Financial Institutions and Markets

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

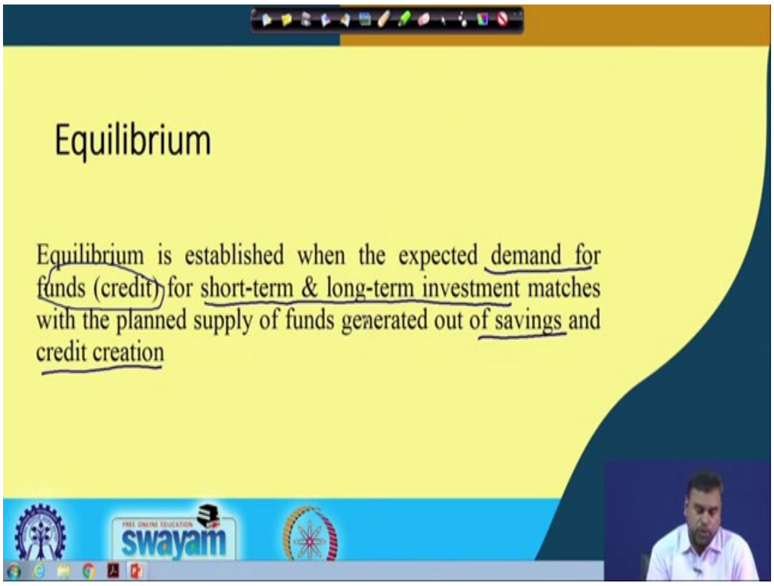
Lecture – 02
Equilibrium is Financial Markets

Good morning, in the previous class we discussed about the financial system as a whole and what are those functions of the financial system and also the structure of the financial system.

So, today we will be discussing about the equilibrium in the Financial Market. So, why basically we are discussing this equilibrium; if you see that whenever we are using the financial market for some specific reasons, either to maximize the return or to participate in the market in a useful manner. So, in that context we have to see whether really the market is in the equilibrium or not; if the market is not in the equilibrium then what happens? Whatever observations or whatever pricing we get it from the market; that may not be the actual reflection of the demand and supply forces what basically we should expect.

So, therefore we should ensure that the financial market should be equilibrium and if the market is in equilibrium then what will happen? Whatever things we are going to use in the market that will be better useful whenever practically we take the positions in the market and as well as we are using the market for some specific objective.

(Refer Slide Time: 01:45)



So, let us see that what exactly this equilibrium is and how this equilibrium can be defined. If you see the definition equilibrium is established when the expected demand for funds for short term and long term investment matches with the supply of the funds generated out of savings and credit creation.

If you remember, in the previous class we are discussing about certain issues related to the depositors or the savers and the investors; you see basically what here we are trying to see that the demand for funds is basically coming from the investors or the business community or the corporate sector and why they demand? They demand either for the short term reason or for the long term reason. So, the investment can be both ways; it can be a short term investment or it can be a long term investment.

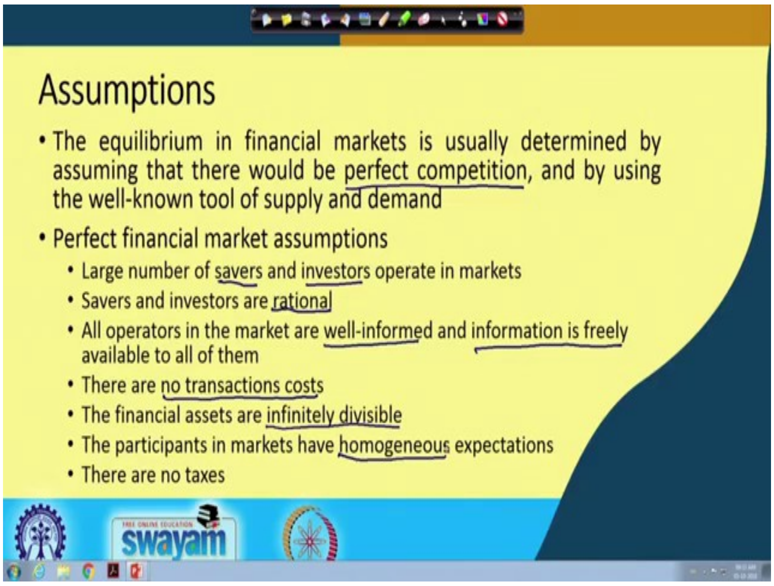
So, therefore this business sector demand for the funds and who is basically supplying the funds? The supply basically coming from the depositors in terms of the savings and already I told you that the banks are able to create the credit also even if the much deposits are not available with them. So, we should ensure that the total demand for funds and total supply of the funds should be equal.

