Financial Institutions and Markets
Prof. Jitendra Mahakud
Department of Humanities and Social Sciences
Indian Institute of Technology, Kharagpur

Lecture – 09
Fundamental Analysis of Financial Assets

So, in the previous class we discussed about the different return concepts. So, today we will be analyzing that what kind of fundamental factors both from the market point of view from the aggregate economy point of view, from the industry point of view or from the individual stock point of view always we should see or we should analyze whenever you try to choose one alternative assets for the investments and also the alternative within the assets also which kind of stocks should be chosen, which kind of bonds should be chosen.

So, those things basically we should discuss, to see that overview what kind of fundamental factors drive us to decide what kind of investment we should undertake in the system to maximize our return or what to choose what not to choose.

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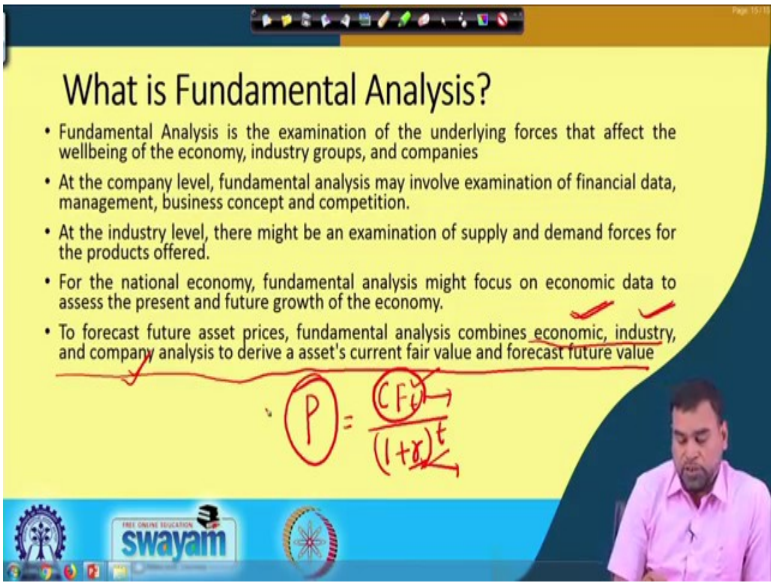

In this concept, in this context if you see what exactly the fundamental analysis is. The fundamental analysis is basically examination of the underlying forces that affect the well being of the economy industry groups and the companies.

So, we have to see that how the economic factors is linked to the different financial instruments or any changes in the economic factor how they are going to drive the financial factors or financial assets return or financial choosing the financial asset. And as well as it also related to in the industry point of view that which industry has more scope which industry has less scope, which industry is prone to more risk which industry is potential; growth potential is high which industry growth potential is less? All kind of questions basically tries to always answer through this fundamental analysis.

So, at a company level the fundamental analysis may involve the examination of the financial data, the management part, the business concept, computation, the different kind of financial parameters, how the company is doing, what is the profitability, what is the growth opportunity, what is the size of the company, whether is there what kind of for risk the company is facing in terms of the sales, what is the business risk, what is the financial risk, what is the structure of the financial structure of the company etcetera etcetera.

There are different ways the fundamental analysis can be defined. So, the fundamental analysis is comprised of the three parts; one is your economic part or economic fundamentals, industry fundamentals then you have the company fundamentals.

There are three types of fundamentals always we consider whenever we go for fundamental analysis in the system or for the financial market as a whole. So, that is why if you observe that the last point here that fundamental analysis combines economic, industry and company analysis to derive assets current fair value and forecast the future value. If you see that whenever we talk about the fundamental valuation of a particular company; what we do? If you go back our previous discussion you might have remember the price of a particular asset is nothing, but the future value of the cash flows; you are discounting the future value of the cash flows with respect to some discount rate.

And you remember if you want to relate this particular thing with respect to this analysis, the cash flow gets affected due to the change of anything economic, industry or the company. The discount rate also may change with respect to economic, industry and the company. So, once the cash flow gets changed, the discount rate gets changed then obviously, the price of that particular asset gets changed.

