Foundation Course in Managerial Economics
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Lecture - 10
Demand Supply & Government Policies

Welcome back to the foundation course in managerial economics. We started with the demand and supply framework and we have been discussing about elasticity, about demand supply framework and in the very beginning of this section on demand and supply I said that this demand supply framework is a very useful tool to understand lot of changes or disruptions or disturbances in the economy and any external impact or external shock that comes to the system of the equilibrium that can be understood through the supply demand framework and in this module, today's module we are going to see or we are going to apply the supply demand framework to understand certain policies of the government. So we are going to utilize couple of modules to understand different policies of the government.

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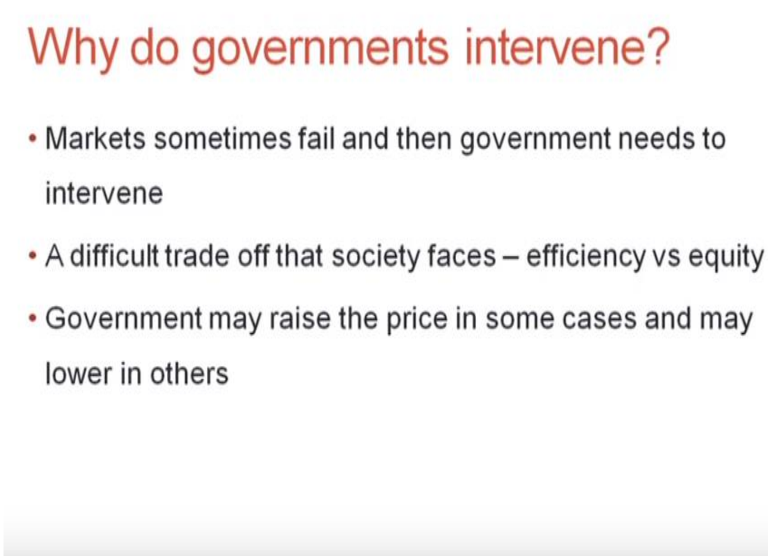

Now in the very first lecture when we discussed about the various principles of economics you might remember that there was in one of the principles was that market is usually a good way of allocating resources. Market usually allocates the resources most efficiently in the economy and then we went on to say that there are however exceptions.

Exceptions where markets fail and we said that although market is usually a good way of doing things where basically the supply and demand they match in the market and we get equilibrium price, we get equilibrium quantity and in the process basically the allocation the very scarce resources available in the economy they get allocated into producing what is demanded most in the market and into producing what the suppliers would like to supply in the market or have the ability to supply in the market most efficiently.

So this is what we discussed and then we went on to say that markets are usually a good way but not always and when are they not the best choice to allocate resources in situations where the market fails. That is that there could be situations where the market outcome is not desirable in the economy.

Say for example say India is a very hugely populated economy with lots of people looking for jobs and very high level of poverty; many people are poor they are hungry and they are basically looking for jobs and there are not enough jobs around. So in such a situation one might imagine that many of the people would like to work at a very low amount of wage.

Now what happens? So in the framework of demand and supply the market is going to clear at a very low level of wage where many people would be willing to work and obviously the producers who are going to employ these people will be very happy to give work to these people at a very low wage.

But then the question is, is this wage acceptable? Is this wage acceptable to society, to people in general, to the government because this wage could be so low that it may not be sufficient for even to maintain a subsistence level of consumption for the people. So in these situations the market clearance that is happening, the price quantity equilibrium that is reaching through the demand supply framework of the market is not a outcome which is desirable to us.

So in such a situation the government may intervene and we also discussed about other situations of market failure where we said that there could be externalities say for example there could be some pollution happening because of some production process which is not directly harming the producer or the consumer.

So neither of the parties is actually paying any cost or assigning any cost to that negative impact of the production process but maybe that production is generally in general it is harming the environment and the other people who are neither directly involved in the production or purchase of the goods they are not happy about it. So what happens? Who takes care of that cost that the economy in general is bearing because the production process is there.

So this is again a situation of externality where basically the government steps in and government imposes a tax on the producer or the consumer and says that see this basically the principle behind the tax is that the government is trying to impose a cost on the producer and the consumer of basically engaging in a production process which is harming the other people.

