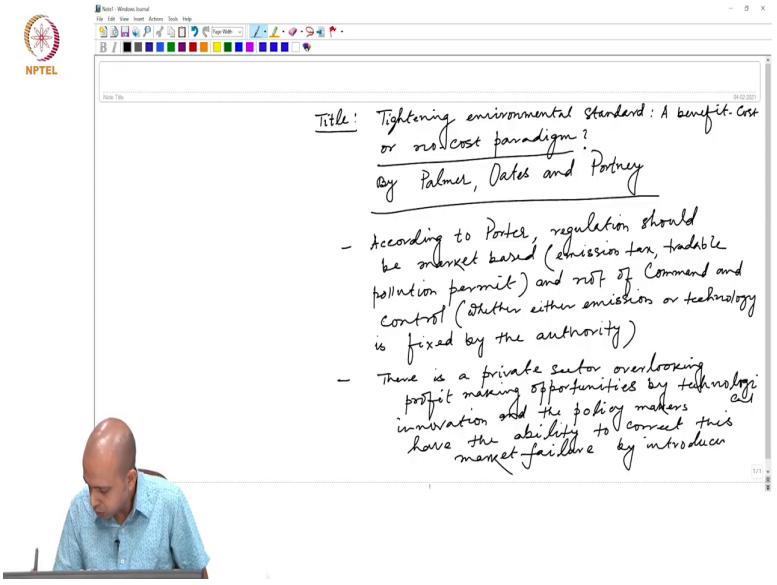
Environmental & Resource Economics
Professor Sabuj Kumar Mandal
Department of Humanities and Social Sciences
Indian Institute of Technology Madras
Daly's Operational Principle of Sustainable Development and Impact of Environment Regulation on Firm's Competitiveness Part 5

So, welcome once again, we were discussing about Impact of Environmental Regulation on Firm's Competitiveness. And yesterday, we talked about the Porter hypothesis, where basically he said that well design environmental regulation, if implemented properly, then that will lead to innovation and as a result of which, firms will get more output also, the lower level of pollution that means, well designed regulation will lead to a win-win situation.

And he has put forward several arguments to support his hypothesis and he also collected hundreds of case studies, over a dozen of countries to establish his claim. But, as we said, since his hypothesis was not based on a theoretical framework, later on the other group of economists, they have highly criticized Porter's argument and they also came up with an alternative theoretical framework to challenge Porter's idea.

(Refer Slide Time: 01:45)



So, today's discussion is again based on another journal article and the title of that article is tightening environmental standard a benefit cost or no cost paradigm. So, this is the journal article and it is written by Palmer Oates and Paul Portney. Now, before we come back to this Palmer Oates and Portney's argument, let us summarize the Porter's framework, what

basically Porter's say that firstly, the Porter suggested the kind of regulation which is basically market based.

So, according to Porter regulations should be market based like emission tax or tradable pollution permit and not of command and control type. What is command and control, where either emission or technology is fixed by the authority. Now, we will discuss later on, when we will discuss about the micro level scenarios, that a regulation is basically of two types one is called market based instruments, like emission tax and tradable pollution permit.

Where regulator's role is only to assign the tax and the firms will decide, how much to pollute based on the tax and that may lead to technological innovation also, because if the firm goes for pollution abatement by technological innovation, then they have to abate less amount of pollution. So, there would be some kind of cost saving, they can actually avoid this emission tax by improving their level of abatement, an improvement in their level of abatement is possible only through technological innovation.

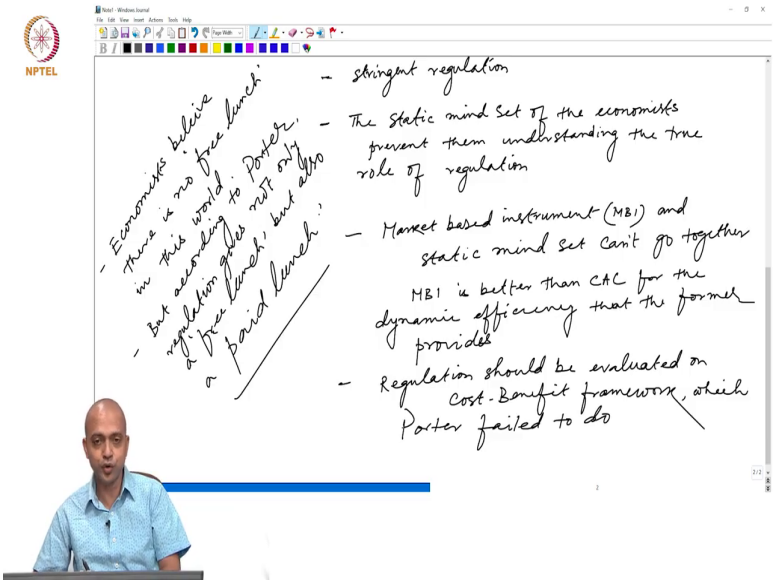
So, what Porter said is basically market based instrument, emission tax or tradable pollution permit and not of command and control type in command and control basically, either technology or the pollution level is fixed by the authority that means, they say that it is only 20 kg of CO_2 that you are allowed to emit or this is the standard, this is the technology all of you must adopt.

