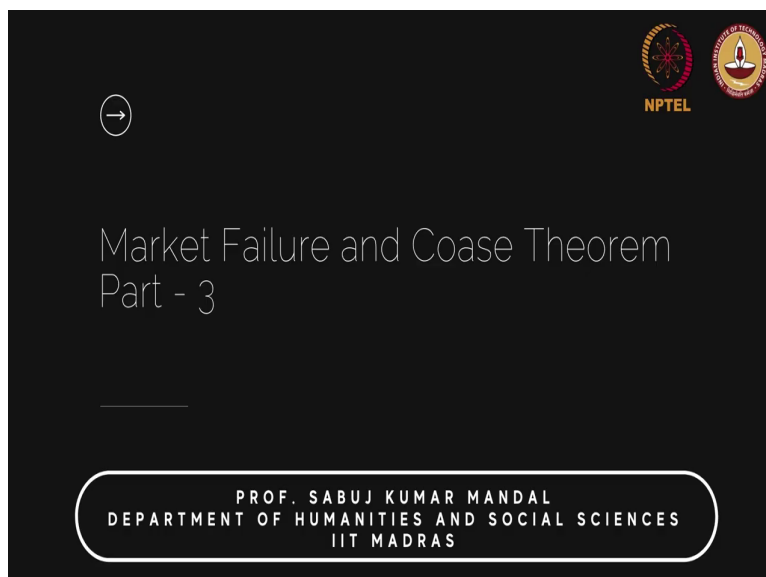


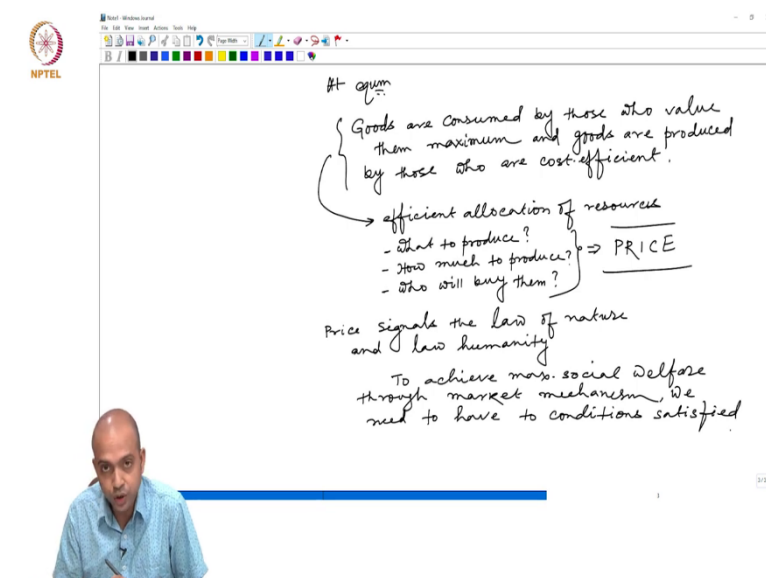
Environmental & Resource Economics
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Lecture 20
Market Failure and Coase Theorem Part - 3

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So, that means, what is happening at equilibrium?

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At equilibrium what is happening then? This is what is happening. Goods are produced, sorry, goods are consumed by those who value them maximum. Why I am saying this? Because if your valuation for the good is less than P^* , you cannot buy the product, you

have to simply exit from the market. So, that is why at equilibrium, goods are consumed by those who value them maximum. And goods are produced by those who are cost efficient. So, this is what is actually known as efficient allocation of resources. And that is actually the objective of the market.

Efficient allocation of resources, and why market is targeting that, to achieve maximum social welfare, that is the objective. So, that means, basically, market is deciding about three things, what to produce, how much to produce and who will buy them. These are the things market is trying to achieve. And how the market is achieving this? With its most powerful instrument, price.

So, price instrument is used by the market to decide what to produce, how much to produce, who will buy them, everything is decided by this price. Interestingly, this price instrument, it is most powerful. And what actually this price instrument does? Price actually signals the law of nature and law of humanities. This is very interesting. Price signals about law of nature and law of humanity.

Now, how price signals the law of nature? Because market is deciding what to produce and how much to produce. Resource is limited, but demand is unlimited. So, then price which is decided that the market that equilibrium price will tell, will inform, what to produce. If there is a demand for shirt then market will decide that at this point of time only shirts should be produced. How much?

Because you cannot produce n number of shirts, when the resource required for the shirt in terms of cotton and labor is limited. That is why, price actually signals the law of nature. Similarly, the law of humanity. What the society wants? What is the demand? If we do not know about the demand for the shirt it is meaningless to produce shirt because we could have produced something else to satisfy the society's demand.

So, that means, law of society, humanity and law of nature both are actually decided by this price. Price signals about the law. Price actually signals about the law of humanity, and law of the nature, that is very simple, that is how market is functioning to achieve this objective, is that fine. If market fails to achieve its objective then only there is a question of failure.

So, that means, throughout this discussion, what we assume that mean success of the market. So, that means, we can achieve maximum social welfare by relying on the market, if and

which he is not paying me anything. So, that means, even though I am the owner of the music system, all the benefits are not enjoyed by the owner rather it is enjoyed by someone else also for which he is not paying me anything.