So, therefore, fundamental analysis is quite important to understand what the intrinsic value of that particular company is or what the intrinsic price of that particular company is. And once you get this intrinsic value, then it will be easier for you to decide whether you want to invest in that particular asset or not by comparing it with the market price or to forecast that how this particular asset or particular financial alternatives is going to behave in the future.

So, that is what basically always we try to see from this fundamental analysis; that is why it is quite important from the investment prospective. Let us see one by one how this what do you mean by the economic analysis, what do mean by the industry analysis, what do mean by the company analysis. Although the scope of this particular terms are quite large; I will just introduce you this particular thing, but if anybody wanted to study more; then they can go through any investment analysis portfolio management books like Relent round like this books like Jones to understand more.

But here I will be introducing that what do you mean by the economic analysis, what do mean by this industry analysis, what do you mean by the company analysis? We are not going into the detail of that because the scope of this particular paper or particular subject is not in that direction.

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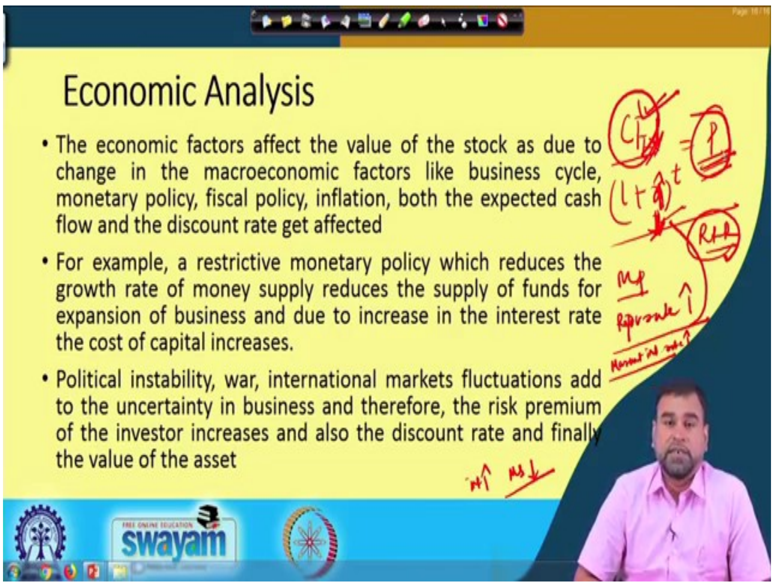

Then we can go to understand this economic analysis; what do mean by this economic analysis? Already I told you that the cash flow already I have written that particular one that your cash flow basically gets affected, your discount rate gets affected.

So, this is the price and once the economic factors which can affect the cash flow and can affect the discount rate, then price gets affected by that. You see the economic factors affect the value of the stock or value of any asset as due to change in the macroeconomic factors like business cycle, monetary policy, fiscal policy, inflation both the expected cash flow and the discount rate get affected. Just now I was telling you how it is done for example, you see let there is a change in the monetary policy.

What RBI has done? RBI increased the repo rate; if you refer it has increased then it will have the impact upon the market interest rate. Market interest rate will increase; then market interest rate is nothing, but the discount rate right. So, then what will happen for the bond market and for the stock market again accordingly they return, this discount rate is nothing, but the required rate of return from the stock.

So, once the market interest rate gets in the required rate of return from the stock also gets changed, but anyway if the market interest rate will increase then this r will increase if the r will increase then; obviously, the value is going down. And here the cash flow is basically also gets affected because if the money supply will go down then; obviously, the interest rate will increase, the money supply will go down, the availability of the money into the market will be less.

If the availability the money in the market will be less then; obviously, it will have the impact upon the cash flow; the cash flow also will go down. The rate of return or the discount rate will go up; here it will have the impact upon this there r will go up; cash flow will go down then; obviously, the price will be drastically affected and the price gets affected due to the change in the monetary policy. So, here if you want to summarize it what basically happens?

