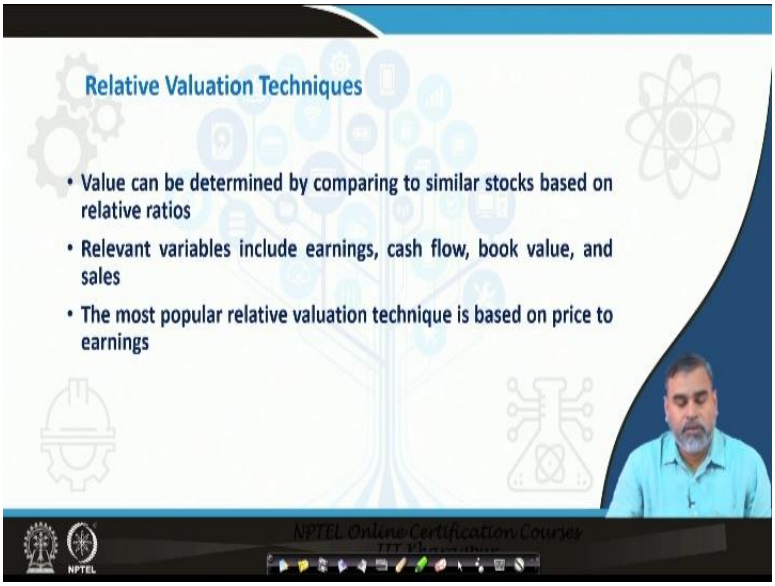


But whenever we are going for the relative valuation techniques, in the relative valuation techniques, the values can be determined by comparing to similar stocks based on relative ratios. Mostly this technique is used to understand how this stock is going to perform in the market. Let us give one example. For example, let somebody wanted to buy a house.

If somebody wanted to buy a house in Mumbai and another person who stays in a relatively smaller town and the price of that particular asset or the house in the smaller town cannot be compared with the price of this particular house in Mumbai. What is the reason? There are many other factors which are also affecting the price of this particular house.

So, whenever we are comparing, the comparable entities should be also similar. Or they should be compared in nature. So, in this case, in the relative valuation part which exactly are we trying to do? We are trying to compare the different ratios to decide that whether we are going to invest in that particular stock or not or how the value of the stock is going to perform in the market in a particular period of time. So, therefore, the similar stocks has to be chosen.

If it is a bank stock, then you can choose the different banks for the comparison. The bank stocks ratios cannot be or the companies which are basically producing the other tangible products in the market, that comparison is not possible. If somebody want to

instead, interested to invest in the back stock, they have to compare between bank X and bank Y.

Instead of comparing bank X with bank Y, if they are comparing bank X with some other company's X, then that is not going to help them to decide that whether they are really going to get the benefit from the market using these particular ratios or, how the values is going to be changed, that judgement will not be possible in that sense.

So therefore, the comparable to similar stocks, similar stocks in the sense that they may belong to same industry, they may belong to same size, they may belong to same type of products whatever. Whatever kind of ways you want to define it, you have to define a similar stock and that particular stock can be used for the comparable purpose.

What are those variables generally we use? Already I told you, we use price to earnings ratio, also we can use this cash flow or the book value of the asset, the sales. These are the different variables what we take out from the balance sheet of the particular bank and try to analyse that relatively, there are different ratios we measure using these particular variables.

And using those ratios we are trying to compare that whether really these particular stocks be able to perform or bid the market in comparison to the other stocks which are traded in the market or not. So, that is why the comparability is very important and choosing a comparable entity is very important whenever you are using the relative valuation techniques for the pricing.

So if you are not finding a particular company which is really comparable, then it will mislead your results and finally this whatever conclusion you will draw, that conclusion may not be beneficial for you. So, that is basically the another caution we have to take whenever we are going for the application of the relative valuation techniques for anything.

Apart from all those variables what we are going to use for the valuation of this liquidity using the relative valuations, the most popular approach is or popular variable is the price to earnings ratio. The PE ratio which is popular known as that price to earnings ratio is mostly used by the investors whenever they are going to use

the relative valuation technique or they are going to adopt the relative valuation technique for the investments in the market.