So, if there is an equality between these two then we can say the market is in the equilibrium. Therefore, in general we can say that whenever we need money who is basically supplying and who is basically demanding. So, we should ensure the demand and supply should be equal and after you get that the demand and supply is equal;

whatever pricing is determined in that market that is basically a useful signal or useful indicator for signaling that the market is now useful or the price what would get it from the market is useful for our investment.

So, therefore, we should always ensure that those things are very much important to understand what exactly the equilibrium is.

(Refer Slide Time: 03:59)



So, then the question arises whether the equilibrium is always happening in all conditions or for the market equilibrium we should have a certain kind of condition or certain kind of idealistic condition where the equilibrium basically operates. So, how basically we can get it or what exactly that means?

You see whenever we talk about equilibrium we have to ensure that there should be a perfect market. If you see we are talking about the perfect market; so here if you ensure that is the perfect market or perfect competition. If there is a perfect competition then we should ensure that the market is now fit enough to arrive a particularly equilibrium point and whatever price we are getting it from that particular point that will be useful for the investor or the market participants.

So, as usual whenever we define this concept of the perfect competition; what do we have to do? There are certain kind of assumptions we have to ensure. So, what are those assumptions? We should ensure whenever the market is in the perfect condition or there is a perfect competition prevails in the market? The first one basically you see this large number of savers and investors. Why we say that large number of savers and investors? You see you take one example if in a market a few amount of the players are there, only one bank which is there to supply the funds and very few investors are there who can invest the funds in the market to generate to get some kind of returns.

So, in that context the bank will have the monopoly; the bank can decide that what kind of interest rate they can charge on them. And here this particular investors also has the monopoly to say that whether in that particular interest rate; they should get particular loan or not, but that does not prevail because the investor needs the money. So, whatever price this particular bank decides or whatever interest rate the bank basically suggests; the investor has to borrow the money in that particular interest rate and in that particular condition whatever interest rate or whatever price we get it from that particular market that is not an idealistic price.

So, therefore if there are more number of savers or let me give you another example whenever any product is sold in the market if there is a single seller; then whatever price they charge we are bound to pay that particular price. So, therefore the price what we get it from that particular point of time, the price is reasonably high and the producer or the seller always gets very high amount of the profit. But that is not the idealistic condition, but if there are more number of sellers for that particular product then what will happen?

Whatever price they will charge that price is basically reasonably is a profitable price, but it is not creating that much supernormal profit for them and for others who are basically using that product they get a fair price for that. So, you should ensure that therefore, in the financial market we should have large number of savers and large number of investors. And another thing you see the savers and investors are rational. What do you mean by the rationality? Whenever you talk about the concept of rationality; rationality means that in financial market we consider everybody wants to take less risk or everybody wants to maximize the return and all the investors of the market participants are risk averse.

That means, it is basically in general you can say if a is greater than b, b is greater than c; then a will be always greater than c, but the concept basically does not prevail in an idealistic condition or in the real market condition. But whenever we talk about the equilibrium we are ensuring that all the savers and investors are rational and everybody is risk averse, everybody does not want to take more risk, but they always want to maximize the return.