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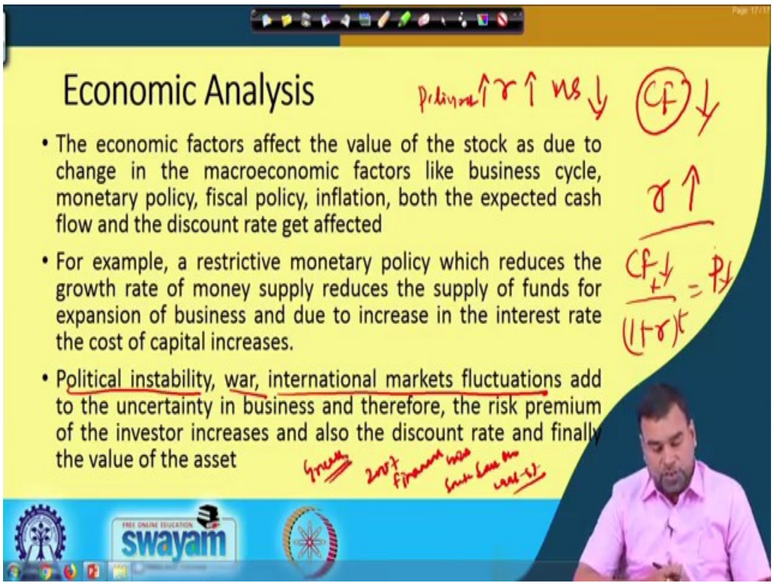

You see this interest rate has gone up, policy rate has gone up. The policy rate will go up, interest rate will go up; and then money supply will go down. Then if the money supply will go down; it will have impact upon the cash flow and the cash flow (CF) will go down, but change in the interest rate will basically increase the discount rate; which is r.

Then what will happen? Your CF will go down, but your r will go up then what will happen? That the price will go down. So, in this context what here we are trying to say that here I have given the example of a money supply. You can take any example if there is a change in the interest rate; it gets affected, if there is a change in the inflation rate it gets affected. If the growth rate of the economy also gets change then what will happen? It will have also the impact upon the cash flow and as well as the discount rate and end of the day what will happen? The price of that particular asset gets changed.

So, any variable which is macroeconomic fundamentals; any fluctuations any change in that will have the impact upon the price of the intrinsic value of any asset. Because both the inputs for the calculation of intrinsic value may get change; due to the change in the economic fundamentals that is what basically what here we are trying to discuss. Here we have given you for example, a restrictive monetary policy which reduces the growth rate of the money supply; reduces the supply of the funds for expansion of business and due to increase the interest rate and the cost of capital increases.

If the cost of capital increases means the discount rate increases and; obviously, the value of that particular asset goes down. Apart from this there are some other typical factors that also will increase the risk and accordingly the discount rate also gets affected by that. What are those? Political instability, war, international market fluctuations all these things for example, there is something has happened in the US market.

You remember this 2007; financial crisis right, you have the Southeast Asian crisis in 1996-97, you have the crisis which are in the Greek in the year 2012. So, all kinds of things once anymore because there is a globalized market every market is highly integrated with another market; both domestically and as well as globally. So, any changes anything which happens in one market that can transmit that can spill over to another market. So, therefore any kind of disturbances which are happening internationally that will have also the implications on the domestic market.

And once the domestic market get restored then; obviously, the discount rate and cash flow gets affected, then automatic the price get affected and the valuation of that particular asset get changed; that is what basically the economic analysis talks about. So, therefore it can be policy, it can be any kind of instability, it can be basically this inflation, it can be kind of growth rate anything; any kind of disturbances with respect to any macroeconomic fundamentals can influence the price of asset because the discount rate and the cash flow may get affected due to this kind of changes.

So, this kind of analysis is basically we define as the economic analysis, but whenever we talk about the industry analysis how the industry analysis is basically defined?