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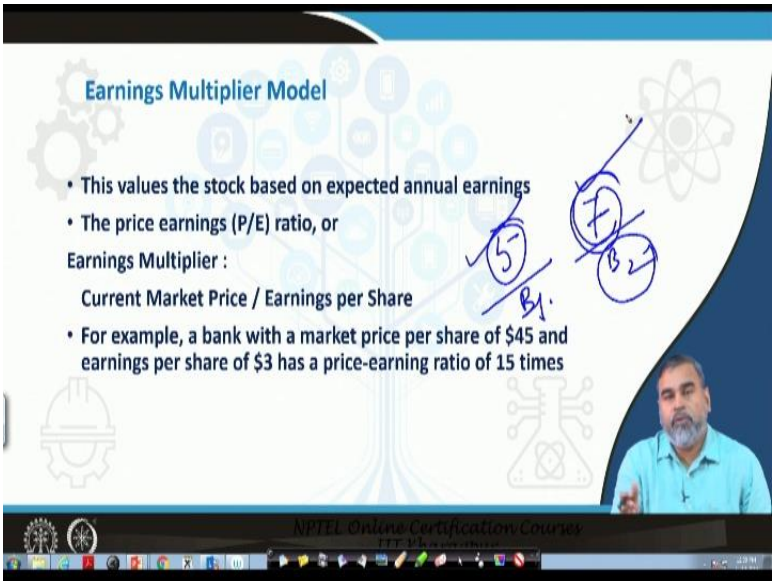


So, here we see that what exactly the price earnings ratio is. So here, the basic principle is the values, the stock based on expected annual earnings or the price earning ratio. So that is popularly known as the earnings multiplier. So, what do you mean by this earnings multiplier? It is measured as the current market price upon the earnings per share. What it implies? For example, somebody's, any bank's price earning ratio is 5 and somebody's another bank's price earning ratio is 7.

So, how you are going to interpret this 5 and 7? The interpretation will be done in this way that to get 1 unit of the return, whether the 1 dollar or 1 rupee, to get 1 unit of return, you have to invest the 5 dollars for this bank and you have to invest 7 dollars for this bank. If you are investing 5 dollar, you are able to generate 1 dollar return in this particular bank's case and you have to invest 7 dollar to get 1 unit of the dollar, 1 dollar in the B2 case.

So, obviously what we can conclude? Lower the price earning ratio it is better for the investor for investment to generate the future return. The expected return will be better whenever the price earning ratio will be lower. So, here we are really investing 5 rupees to get 1 rupee and there we are investing 7 rupees to get 1 rupee. So in that sense, it is obviously more valuable than this.

So, this is the way the price earning ratio helps us and already you know that if the market price, for example, the market price is 45, earnings per share is 3 and it is a price earning ratio of 15 times. What does it mean? If you invest 15 rupees, you get 1 rupees return.

But, let, there is a comparable entity where you are investing 10 rupees, you are getting 1 rupees return. Obviously we choose that one instead of choosing this one where we have to invest 15 rupees to get that amount of return from the market. So, that is the way the price earning ratio is interpreted in the system.

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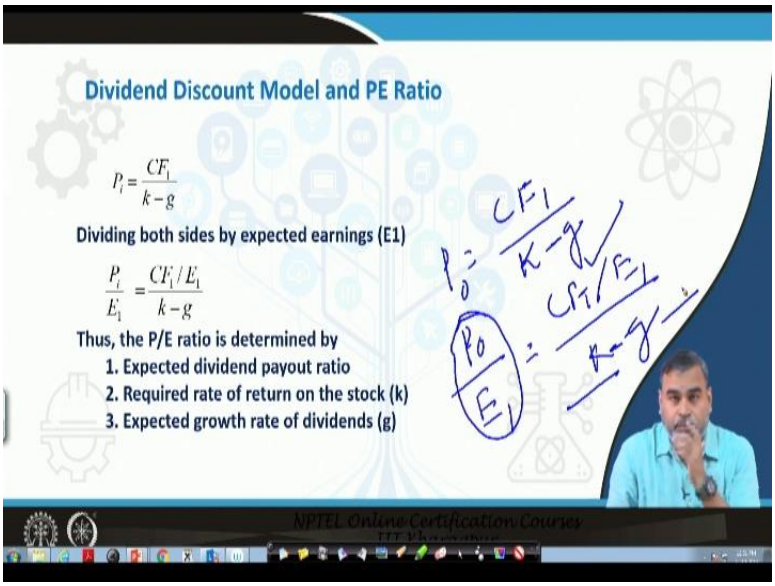


So, if you have a relation, want to have a relationship with the dividend discount model and price earning ratio. Here if you see, that what is, already we know that P is equal, to already we know that your P is equal to what, CF1. P0 is equal to CF1 divided by R minus G or K minus G. K is equal to your cost of equity or the required rate of return. G is equal to the growth rate of the cash flow.