Similarly, when I am smoking in a public place there is somebody who is also incurring the cost, cost of smoking, health cost. It is not only me whose health is deteriorating due to smoking, rather there is a set of passive smokers who are also incurring the cost, for which I am not compensating those.

That is why, if that is the case, then we cannot say that property right is well defined. Property right is well defined only when all benefits and costs are either enjoyed or incurred by the resource owner or the owner of the goods and services, that is the second property which is called exclusive.

Then the third, transferable goods and services or I will say that property right should be transferable so as to give an incentive to the owner to maintain its quality. Suppose, property right is non-transferable then the owner has no incentive to maintain the quality because he or she knows after my use there is no customers to whom I can sell this. Then, why should I maintain the quality?

But then the question will come, if I am the owner of the property then that should always be transferable. Is there any property on which the right is non-transferable, can you think of? Yes, there are properties on which are non-transferable. For example, if you buy an air ticket, and if you are not able to travel, do you think that you can transfer the right of that property someone else, and I can travel with your ticket, no. So, those property is actually non-transferable.

If that is the non-transferable, I have no incentive to maintain the quality. So, this is the third feature of property right to be qualified as well define. Then lastly, secure. Property rights should be secured also. If there is no security then nobody will own a product. Suppose, a shopkeeper is selling some products, but there is no security for him, anybody can come to the shop and take some products and go away, anybody can encroach anyone's property. In that setup, nobody will have any incentive to have a product to take in the market.

Who will give the security? The law and order of the government. Government has the responsibility to give the security. So, if it is not secure, then nobody will come for business.

So, these are the four features comprehensive, exclusive, transferable and secure, these are the four properties or four characteristics. If a property is having then only we can say that property right is well defined.

So, an well define property right is actually leads to the complete set of market. If market is complete in presence of well defined property right then in actually market can ensure efficient allocation of resources through the price mechanism, and that will ensure the maximum social welfare.

So, that is why economy sometimes they say, that market is the greatest discovery of humanity so far. Market is the greatest discovery of the humanities. Why this is so? Because we do not need any omnipotent, super powerful social planner to decide about what to produce, how much to produce, who will buy them, everything is decided by the market. When, market can use the price, when price can throw a proper signaling about the law of demand, and law of humanity.

But suppose, there is a case. So, an inability, that means, indirectly we can say inability or unwillingness to assign property right over each and every transaction leads to market failure. That means, just now only we decided that market will achieve its objective of efficient allocation of resources and thereby maximum social welfare when there is a complete set of market and property right is well defined, but sometimes, sometimes property right is not possible , is not always well defined.

Inability or unwillingness to assign property right over each and every commodity leads to market failure. And then, when there is not a complete set of market, market failure calls for government intervention. So, that means, when the market is not complete and the property right is not well defined and these are the two context of market failure.

Number 1, presence of externality, and number 2, market is imperfect. What is presence of externality? Presence of externality, it is not comprehensive, property right is not comprehensive. That means, when the activities of an economic agent involves a B standard, that means, a third-party for which the third-party has neither paid the compensation for any cost incurred by him or her nor the third-party is paying anything to the owner when the third-party is getting some kind of benefit, that is called presence of externality.

So, there could be two types of externality, positive or negative externality. All sorts of environmental pollutions, these are all examples of negative externality. That means, a firm is making pollution for which there would be a third-party who is suffering from the pollution, but the firm is not compensating.

Similarly, if there is a benefit, I have bought the music system, you are enjoying from my music system, you are not paying me anything to buy another music player. This is called positive externality. So, when there is a presence of externality, either positive or negative, then the property right is non-comprehensive and market will obviously fail, and government intervention is required.

Similarly, market is imperfect. That means, the market what we initially talked about with demand and supply is a competitive market where price is equivalent to the value. Price is decided from how much value we pay, as a consumer to the product. But when market is not competitive, when the sellers are having market power, then it is called imperfect market where price is not equivalent to the value.

Price is charged more than the value what we derive from the good. These are the two contexts where market failure happens. And in presence of market failure price signal is improper. That means, the signal what the price throws gives a wrong impression about the relative scarcity of the product.

For example, for most of the environmental goods and services there is no market, there is no market. What is the market for pollution? What is the market for clean water? There is no market. So, that means, we feel as a consumer or as a producer that these are all free. Since there is no market for clean air, the producer feels that clean air is free to enjoy. Market is not there, price is giving improper signal that the clean air is free that is why there would be a tendency of overproduction.

There would be a tendency of over consumption. Because what we feel that these are all free goods and services. Since there is no direct market, price signal is improper. So, the moment price throws improper signal there would be either over production or over consumption, and it will lead to market failure, it will lead to environmental degradation.

So, that means, when this sort of problem arises there is no well defined property right and market fails, government intervention becomes necessary. So, government will intervene and

try to solve environmental problem by imposing regulation. Before we discuss about the regulation in the context of environmental problems Ronald Coase long back, he said, since the problem arises due to absence of property right, actually, government intervention is not required if we can assign property right, either to the polluter or to the pollute, then also we can solve the problem.

Government intervention is actually not required. So, what we will do in our next session, we will try to discuss in detail about what is Coase Theorem, how does it work. After that only, we will formally discuss about all sorts of, all types of environmental regulation that the government or the policymaker will try to design and implement time to time. Thank you.