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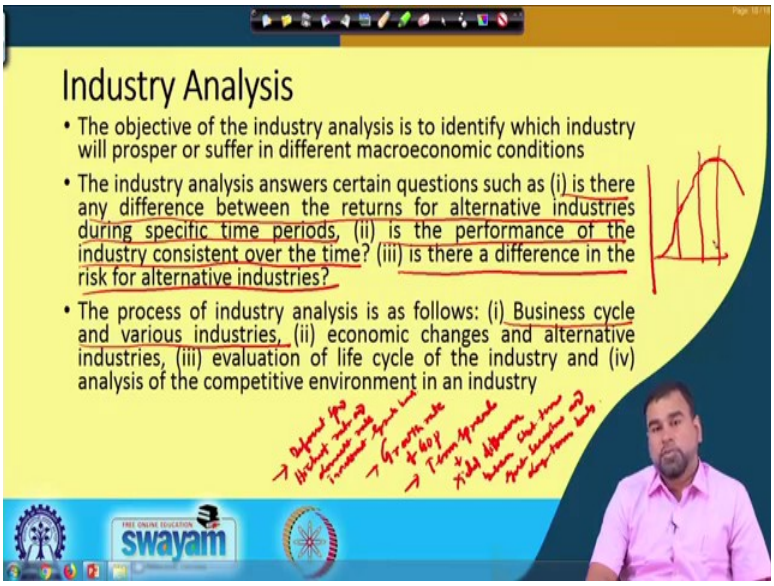

The industry analysis the basic objective of the industry analysis is to identify which industry will prosper or suffer in different macroeconomic conditions. When there is a change in macroeconomic condition we basically go for a scenario building; a scenario building analysis we do.

And through this scenario building what we are trying to basically find out that at the adverse economic conditions how the industry is going to behave whether the industry will suffer or the industry which basically prosper depending upon the changes in the macroeconomic condition we try to explain that.

So, therefore, the industry analysis answers certain questions what basically I questions they are trying to answer is there any difference between the return for alternative industries during specific time periods? If you see these questions that will give you the clear cut idea is there any difference between the returns for alternative industries during specific time period.

That means what? That in a particular time period is it possible that different industry will give the different type of returns or difference prospects are available in the different industries; is there any possibility? Is the performance of the industries consistent over time; that means, whenever there is a change in the system or change in the economic fundamentals or macroeconomic fundamentals is it that the performance of the industry is totally not affected by that or the industry also gets affected once the economic fundamental gets changed. So, those thing or is there any difference in the risk of alternative industries; is it that every industries risk level is same or prospects are same growth are same. So, what kind of industries profitable for me?

In which industry I should choose? What kind of industry basically always we should consider? For example, if I say some of the industries are totally not affected by the business cycle, any kind of problems in the market happens they are not affected. If you consider for example, like pharmaceutical industry. At any point of time the people will the health issues will be there; then product or the sells is not going to be affected by the business cycle, whenever you compare it or you are trying to discuss about the pharmaceutical industry.

So, these are a highly defensive industries they are not getting affected by any kind of cyclically fluctuations. There are certain industries they do well in all kind of seasons like your referencite; referencite companies do better or always perform better respective of the cyclic conditions in the market. But whatever I talk about there are certain products where they are highly fluctuated by the seasonal factors.

Like a cold drinks company, you talk about a ice cream company then; what happens? Those kind of companies' sales increases in a particular period and then another period this sales figure basically may get affected due to the seasonal changes. So, here what we are trying to say? Different type of industries behave in the different fashion; in a different way whenever there is a change or on the basis of the nature of the product of that particular industry.

So, therefore the process of the industry analysis basically what? The process of industry analysis is trying to answer that how the various business cycle is related to the economic fundamentals; you know business cycle can be measured by the real growth rate of the GDP.

Then it can also be measured by the term spread; term spread is the yield difference between the short term government securities and long term bonds. You can have the default spread; the default spread is the difference between the highest rated and lowest rated investment grade bonds. So, these are the different measures which are used to say that or to predict that whether the market is going to be in the boom. So, these are the different proxies which are used to measure the business cycle.

But here what you are trying to see? What kind of industry it is? Whether the industry is going with the business cycle, there is a boom the industries also will be increasing or the prospect of the industry will be increasing, there is a recession then the industry will go down. So, all kinds there are some industry whatever way the business cycle will be, but my industry is not going to be affected by that.

So, these are the different issues or different questions comes to the industrial part. So, those things has to be considered; those things has to be analyzed before participating in that particular industry or choosing that particular industry whenever you go for investment in that particular sector. Therefore, we have to relate it with respect to the business cycle.