So, there if you see that if you divide your E in both the sides, then it will be P0 divided by E1, then it will be your CF1 divided by E1 divided by K minus G. Then here what is happening, you will find that your price to earning ratio, your price to earning ratio depends upon the expected dividend which is CF1. Your required rate of return K and as well as the growth rate of the dividend or the cash flow, that is, G.

So, the price earning ratio is not independent of the cash flow. So, if the cash flow and the required rate of return and the Gs are changing then obviously your price earning ratio is also changing. Further we will see that how the change in a particular variable is really changing this particular price earning ratio of the particular bank. That that we will see. But these are the different factors or different kind of inputs which are really affecting the price earning ratio of the banks, stocks.

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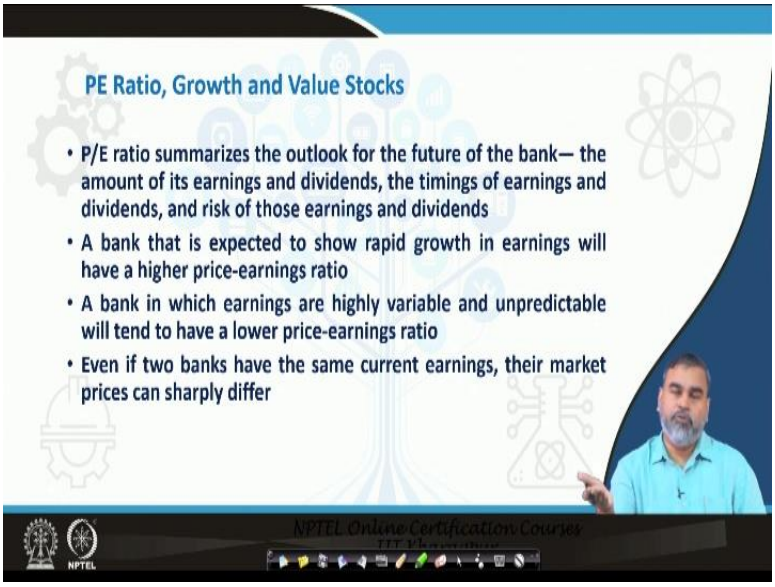


So, here if you see how this price earning ratio is basically used. The P/E ratio basically summarizes the outlook for the future of the bank. The amount of its earnings and dividends, the timings of earnings and dividends, and risk of these earnings and dividends. So these kind of judgement you can get from this price earning ratio. How?

If a bank is expected to grow or basically expected to show a rapid growth in earnings then earnings will have a higher price earning ratio. If a bank that is expected to show rapid growth in earnings will have a higher price earning ratio. A bank in which earnings are highly variable and unpredictable will tend to have a low price earning ratio, which is not correct always but this can be used as kind of benchmarks.

Because the people will consider the low price earning ratio companies have the better potential in the market in the future because still the market price is not yet realized. Still there is scope to generate extra revenue from this. So, even if two banks have the same current earnings, their market prices can differ. Everything is same but

the market price is differed because the market price is influenced by many factors which are not reflected through the intrinsic value of the stocks.

The market price can be determined by the external exogenous factors like business cycle. It can also be affected by the different kind of on-systematic risk of the commercial banks. It can also be affected by there are some kind of other international factors. So all those factors is not incorporated in the intrinsic value of this particular bank stock.

But whenever you talk about the price earning ratio, it is a market related measure, which will try to capture the impact of other exogenous factor for calculation of particular price and that price is reflected for calculation of the price to earning ratio. So, even if earnings same, the price will differ. For the same type of company, for same we size of the company you will observe that the earnings may be similar but the market price of the stock will differ.