So, the savers think in a homogenous way and the investors also always feel that whatever thing basically we are going to get it from the market that will be idealistic or beneficial for me. So, therefore, savers and investors are rational that is very important in this case. And the third one is very important that all operators in the market are well informed and information is freely available to all of them.

I can little bit highlight on this. Why we say that for example, anybody wants to invest in a particular stock or in a particular company? So, whether that investor gets all the information about the company freely or some informations are free and some informations are not free; they have to pay for that or who are those market investors or market participants for that company; some of them are the big investors, some of them are the small investors; whether the information available to the small investors and big investors are same?

Or the big investor get more information than the small investor or some of the informations the companies are hiding. So, all kind of issues comes into our mind or comes into the picture whenever we talk about the information aspects for the particular market. So, here what we are ensuring? To make this market perfect or we can say that there is an equilibrium in the perfect market condition in that context we are saying that all participants are well informed and the information is freely available and we do not have to pay anything for that or whatever payment will be there that will be basically available to everybody.

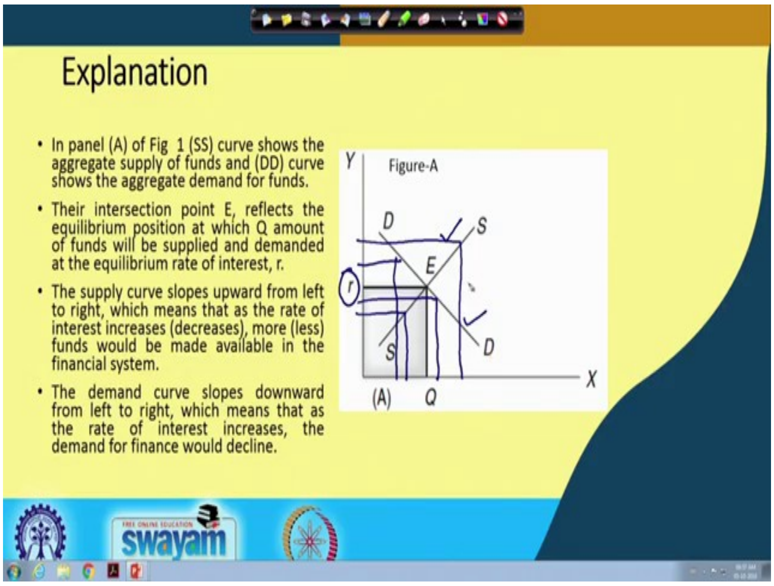
There should not be any kind of discrepancy; irrespective of the investor, irrespective of the market participants who are existing in the market at that particular point of time. Another the next assumption is basically the little bit unrealistic assumption; no transaction cost which does not prevail in the ideal market condition or the real market condition, but that is the assumption basically always we consider; we take whenever we talk about the assumptions in the perfect market.

And the financial assets are infinitely divisible what does it mean? That the assets which are available in the financial market; those assets should be available in different maturity. If somebody wants some assets which should be long term in nature, some assets should be short term in nature. So, here what we are assuming? Whatever assets are available; those assets basically can be divisible in the different maturity period.

So, the requirement of the investor can be fulfilled in terms of the time to maturity. So, that is another assumption that may not be practically sometimes feasible, but that is the assumption always we take to ensure that the market is perfectly competitive. Then the participants in the market have the homogeneous expectations; everybody's expectations about the market is homogeneous; there should not be any kind of heterogeneity in terms of the expectations level of the investor; everybody feels in the same way that how the market what kind of return they are expecting and how they are going to participate in the market all kinds of things is basically coming from.

That is why this market participants are homogenous that is the assumption we consider. And the last assumption what if you see there are no taxes; which again practically not feasible in the market context because always we have the tax which is available in the market. So, therefore, those assumptions cannot be considered in the realistic market condition, but that is the assumption what always we consider whenever we talk about the perfect market and the equilibrium conditions in the perfect market.

(Refer Slide Time: 12:47)



Then how we can define this? If you see; you see this is the basically the figure which talks about the equilibrium. And already I told you that the equilibrium in the financial market is nothing, but the interest rate.