Then economic changes in alternative industries if there is any change in terms of other economic fundamentals, there is a change in inflation, there is a change in interest rate then how this industry is getting affected by that? Change in the interest rate may affect financial industry largely, other industry also directly affected because increase in interest rate will decline the investment. So, obvious with the production gets affected; if the production gets affected then what will happen?

Then; obviously, this particular industries prospect or the industry will suffer from certain kind of losses because the prospect of that industry will go down. So, anything basically any economic parameters whenever we consider that we have to check that how that industry gets affected due to the changes in any kind of macroeconomic fundamentals.

Then we come to another quite interesting factor that is evaluation of lifecycle of the industry. You might have known that industry has a life cycle the industry life cycle is what? In the beginning we are in infant stage; then it will grow like this, there is a growth stage. Then once it will reach in the steady state; it remain certain time, then it will start declining.

So, there is certain kind of stages always we will observe in industries cycle. So, then we have to see whenever we are choosing that particular industry that industries in which phase? That industry is already in the matured states or industries in the steady state or industries in the infant states. You see if the particular industries in the matured stage already then probability of growth of that particular industry will be less because already industry is grown.

The growth of the industry is already taken place; though expecting more return from that particular stock in that particular industry is relatively less likely. But if the industries is in the growing stage or the industry is growing; that means, the growth opportunity for that particular industry may be possible more. There is a possibility that there is much more growth opportunity, there is investment alternatives available for that particular industry because they can generate more project for their output generation or maximization of the output.

So, in that context what will happen? Those industries can give better return in the future they may not give now because the scope is high. So, depending upon the investor to invest or you can choose that industry we want to take. Whether you want to invest in a matured or the growth industry or you want to invest in industry which is in the growing stage or the industry which is all started. So, these are the different kind of issues or different kind of concepts we have to analyze whenever we talk about the industry analysis that when the industry life cycle has to be discussed has to be analyzed; whenever we are going to choose a particular stock or particular bond from that particular industry or from that particular company which belongs to that particular industry.

Then you know how competitive the environment is or industry is highly competitive or competition is over or it is perfectly competitive. Now more number of players are available, there is no kind of monopolistic characteristics available in that particular industry. So, if it is going to be highly competitive then the price what I get that is mostly very competitive price.

If the market is not competitive then the market is monopolistic or the market is in monopoly; then the price what basically I am going to pay that may be relatively little bit higher. So, in that context we have to see in what kind of competitiveness the industry has; whether that particular industry is already in a perfectly competitive stage or there is a monopolistic stage or there is a monopoly stage; depending upon that the investor can decide whether they should go for that particular industry or not.

And whatever price they will give that price will be competitive price or equilibrium price or not. So, therefore, the competitiveness of that particular industry is also quite important to know whenever anybody wants to invest in that particular industry or particular sector. This is what about the overview of the industry analysis; then we can move into the company analysis which is the last step of the fundamental analysis.

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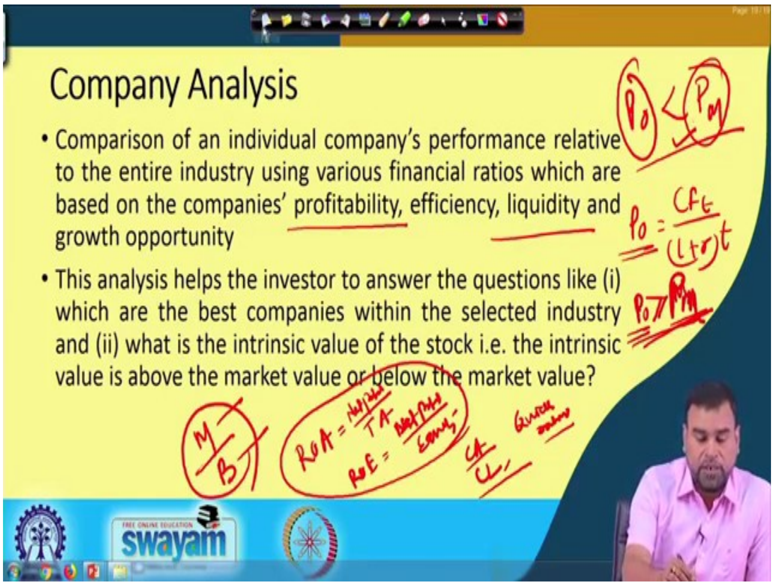

So, already I told you that company analysis is nothing but the comparison of an individual companies performance relative to the entire industry; using various financial ratios which are based on the company's profitability, efficiency, liquidity and growth opportunity.