Because of some additional exogenous external factors which can drive the prices in a different way for the two different companies. The degree of impact may be different. The unsystematic risk which is specific to the organization may vary from one company to another company. Because of that the market, and another most important thing, market price also is driven be certain unsystematic factors.

The on-systematic factors include some tangible factors, some intangible factors. Intangible factors means managerial ability, is there any kind of natural calamities or maybe there are something which have happened to that particular company but for other company or other bank that thing have not yet happening, is not yet happening or it has not yet happened to that particular company.

So if it has happened then one bank is getting affected, another bank is not getting affected. So in that particular point of time, you will find that for the same type of banks, everything remains same but the price fluctuations are different. And another one is investor's perception about that bank. Even if there is a rumor, the sentiment of the investor also change.

If the sentiment of the investor change, they may not choose that bank, they may choose another bank where they feel that the bank is a good bank. So, if the more

number of investors will be inclined to buy the shares of that bank because of their perception about that bank is good, then price of the stock also increases for that bank then obviously the price earning ratio gets changed.

So, this is what this that is why there is a difference between the market value and the book value because the earnings are basically based upon the book values. But whenever you talk about the market value, the market value is basically driven by many other factors which is not reflected in the book value measures. So that is why the price earning ratio is a better reflection about the performance of the value of the stock in comparison to other book value measures what we use, are accounting measures what we use.

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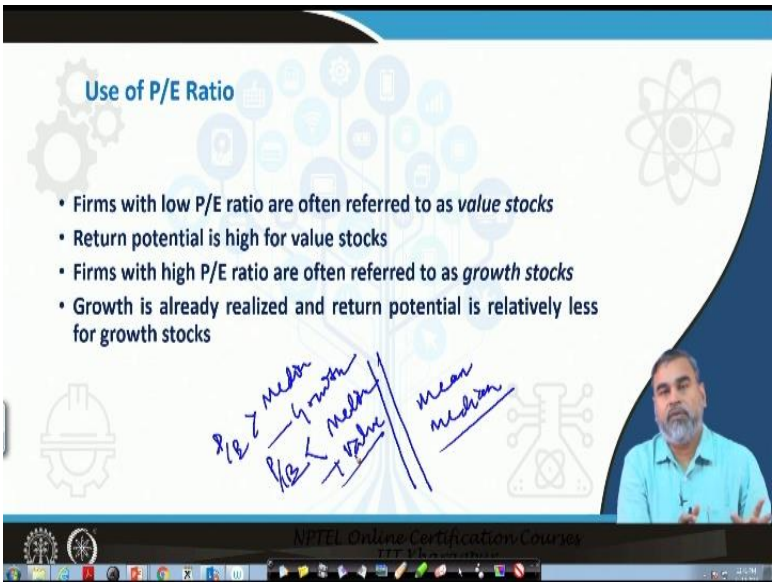


Another use of the price earning ratio is firms with low PE ratio are often referred to as the value stocks. Why we call it the value stocks? Already we have seen that if you, you are spending less or you are investing less to get 1 unit of the return, if your price earning ratio is low. And why price earning, because already I said that P is the market price and earnings is the book value.

That means if it is low that means the earnings is higher but the market value is lower. That means, still there is potential in the market to grow. In the long run maybe the particular company or particular bank can generate certain kind of extra returns. It may be volatile because there are other additional factors but from common investor's

point of view if you look at, then it can give a better idea that this particular company's potential is better in the future.

That is why value investment will be there if the price, we can define that particular bank stock or a value stock, if the price earning ratio us relatively low. And the firms with high price earning ratio are referred to as the growth stocks because growth is already taking place or already has taken place. Still there is chance it may grow but for that other analysis has to be carried out.

Blindly or by looking at the price earning ratio, we cannot say that further the growth will not take place. That is not possible. But if you if you compare it with other other companies or other banks price earning ratio, you can give a comment or you can make a comment that this company is already grown and that is why or this stock is already grown in the market, market has perceived this stock positively.

Further, the same momentum can grow. The same momentum can go on also. But the question here is it may go, it may not go. But whenever there is a value stocks, there is a probability of growth is relatively better or probability of getting return is better, whenever we are saying that the market value is already lower in comparison to the earnings what the particular stock is getting.