So in a nutshell government basically intervenes or is supposed to intervene where the market is failing and government usually is supposed to do a good job out of it and take care of the concerns that is happening because of the market outcome if it is left to itself. So as I said market sometimes fail and then government needs to intervene and this also comes from a very difficult trade off that the society faces.

We talked about this also in the first class. We said that the very difficult tradeoff that society faces is the tradeoff between efficiency and equity. We would like everyone to have similar opportunities similar access to resources similar amount of income so we would like that to happen in a society but at the same time what happens is usually all resources go to someone who is more efficient.

Efficiency attracts the resources and they are the ones who get richer. So this is another very difficult tradeoff that the society faces and the government often and the example of the wage that I talked about is a similar example is a similar example and so government may raise the price in some cases and may lower it in others.

So basically what we are saying is since lot of outcome market outcome in the economy is not acceptable or desirable to the society in general the government may step in and in certain situations government may raise the price through various means say for example the government can actually impose a tax say by increasing the and that that eventually raises the price for a commodity or the what the government can do is it can set a price floor or a price ceiling.

So is also what the government can do and in all these cases market equilibrium is disrupted so in all these cases market equilibrium is disrupted. So obviously what the government the price that the government is setting or the tax that the government is imposing is resulting in a outcome of price and hence a outcome of output produced and purchased which is different from the price quantity equilibrium that a free market is going to arrive at.

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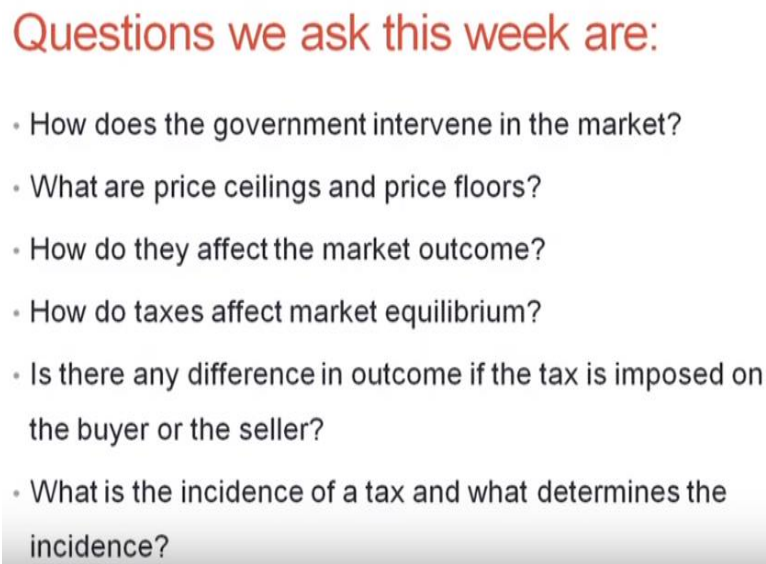

So I will explain through diagrams but before that so when we discussed demand and supply framework and we discussed the different policies through it the questions that we are primarily asking are how does the government intervene in the market. What does the government actually do and how does it intervene in the market.

Then already I mentioned these terms price ceilings and price floors. What are they? What are price ceilings and price floors and how do they affect the market outcome. I already said that the price ceiling, price floor, taxes which the government impose they are going to shift the market equilibrium elsewhere but how exactly does that happen and how do they affect the market outcome that is what we are going to see.

And how do taxes affect market outcome. Again taxes could be imposed either on the buyer or seller or even both so is there any difference in outcome if the taxes imposed on the buyer or the seller should the government have a preference who to tax, the buyer or the seller. What does that depend on? Does that depend on the kind of product it is taxing or is the government revenue going to be different if it taxes the 2 stakeholders differently.

So these are the questions that we are going to ask and what is the incidence of a tax and what determines the incidence? Incidence of tax means how much of the tax burden is basically shared by the buyer or the seller. How much if the government is imposing a tax what is the burden that the tax burden that the buyer actually ends up bearing or the seller actually ends up bearing. That is the incidence of tax and some people may think that that tax the incidence of the tax should be equal to the tax. We will see so what happens.