So, in the X axis we are showing the demand and supply of the funds and in the Y axis basically we have the interest rate. So, if you see this is your demand curve this is your supply curve. Then obviously, the question can arise that why the demand curve is downward sloping and why the supply curve is upward sloping?.

You might have the idea about this, but if you understand why this demand and supply curve shape is look like this? The supply curve slopes upward from left to right which means that once the interest rate increases then more funds should be available in the financial system. Why? You see if your interest rate will increase, then the supply will increase if you see, but if the interest rate will decline then your supply will decline. Then why it happens? Because the interest rate if the interest rate will increase, more people will ready for savings; more people will go for the savings because they are going to get more interest rate or interest income from this.

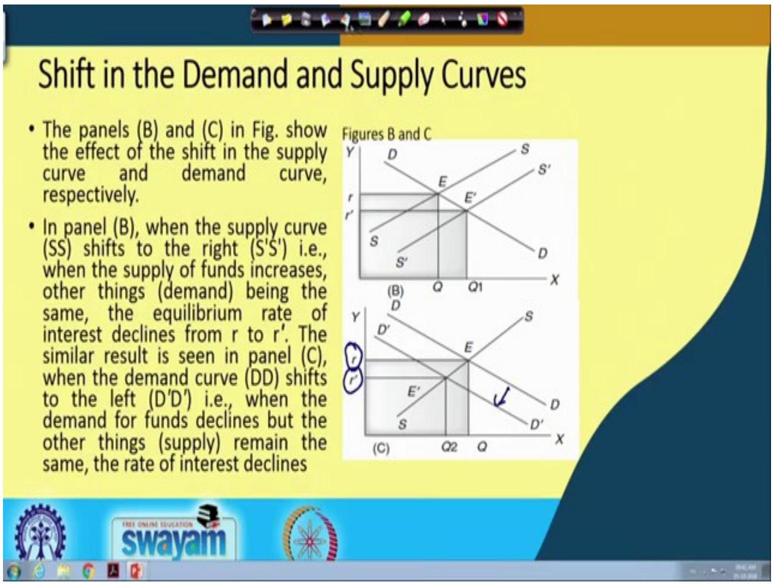
So, because of that what happens? They are trying to put the money in the bank in terms of the deposits and by that the amount of for the supply basically will go up. But whenever we talk about the demand side; if the interest rate increases then what will happen? The people who are if you see this one; if this is the interest rate then maybe the demand is this, but if the interest rate goes down this demand goes up. Then why it happens? This happens because in the lower interest rate if the loan rate loan interest rate goes down, then more people will be ready to take the loan.

But if the interest rate goes up then the demand for loans comes down and the basic source of basically investment is from the loan which is given by the financial institutions that already we know. That whenever; that is why the demand curve basically is going downward from left to right, the reason is are the interest rate increases; the demand for finance would decline.

Demand for finance means what do you mean? The demand is coming from the business units we need the some of the household units who wants to take the loan from the bank. So, here we are talking about the demand for finance which is basically given by the banks for specific uses. So, the supply side here the interest rate goes up; more people who wants to deposit the money in the bank because they are going to get more interest, but if the interest rate goes up in that particular point of time the investors or the business units may not be interested to take more loan because it will be costlier for them.

So, the cost factor will decide whether they should go for more loan or not. So, then what will happen even if the supply is there the demand goes down. So, therefore, we can ensure that the demand and supply curve basically looks in this in this particular shape; that is why this supply curve is upward sloping and the demand curve is downward sloping. So, then the next thing is basically what we are trying to see; is there any possibility that the supply curve and demand curve can move? For some specific reason and the supply and demand curve also can be shift.

(Refer Slide Time: 16:57)



So, if you see if the supply and demand curve will shift then a new equilibrium point is established that is affecting the price level.