So because of that price earning ratio is low. So the growth is already realized. Return potential is relatively less for the growth stocks in comparison to the value stocks. So because of that the price earning ratio is used as one of the indicators in the portfolio management process to define that what is a value stocks and what is a growth stocks. So, in that sense what basically we are trying to do?

If you can really categorize that which is the value stocks and which is the growth stocks, then it is easy for us to invest in that particular stock in the market. So, how we can, generally the easiest way to say that which the lower which is higher, if you talk about the companies and take this making a portfolio then you take a different companies and find out the mean or median of this price earning ratio.

And the particular price earning ratio which is more than the median, we can consider them as the growth. And the price earning ratio of those banks which is less than median or less then mean, we can consider them the value. This is the easiest way of

defining that which are those value stocks, which banks are basically the value companies and which banks are the growth [com], which banks are the growth banks, which banks stocks are growth stocks and which bank stocks are the value stocks.

This is the easiest way to make this analysis but it is not the only thing. We have to also use some other parameters which are used to decide that whether it is a growth stocks or a value stocks. So, that is, that basically the other approaches, but with this particular information you can this approach to identify which one is a value stock and which one is a growth stock.

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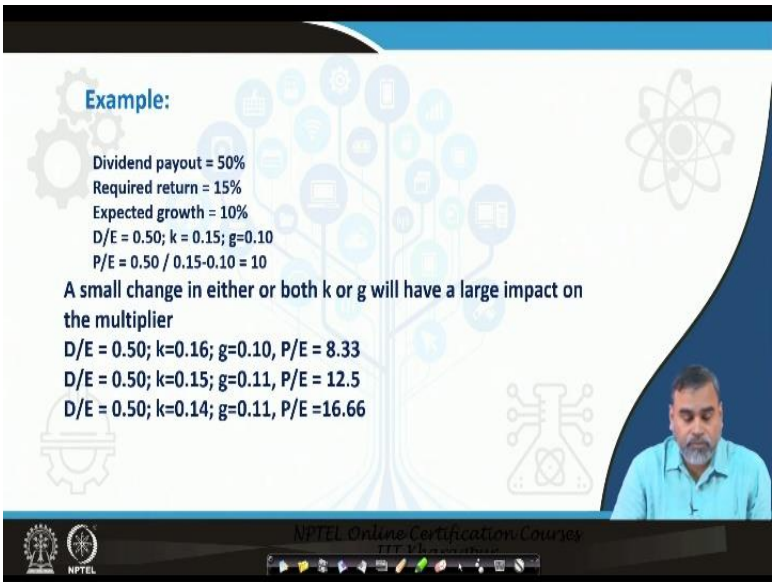


Then, other thing is that, already I told you, these inputs we know. You have the cash flow, you have required rate of return, you have the growth rate. So these are the factors which are affecting the price earning ratio. Like if you see this example, you dividend pay-out ratio is 50 percent. Required rate of return is 15 percent, expected growth rate 10 percent. Your debt equity ratio is 0.5.

Capital, sorry k means required rate of return is 15. Your g is equal to 10. Then your P by E is equal to 0.5 divided 0.15 minus 0.1, that is, 10. So, now if you see the dividend through earnings, the dividend through payout ratio 0.5, you have increased your k to 16 percent. It was there in 15 percent now it has become 16 percent. If you make it 16 percent, your growth remains same 10 percent.

Your price earning ratio has become 8.33, but if you keep your dividend pay-out ratio constant and k constant, you have increased your growth then by 1 percent same. But price earning ratio has increased. That means it is more sensitive towards the growth than the towards the required rate of return. So, the price earning ratio has become 12.5.

But now if you change both. Let your, reduce your required rate of return to 14 percent and you have increased your growth to 1 percent, you will find that price earning ratio has become 16.66. That means they are very highly sensitive towards the any inputs. This small change in either k or J, k or g, will have a large impact on the multiplier.

So whether the k is increasing or g is increasing or k is increasing g is decreasing whatever, the different combination if you observe, in different combinations the change of 1 unit or 1 percent of any of the inputs will have a larger impact on the calculation of the price earning ratio in this particular sense. These are highly sensitive.