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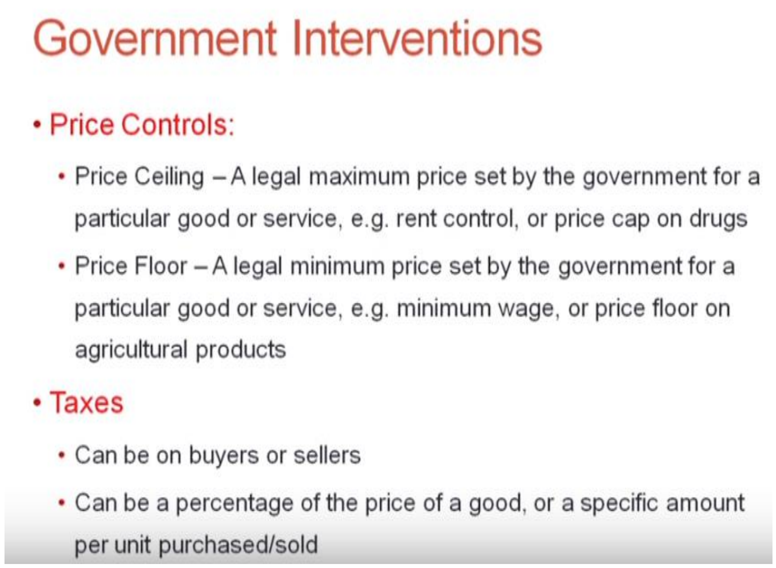

So these are the government interventions, the different kinds of government interventions. They can be much more complex and much more intricate government interventions but in this module we are going to discuss only about the price controls and taxes. So price controls can be of 2 types. One is the price ceiling. A legal maximum price set by the government for a particular good or service. For example rent control or price cap on drugs.

So price ceiling is basically the government says that the price of this product cannot go up beyond a certain level. So the government basically wants the prices to not go up too high and basically the government's objective is that this particular good or service should be affordable to most of the people. So that is probably the objective of the government and that is the reason the government puts a price cap or price ceiling on it.

Say for example rent control where government says that housing should be affordable to most people. So this is a rent control. The rent cannot go up beyond a certain level or price cap on essential drug, essential medicines. So the government says that the medicine should be affordable to everyone. Most people should have access to the medicines. So the prices of the medicines cannot go too high up.

So there are numerous examples of price control price ceilings rather. The government can also impose price ceilings on essential, in most cases the price ceiling is on essential commodities where basically the objective is that it should be affordable accessible to most people and energy, fuel these are also examples where the government all over the world governments have imposed price controls with objective that energy being the fuel for growth in a economy, in fuels a lot of industries, manufacturing units, and people's houses. So that is the reason that this is a very essential fundamental commodity which should be affordable and accessible to all people.

Another example is just the opposite which is the price floor. Price floor is basically the government is saying that the price cannot fall below a certain level. Price cannot fall below a certain level and price floor is defined as a legal minimum price set by the government for a particular good or service for example minimum wage or price floor on say agricultural products, price floor on say agricultural products.

So here the government is basically trying to protect the producer. It is trying to protect the supplier. So minimum wage I gave the reason earlier when I said that I am going to again illustrate the price floor with example of the labour market and price floor on agricultural product is also a very common example whether because of technological improvement etc. basically the farmer's production or yield out of a piece of land is increasing over days but agricultural product is such a commodity which is a essential product and to relate it to the elasticity we talked about in the previous class agricultural product basically if the price falls too much if there is a whole lot of production in the economy and price rapidly falls because there is too much supply in the economy consumption of the product is not going to go up too much.

Just in the previous class we talked about price elasticity and revenue and this is just to relate to that the price elasticity of agricultural food grain for example agricultural product they are very low. Low in the sense that if the price goes down too much people are not going to raise their consumption of say wheat or food grains etc.

So in such a situation what happens? If there is a bumper production of crops and if it is left to the free market prices are going to go down and leading to drastic fall in income of the farmer to so to basically to protect the farmers the government can impose a price floor where it says that okay price of wheat cannot go below this level even if the production of wheat is huge in the economy. So this is example of price floor.