So, if you see this the panel the figure B; the first diagram in this particular slide, you will find that late the supply curve shifts down; right ward. If the supply curve moves, the supply curve basically moves from this to this then what has happened? You see this once the supply of the point increases; if you keep the demand curve remain constant then what has happened? That the interest rate which was there in the r which has become r prime; the interest rate goes down; why the interest rate goes down?

So, now, the supply has increased, but nobody is going to take that particular money for the investment. If nobody is going to take that money for investment then what will happen? That will affect the interest rate then; obviously, they have to reduce the interest rate; if the interest rate will reduce then automatically what will happen? That will change the scenario and more people will be interested to take the loan and by that what will happen? That a new equilibrium point can be established and accordingly your interest rate will go down.

So, therefore logically if you see those; those things basically work in this direction. But another thing if you see that whenever we talk about the next diagram; if you see here we have kept the supply curve remain same and we have shifted the demand curve in this direction. Now here if you see what basically here we are trying to see? The demand curve shift leftward; what does it mean? The demand for funds decline, if the demand for funds declined why the demand for funds decline?

Because the investor or the people who wants to demand the money they basically find that the interest rate is higher for them. It is good for the supply side; that is what the supply curve is there; there is no change in the supply curve, but if the people feel that the interest rate is already high then the demand is basically not much so obviously, the demand will go down.

If the demand curve will go down then it will move leftward and whenever it has moved leftward; what has happened? If you keep your supply curve remain constant then you will have an equilibrium point which is r prime, then automatically the interest rate will go down. So, here what we have seen? If there is some kind of changes for some reason in terms of the demand and supply and interest rate which is nothing, but the price of that particular instrument in that particular market then what has happened? That is basically changing.

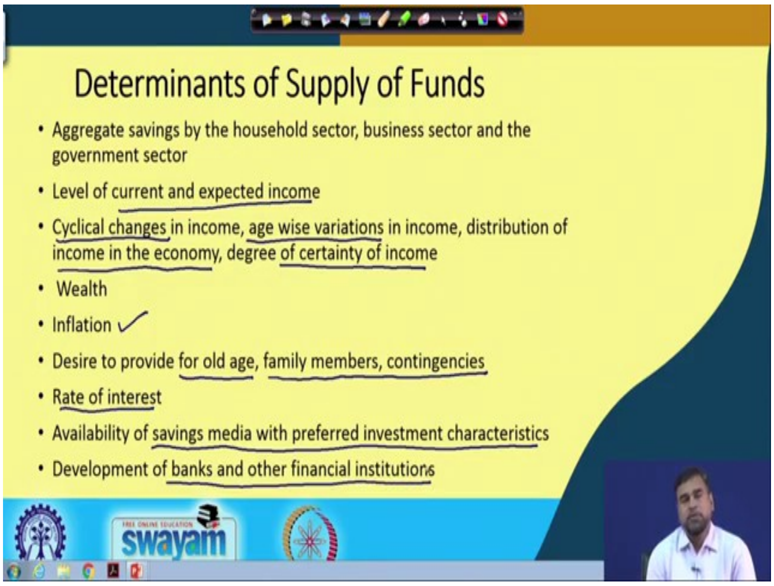
So, either you can keep your demand curve remain constant changing the supply or you can keep your supply curve remain constant and changing the demand curve; then accordingly what we have observed that the interest rate is going to be fluctuating; in both the cases the interest has gone down. But there are also certain conditions where the demand and supply curve can both change.

If the demand and supply curve both will change then what will happen? That the interest rate may interact or the interest rate may decline or interest rate may increase depending upon the relative change of the supply curve and the relative change of the demand curve. So, because of that either the interest rate will be kept in that particular equilibrium point or there is a movement in terms of the equilibrium condition that will be basically decided by the relative shift of the demand and supply curve in the market.

Then already I told you the demands basically coming from the people who needs money for the investments. Basically mostly the business units or the corporate sector and the supply is basically nothing, but the savings what the household sector does and whatever deposits we will have in the banks and banks basically supply that particular money for the investments.