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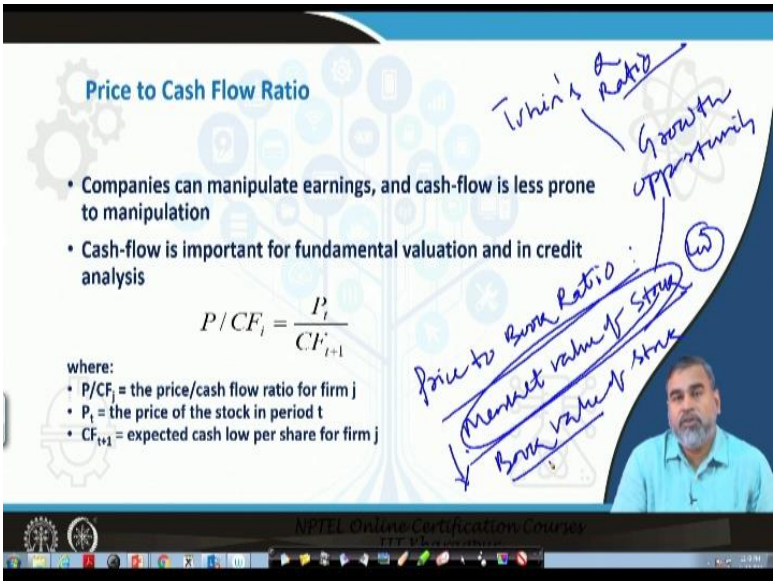


Then another measure we have, that is the price to cash flow ratio. Why basically we are using this price to cash flow ratio? The companies can manipulate the earnings but the cash flow is less prone to the manipulation. That is why people say that price to cash flow is a better measure. So in this case, the cash flow is important, fundamental evaluation in credit analysis because of that.

It is the same thing and the logic is also the same. If the price to cash flow ratio is higher, then we can say that this is a value company and if the price to cash flow ratio is lower, this is also called a growth company. Because the cash flow again is a book measures and the price is a market measure and this basically is going to help you that if there is a change in the cash flow and how the price of this particular stock is going to be changed?

So in this sense, you can give you idea in comparison to other bank stocks how this particular stock is evaluated in the market? How the market basically perceives that one? If the market is perceiving this particular stock in a better way, then this particular judgement can be made on the basis of the price to cash flow. And another measure if you see that sometimes most of the cases we use, that is called the price to book ratio.

It is the market value of equity, market value of stock or equity divided by the book value of stock. Generally this is used as a proxy for growth opportunity or also this can be a proxy for the Tubin's Q ratio. So, market value of equity divided by the book value of equity which is measuring the growth opportunity. Whether still there is chance to grow in the market or not, same logic.

If it is this particular numerator is very low then obviously the ratio will decline. What does it mean? In comparison to the book value of the share, the book value of the stock, the market value is low. And the book value is calculated on the basis of the cash flow which is available to that particular share, particular company. That means there is still potential but it has not grown.

So, if the market value to the book value is low, what we can say? The growth potential of the company is there but it has not yet grown. But if the market value to the book value ratio is high, that means already growth has taken place. The growth may further increase but the probability is also there it might decline. Because the market has perceived that the growth has taken place.

If market has already perceived then further increase is relatively difficult. But whenever it is low then obviously we can say that the market, still the potential is there, but market has not yet perceived that one. So because of that there is a chance it will further grow up. So that is why market to book ratio is a also proxy for both

opportunity and also people use it as a proxy for Tubin's Q ratio because relatively Tubin's Q ratio calculation is difficult.

The market value of asset divided by the replacement cost. So the replacement cost is basically in that sense because in that we are using it as a proxy for that. So, here what is happening that, if the market value ratio is low we consider them the value stocks. If the market value to the book value is high, we consider them as the growth stocks.

So, like the same logic or same kind of theoretical understanding, whatever we have drawn, in terms of the price earning ratio, the same understanding or same kind logic can be drawn for the market to book ratio. So this is also another ratio people use for comparative purpose whenever they go for the relative valuation methods to decide whether they want to invest in the market or not. So that is also another way we can define it.