Another instrument in the hands of the government to intervene in any kind of market equilibrium is taxes. Taxes it can be on buyers or it can be on sellers. For the same commodity the government can decide to tax either the seller or it can decide to tax the buyers and again taxes can be of various types and very this is a very common example that I am giving here can be a percentage of the price of a good. It can be the percentage of a price of a good or a specific amount per unit purchased or sold.

So physical quantity sold or purchased of the unit basically the government is charging a flat tax per unit of that output. So it can be of various types. So these are very broadly the definitions and examples of taxes and price controls. So let us first try to understand what happens in case of a price ceiling.

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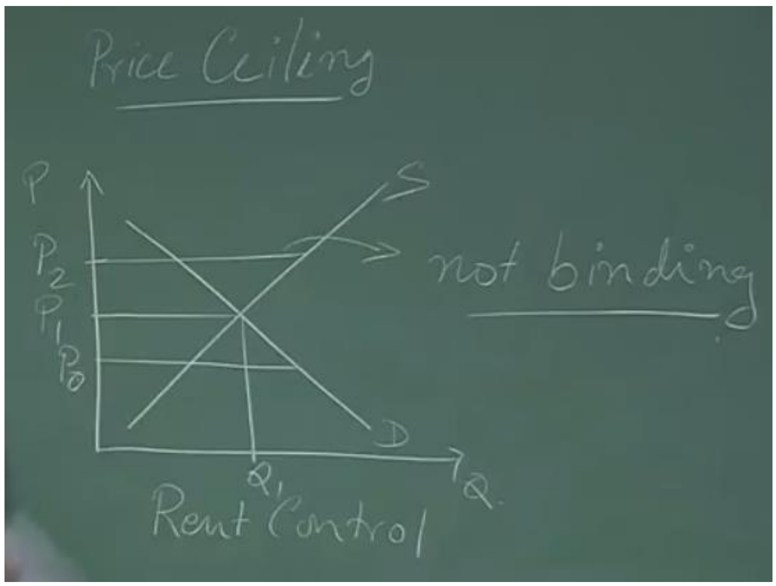

So let me say for example this is a price ceiling, say this is for rent control. Say this is example of rent control where there is a if the market is left to itself this is the demand for houses this is demand for houses for rent and this is the supply of houses which are put up on rent and this is the equilibrium price and equilibrium quantity or the number of houses that are up on rent and this is the equilibrium price.

Now what happens if there is a price ceiling? If there is a price ceiling now the market was clearing at a rent of P 1 and now the government says that this is too high or okay say for example okay the government says that the rent is too high it cannot go up beyond this that is P 0. P 0 is the max rent that you can charge in the market if you are a home own house owner and you want to put up your house on rent you cannot charge a rent which is more than P 0 or P 0.

Now what happens in that case? But before that what happens if the government says that P 2 is the price ceiling. What happens in that case? If the price ceiling is put at a price or at a level which is higher than the market equilibrium in that case this price ceiling is not binding. This price ceiling is not binding. Why? Because the market in any case is clearing at a level which is lower than the price ceiling.

So it does not matter if the government says that the highest rent that you can charge is P 2 but no one is actually or the market is not clearing at P 2. Market is clearing at a much lower level. So no one bothers if the there is a rent control which says that it has to be maximum P 2. So we are not talking about that part of the diagram.

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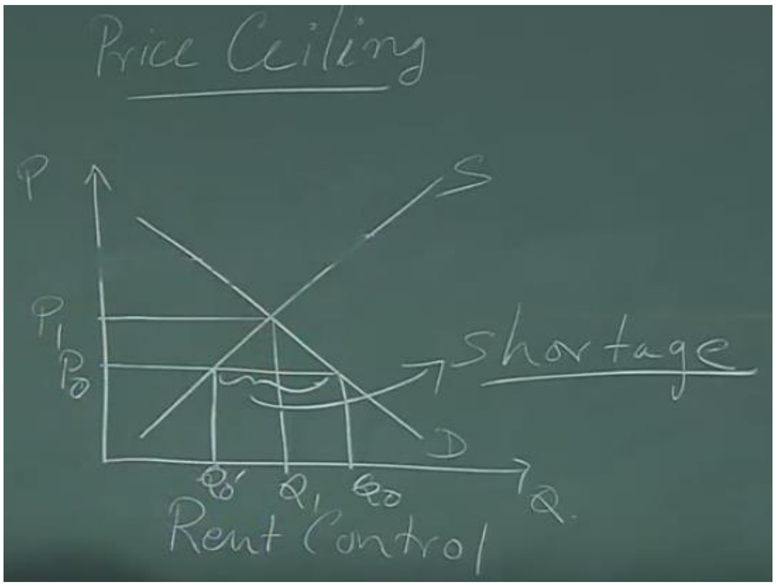