So, if the interest rate will increase; the demand for funds will go down, if the interest rate will increase then the supply of fund will go up because the depositor will feel that they can maximize the return out of this. So, then what basically we can see that now we can move into the factors which decide that demand and supply of the funds in the market.

(Refer Slide Time: 21:49)



What are those factors? That why they demand for and supply of the funds changes in the market? If you see already I told you that the major supply of the funds is basically the household sector and the demand for funds coming from the business sector or the corporate sector. And business sector also saves and there are some government also is responsible for the savings.

So, the first most important factor which affect the supply of the fund is the aggregate savings by the household sector, business sector and the government sector. But the question here is you see the major source of the supply is coming from the household sector; business sector contributes to some extent, the government also contributes certain to some extent, but the major contributor for the supply of the fund basically comes from the household sector.

So, if there is some changes in the supply side the behavior of the consumer changes, the behavior of the depositor changes then obviously, that will affect the supply of the funds from the market. Supply of the funds to the market will be changed in accordance with in the changing behavior of the depositors or the market participants.

Then another thing is then what factor determines that? Why this saving behavior can change? The saving behavior can change due to the change in the income therefore, we have here the second point if you observe the second point basically we are talking about that is your current and expected income. So, the current income means whatever income you are earning and the expected income is basically how much income you can generate in the future.

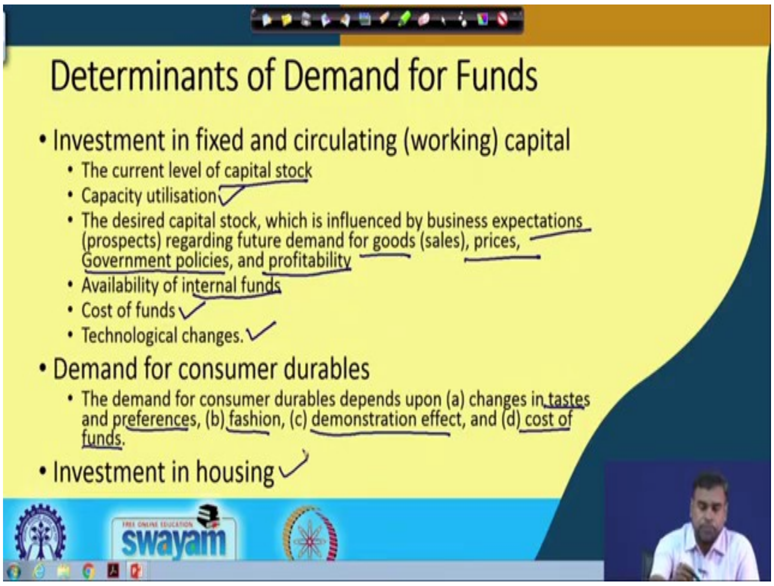
So, if you are expecting that you can generate more income in the future also your savings behavior may change. And if your current income has increase or decrease, your savings behavior may change. And sometimes also the income can change due to the cyclical behavior or cyclical variations of that particular income because in some period the income is more and some period the income is less; so, that is why cyclical changes is another factor.

Income also changes in accordance with the age, life cycle theory and the changes in the economy; distribution of income in the economy in terms of the different sectors and the degree of certainty of the income that how far what is the probability that income will be maintained. Then another factor also which affect that is your wealth what can be inherited and also you can generate in terms of the house, in terms of the buildings, in terms of the other real assets if you have.

Change in the inflation in the economy which affects the purchasing power; then what we you can also your saving behavior may change if you want to keep more money for the old age. And also for the precautionary motive you can keep some money for family members and some kind of contingencies can happen at any point of time; that will changes this deposit base of the particular individuals, change in the interest rate; obviously, that is the most important factor.

Then what are those other savings media; what are those other different alternatives which are available to save the money? And even if this last factor is important the reason is even if you want to save; you do not have the major organizations, where the money can be saved. So, the banks and other financial institutions also play the role whether the savings should be made or not. So, these are the major factor which basically affect the savings behavior which accordingly affect the supply of the funds.