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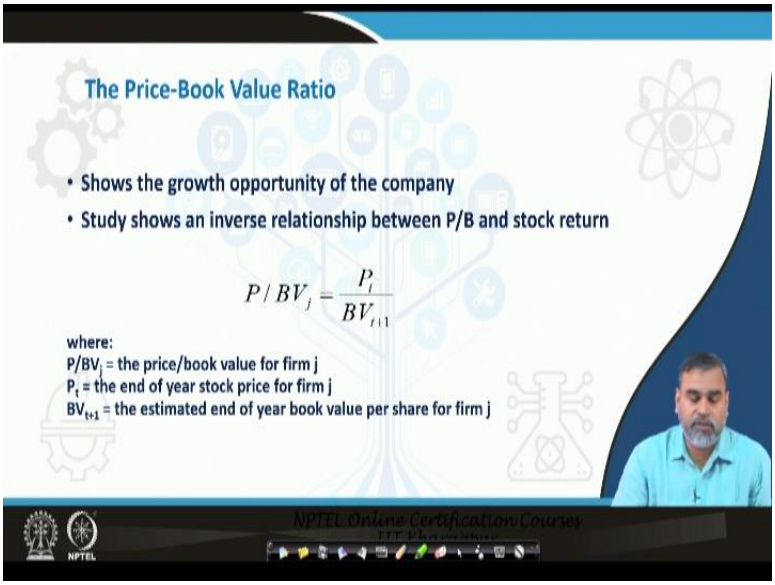


Then we have another ratio that is called, already I discussed about this, study the growth opportunity of the company and all these things.

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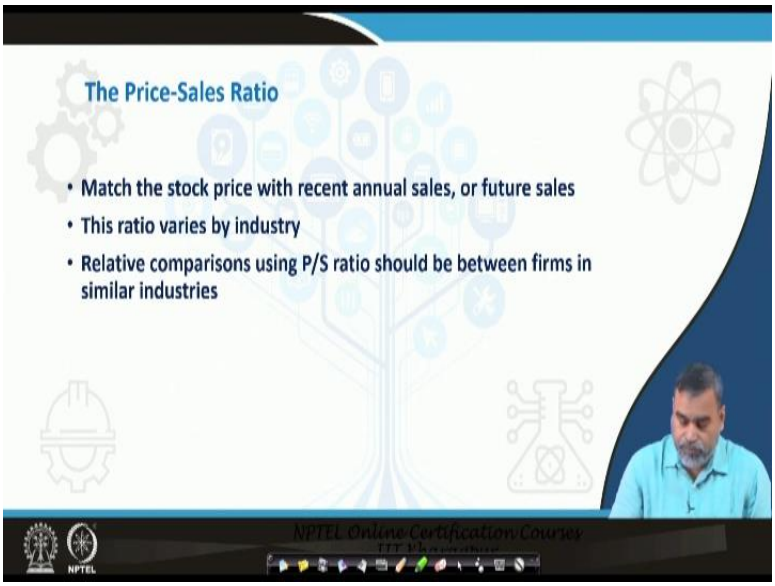


Then we have price to sales ratio. Here what is happening, here we have to match the stock price with recent annual sales or the recent future sales and this ratio varies by the industry and the relative comparisons are made using price to sales ratio between the different firms with the similar industries. Why? Why the similar industries?

Already in the beginning I said they should be comparable for all those ratios whether it is price to earnings or price to book or price to cash flow or price to sales, whatever it may be. Those particular ratios has to be used with the similar entities and if the similar entities will be not there then it will basically be giving you a misleading results or your investment strategy may not work if this particular similar kind of entities will not be consider for your analysis.

Then we have this price to sales, the price to sales ratio, the sales basically varies across the industries. Within the same industry it also varies but that basically shows that one company is competitive enough to sell more, another company is not. That is a different issue. But we cannot compare the sales of a steel industry with the sales of a services industry like IT industry. So, because of that the similar industry have to be considered.

And the business cycle and the trend component of the different industries are different, the cyclical impact. For example, you talk about the pharmaceutical

company. They are not basically driven by any kind of cyclical fluctuations, but the other luxury products, if you talk about the other type of products which are, where the customer is not bound to spend money for any kind of product, here the sales will be getting largely affected on the basis of the market conditions.

So because of that, the similar entities are required and the logic will be also again same. If the price to sales ratio is higher, we consider them, these are the growth stocks of for the company, the company's stocks are the growth stocks or the bank stocks are growth stocks. So, if the price to sales ratio is low, we consider them, this stock is a value stock.