What we are really interested in seeing is what happens if the price control or price ceiling is binding, if the price ceiling is binding or the price ceiling is at a level which is below the equilibrium. If the price ceiling is at a level below the equilibrium then what happens? Now what happens in this case is since the rent, the prevailing rent in the market is too low lot of people would like to rent houses like they will be responding along the demand curve.

So along the demand curve if the rent is P 0, Q 0 amount of houses are demanded for rent. So this I the amount of houses which people are looking for. This is the amount of houses people are looking out for rent. But so what? Now if even if so many people are looking for rent how much is available in the market?

What will be available in the market will be as per the supply curve. So people who have put up their houses for rent in the market so they are going to only till here people who are willing to supply their houses on rent till the level of P 0, they will put up their houses up for rent in the market. So beyond these every supplier on the supply curve every supplier is seeking a price which is higher than P 0. So they will leave the market.

They will say that this this rent is too low. It is not possible for me to supply my house in the market. I do not want to put my house up for rent at this such a low level of rent so they will be out of the market and that will so basically now there are lot of people who are looking for houses in the for rent and very little people very little number of suppliers who are actually interested in renting out their houses.

So that will lead to a shortage in the market. That leads to a shortage of houses in the market. So basically what rent control is doing is it is reducing the supply in the market and it is increasing the demand in the market and thus creating a shortage in the market. So that then that is a problem. That is a problem. Okay and what is what is more interesting is this shortage is going to increase in the long run.

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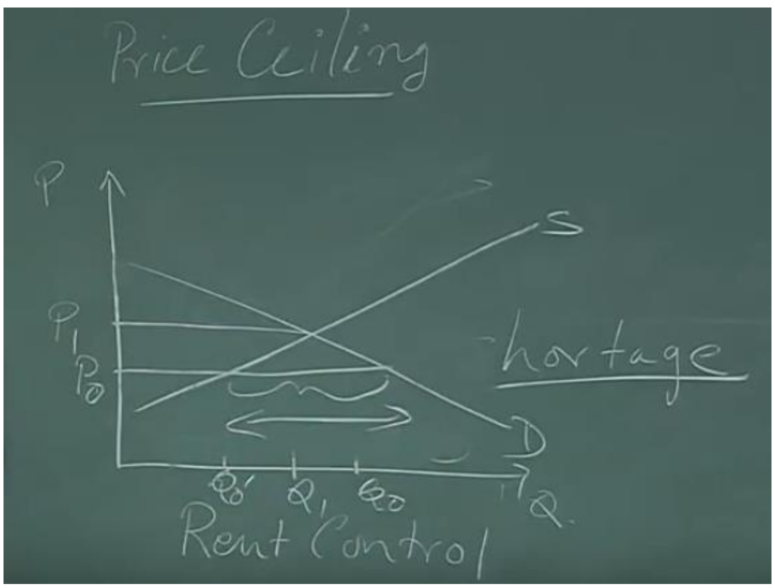

In the long run what will happen is this in the long run if you think carefully you will be able to understand that in the long run the demand curve is more elasticity and the supply curve is also more elasticity. So in the long run the supply curve is more elastic and the demand curve is more elastic and as a result because of the same price ceiling the shortage is going to increase, shortage is going to increase.

Now why is the demand curve and the supply curve flatter in the long run? The demand and the supply curves are flatter in the long run because people both buyers and sellers both groups of people they get more time to adjust. They get more time to adjust to the prices and they basically adjust their preferences.

Now in the long run people who are looking for houses. They are going to be really interested in renting houses because they know that the rents have gone down because people because government has imposed a rent control and government has fixed the rent at a very low level so more number of people are going to enter the market looking for houses for rent.