So, here what we are trying to say? We are trying to find out that what kind what is the profitability of the company, how much is the growth opportunity the company has? Whether the company is liquid or not, what kind of efficiency the company has? All kinds of things will decide also will tell us whether we should go and invest in that particular company or not.

So, whenever we talk about profitability you might have known what are those ratios we look at from the profitability point of view? We look at Return on Asset (ROA);

$$Return\, On\ Asset = \frac{net\ profit}{total\, assets}$$

You can also look at the Return on Equity (ROE); equity your net profit/ total equity. So, these are the different profitability measures; you can go for the liquidity like current assets to current liabilities.

You can also have the quick ratio current assets minus the inventories divided by current liabilities. Growth opportunity can be measured, market to book ratio of the company market price of the asset divided by the book value of the asset. So, there are different ratios basically we analyze to decide that what kind of prospect the company has; whether the company has better growth opportunity, what kind of profitability the company has and all these things and accordingly we will decide that whether we should invest in that company or not.

So, the company analysis basically helps the investor to answer the questions; what are those questions? Which are the best companies within that particular industry depending upon this ratio analysis; what is the intrinsic value of the stock, whether the intrinsic value is above the market value or below the market value. You remember what is the intrinsic value?

That already I told you that

$$p_0 = \frac{CF_t}{(1+r)^t}$$

This is basically called the intrinsic value. Then what we are trying to see? That whether we check whether the intrinsic value is above the market. Market value means actual which is happening due to the market forces. So, the market if the intrinsic value P_0 is greater than P_m; that means, the P_0 is greater than P_m; what does it mean?

It means that the intrinsic value is less than the market value; that means, still there is a chance the intrinsic value is greater than the market value; that means, market has undervalued this particular asset. There is a possibility that this particular asset will go up; the value of that asset the price of the asset will go up; that means, it is undervalued company. So, if the P_0 is less than P_m what does it mean?

Market has already overvalued the intrinsic value that is P_0, but the market value is more than that; that means, this company's stock or company's asset is overvalued. Possibility of getting more return may be possible may not be possible. In that sense what basically we can say? That from the investment point of view maybe this particular asset is better because here there is just the stock is already or the particular asset is undervalued. There is a possibility that stock price may go up, but here it may go up, but the possibility is relatively less in comparison to the another company where this particular scenario arises; so therefore, the company analysis itself to decide all kinds of things.

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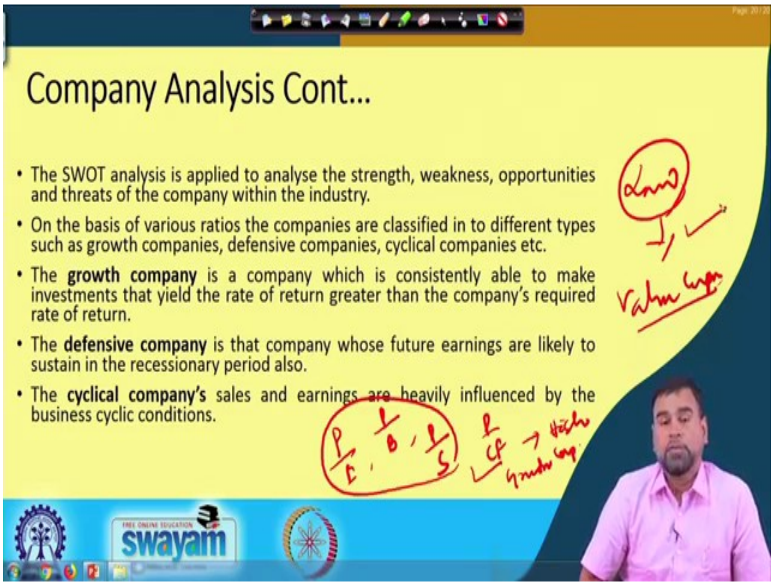

Then another part of the company analysis is we also do these SWOT analysis. The SWOT analysis already you are very much comfortable with that; here we calculate the strength, weakness, opportunities and threat of the company. Strengths and weakness these are basically the internal to the company what opportunities and threats are basically external to the company.