So, these are, this is the way these 4 ratios are used for valuation and these are basically used for comparative reasons whenever any investor wants to use those those ratios for investments in the market. So, through that the valuation will be possible which is not exactly measuring the intrinsic values of the stocks but it gives you the idea that how the value of this particular company is going to be or whether really this company is going to do well in the future or not in comparison to other kind of entities, comparative entities which are existing in the market.

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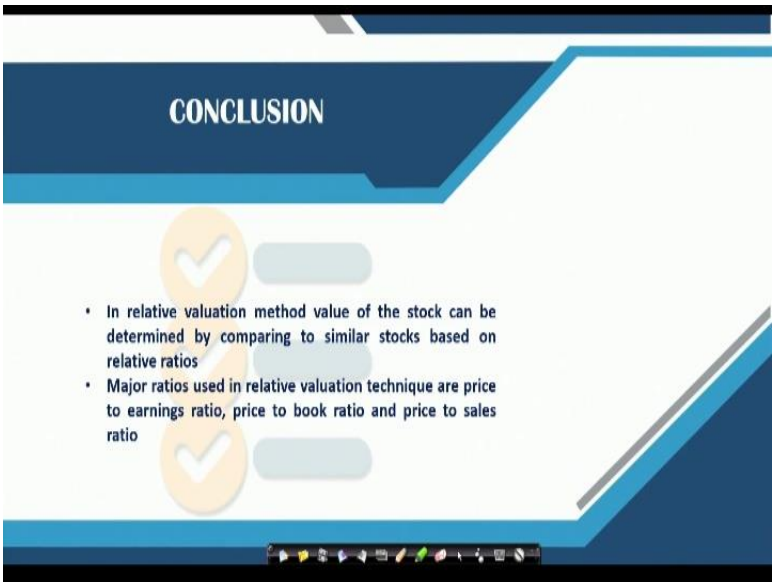


Coming to the conclusion that the relative valuation method basically used for comparing for similar stocks based on the different relative ratios and the relative ratios are basically price to book ratio, price to sales ratio, price to earning ratio and

price to cash flow, et cetera. And mostly these ratios are used for the identification of the stocks for their portfolio management as a value stocks or a growth stocks.

So, anybody who wants to identify which one is value which one is growth then these are the ratios which can be simultaneously used to decide or to conclude which bank stocks are the value stocks and which bank stocks are the growth stocks. So, this is all about the different concepts related to relative valuation and in the previous class we have discussed about the discount flow valuation models.

Then further we are going to discuss about the other securities, fixed income securities which are used by the commercial banks in the market for investment purpose. And we will see the different concept which are associated with that. What are those different concepts used for valuation of those securities? And how the different kind of risk involved in that particular kind of investments? And how the measurement and the valuation of those kind of securities are done? That we will be discussing in the forthcoming sessions.

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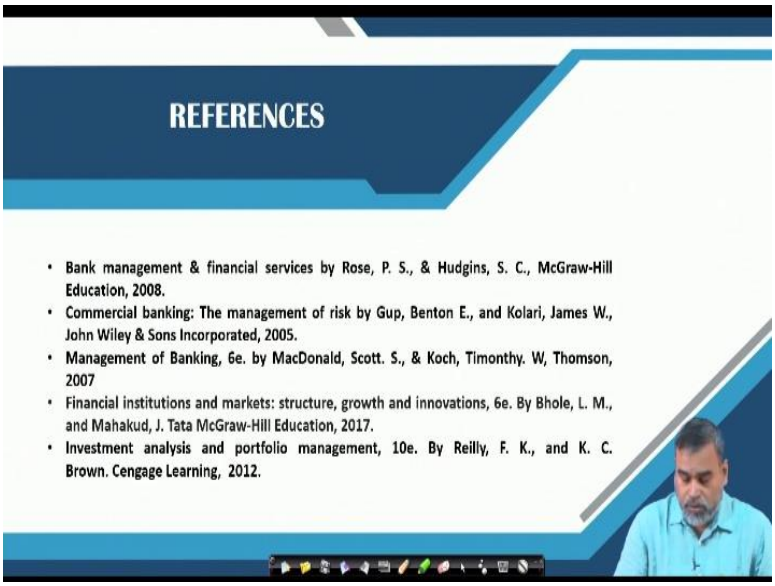


So, these are the references you can go through for this discussion today. Thank you.