(Refer Slide Time: 25:53)



And the demand for funds whenever you talk about; the first factor is investment in fixed and working capital which is the measure to investment basically the corporate sector does.

So, what are those factors basically determined this investment in the fixed and working capital? How much already capital you will have; that is the capital we are talking about the capital stock the first factor is the capital stock? How much utilization capacity you have to utilize the capital? Whether even if you have the capital whether you are able to utilize it or not? Then what about the future demand for the goods, what is the prospect of the business whether the business will grow up in the future or not and what is the price of the product how the price is going to be behaved?

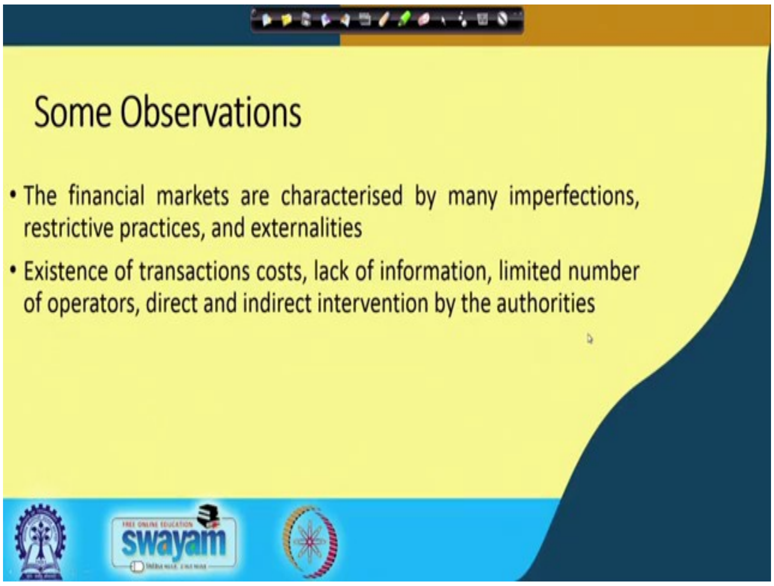
Then you have the what kind of government policies which is basically nothing, but tariffs, quotas, duties, taxation and all these things which are also important. Then another factor you have the profitability. If the company profit goes up, the demand for fund also will goes up because they want to invest more money to maximize the return. How much internal funds you will have? Internal fund means we are talking about the internal cash flow the return earnings.

And for investment they want to raise the capital from the market; so, what is the cost they are bearing? We will discuss more about the cost of the funds; how it is measured and all in the future sessions; then we have the technological changes, technology also affect the investments in the fixed and working capital.

Then finally, this you can also come to the demand for consumer durables. Peoples tastes and preference can be changed; new product they want to always use, fashion; the new cloths and everything which is coming to the market depending upon the fashion also they can change their consumer behavior or their investment or the spending behavior. Demonstration effect means if my neighbor is doing something; I may do that that also affect your consumption pattern as well as the saving pattern and; obviously, again for the cost of the funds.

So, these are the major factor, which change my behavior towards buying the consumable products. And finally, it will affect my savings behavior and finally, the demand for funds and the last one is another factor we have the investment in the housing. So, these are the major factor; which are basically affecting the demand for funds.

(Refer Slide Time: 28:39)



So, if so we want to conclude these things; we can have some observations related to this. Already in the real sense the financial markets are characterized by many imperfections restrictive practices and externalities. There is an existence of transaction cost that is taxation, there is information gap, there are also in some market; there are limited number of operators and the instruments used by the different regulatory bodies can be direct and indirect.

So, depending upon that the interest rate in the practical sense may not be only determined by these factors; there are some other issues also is playing the role whenever we talk about the determination of the price or determination of interest rate in the market. So, these are the different ways the equilibrium is defined, but in the practical sense you may not get to the equilibrium, but there is a chance of deviation from the equilibrium due to the different market imperfectness.

(Refer Slide Time: 29:33)

Please go through these particular references for this particular session.

Thank you very much.