So, what kind of strength the company has? What kind of opportunities the company has, what are the weaknesses the company has? So, then those kind of things if you analyze then you can have the better idea how the company is going to perform in the future. So, on the basis of the different ratios or the companies are classified into different types. And accordingly you decide that whether we should go for investment into that particular category or not.

So, if you classify them the companies are like growth company, defensive companies, cyclical companies etcetera etcetera or value companies from the investment perspective we decide value companies. So, the growth company is a company which consistently able to make investment that yield the rate of return greater than the companies the required rate of return; just now we can calculate the required rate of return of the company which is using the CAPM; Capital Asset Pricing Model.

And the growth companies that company, which is consistently giving more return than the expected return what we are trying to get from that particular stock or from that particular company. Defensive companies are those whose future earnings are likely to sustain in the recessionary period. I have I was giving you the example like pharmaceutical industry; the pharmaceutical companies even if there is a recession or there is a boom this particular industries sales or these particular industries performance never gets affected.

Because this particular industry is totally free from this kind of business cyclic fluctuations. Then you have the cyclical companies; the cyclical companies are basically the sales and earnings are heavily influenced by the business cycle conditions. Those are basically we have to be very careful whenever we invest in that kind of companies before analyzing; we have to analyze first that what kind of cycle is going to prevail in the or economic cycle is going to be prevailed.

And once we know that whether there is a boom or a recession; accordingly you can decide that whether we should invest in that particular company or not and another type of company the value company I can give you a link into this. That you see that these companies price to earnings ratio, price to book ratio; then you have price to sales ratio these are the three or price to cash flow also are high these are called the growth companies.

And all these ratios which those companies which are low these are called the value companies. The best thing is you take those companies arrange it in the ascending descending order and take the median value or the mid value of that. Above the average value we consider them as the growth company and below the value you consider them the value company. Those things are helpful from investment point of view and always we can use it from whenever we participate in the market to choose any kind of alternative assets into the system. So, these are the overview of the fundamental analysis.

This is the way the fundamental analysis we do to choose the stocks; then we can have another aspect for choosing the stock or choosing any kind of other alternatives that the technical analysis. I will give you the theme of the fundamental idea behind the technical analysts; all the technical analysis part is quite vast, but still I will give you some idea that what the technical analysis is. And how basically we go and invest in that particular we use that technical analysis for choosing the different financial alternatives for investment in the financial.

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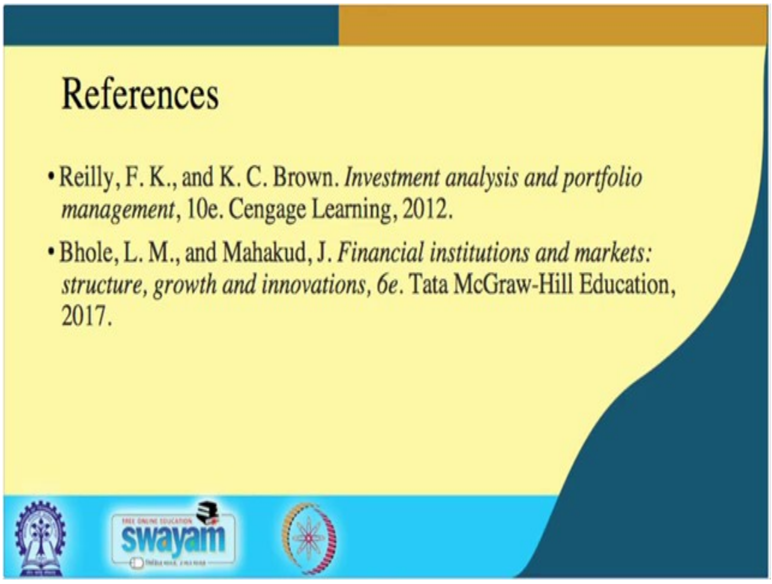

So, please go through these particular references for this particular session.

Thank you.