So they have a flat demand curve and in the case of the supply curve what happens is in the long run the many of the suppliers who were stuck with their houses for rent in the short run and could not take a quick decision or could not adjust their supply they gradually leave the market in the long run and more and more and more number of people who have houses which could be put up on rent they leave the market. May be they find some alternatives to their houses and they leave the market and they basically do not want to put the houses up for rent so in the long run they have a flatter supply curve and this policy so leads to increasing shortage in the economy for houses.

So this is what happens and this example can be this the similar argument we can have in case of say energy consumption also. Say for example if the government puts a price ceiling on electricity and says that you know like the electricity prices are cannot increase more than this. what happens?

In the long run suppliers will find it less attractive to supply electricity in the market so basically they reduce their capacity and they are not too much interested to be in the supply in the production of electricity and on the other hand since prices are too low of electricity consumers are going to adjust their demand and they will shift to more and more consumption of more electricity intensive consumption behaviour. So that is what they are going to do because they know that the it is cheap to consume electricity. So this is what happens. So what are the impacts of price ceiling?

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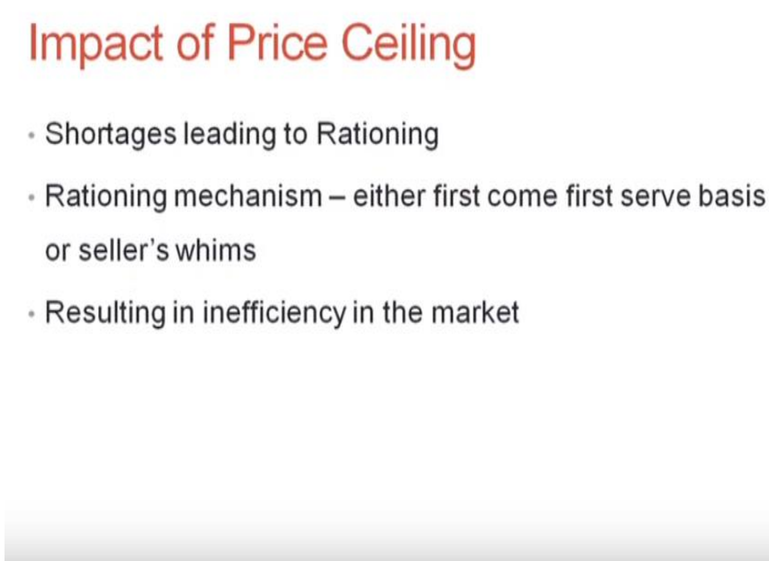

Now so the impact of price ceiling is basically it leads to shortages and whenever there is shortage how is this fixed amount is how is this little amount of Q 0 with so many people looking for houses or so many people looking for electricity and production only limited to this much as per the supply curve, how is that little amount of quantity to be distributed among so many people looking for the product because had it been a market equilibrium prices would have adjusted.

There would be a pressure on prices upwards and basically many people would be leaving the market. All these people would be leaving the market and prices would be going up and similarly more suppliers would be entering the market as prices would go up but that is not happening here. Here price is controlled. So there is no way price can increase so who is going to get this limited amount of production that is happening in the economy and that has to be some kind of rationing has to be there.

So how does the rationing happen? As we have seen in case of lot of rationing we are familiar in developing countries especially at the site of people queuing up in front of the say gas stations, in front of the petrol pump there people queuing up for the to fuel their tanks because basically the price is low and too many people would like to fill up their tanks.

So that is one way of rationing and another is at seller's whims. So if I like you I am going to rent out my house to you otherwise I am not. So this is so basically it depends on seller's whims or on first come first serve basis. So this results in inefficiency in the market. Why do I say that it

results in inefficiency in the market? It is because that a efficient outcome would be where all the people who are willing to pay at the market price they get the product.
But here all these people they are willing to pay a higher price but they are not able to pay a higher price and all these suppliers are willing to pay willing to produce at a higher price, they are not able to produce at a higher price so both demand is distorted and supply is controlled in the market and that is where lot of resources are wasted in the economy. That is these resources could have been put to production and that would have satisfied the demand of lot of people and lot of suppliers would be happy to sell it to the market at a slightly higher price but that is not happening. So that results in inefficiency in the market. So in the next class we are going to talk about price floors. Thank you.