So, in command and control then, there is no flexibility given to the firms to reduce the pollution further, because 20 kg is the per ton of cement, even if I have an ability to reduce that 20 kg to 10 kg by technological innovation, I have no incentive to do that, because that is the thing.

Similarly, if technology is also set by the authority firms has, the forms they have less or no incentive to go for even better technology. So, basically then from this what we can deduce that Michael Porter actually by well-designed regulation, he actually meant the market based instrument, that is one thing.

Then secondly what Michael Porter also assumed that there is a private sector overlooking profit making opportunities by technological innovation and the policymakers have the ability to correct this market failure by introducing.

(Refer Slide Time: 09:29)



Stringent regulation. So, that means the private sector, they are continuously overlooking this profit making opportunities by technological advancement and pollution abatement and policymakers, they have the ability to correct this market failure by introducing stringent regulation.

So, stringent regulation will induce the firms to go for innovation and that will result in win-win situation and lastly, Porter also assumed that basically the static mind set of the economist prevent them understanding the true role of regulation. He assumed that since the group of economists they have a static mind set, where everything is already decided, they fail to understand the true role of the regulation.

They think that regulation is bad, regulation once imposed, that will only create a pressure and reduce the competitiveness of the firms actually that may not be the case. So, if you think, if you put regulation in a dynamic setup, then basically regulation will give opportunities for the firms to go for technological innovation.

These are the couple of points that summarizes the voters framework. Then, this Paul Portney Oates and Palmer, Palmer Oates and Portney what they said that, there is some kind of contradiction in Porter's argument itself. First of all, first of all the static mind set and market based instrument, Porter said the regulations should be market based.

So, market based instrument or MBI in short, market based instrument and static mind set cannot go together. That is the first point and the one hand Porter he himself suggested for

market based instrument and market based instrument is actually thought of by in the economists in the dynamics data, because policymakers role is to impose the tax, then over a period of time the firm will decide, how much to pollute based on the tax and they will decide what type of technological innovation to make.

So, when I am thinking that this tax is actually induce the firms to go for innovation, how can that be a static mind set. If at all the policymakers they have static mind set, they would have suggested command and control, because in command and control only everything is fixed, there is no dynamism, there is no flexibility given to the firms to improve their technology over a period of time.

But this market bass instrument like tradable pollution permits or emission tax, when we will discuss in later you will see that they are actually better, market based instruments are better than in then this command and control CAC. So, what they said that MBI is better than command and control, CAC for the dynamic efficiency that the former provides, MBI is thought to be better than command and control, for pollution control, because MBI gives a dynamic efficiency of pollution control, through technological innovation.

So, that means, at the one hand you are suggesting market based instrument. At the other hand you are saying that the neoclassical economists, they actually have a static mind set, then you Porter he himself had some kind of contradiction in his argument. So, that is what these Palmer Oats and Portney they first highlighted, this is the first point that there is contradiction in Porter's argument itself, market based instrument and static mind set cannot go together.

Because economists they realized that the market based instruments are better than command and control, because MBI provides dynamic efficiency, MBI is thought on a dynamic efficiency ground because it gives flexibility to the polluting in needs for technological innovation over a period of time. That is the argument what he suggested.

And secondly, Palmer Oats and Portney, what they suggested that economists generally think about appropriateness of a policy or regulation on a benefit and cost framework. So, that means, regulation should be evaluated on cost benefit framework, which Porter failed to do.

Michael Porter suggested environmental regulation rather stringent environmental regulation on the ground that regulation will motivate the firms to go for pollution abatement, but he has

not clearly quantified what would be the cost of that regulation, what would be the benefit of that regulation, he has simply said it will lead to innovation, what are the actual benefits of regulation.

Regulation, if at all motivates the firm for pollution abatement of course due to lower pollution level, the mortality and morbidity of the people will come down, then property value will increase that means land value will increase, so on and so forth. These are all the benefits, but he remained silent, almost silent about the cost of this regulation, in this world actually, nothing you can think of which is costless.

So, what Porter said, that there are n number of 10 rupees or 10 dollars 100 rupees or 100 dollars simply lying on the road and we have to just go and simply pick it up. So, while economists they say that in this world there is no free lunch, economist they believe there is no free lunch, free lunch in this world.

If you want to achieve something, you must give a price for that, there is no free lunch. But Michel Porter's argument, since he remained completely silent about the regulation it appears that regulation actually provides the society not only a free lunch but a paid lunch.

But according to, according to Porter regulation a regulation gives not only a free lunch, but also a paid lunch. What is the meaning of paid lunch, that means, you come to my home have lunch, then while going back, I will give you some money for coming and having lunch at my home, that is called paid lunch.

Why the lunch is paid in Porter's argument, because of more than fully offsetting behaviour of the regulation, regulation is leading to innovation that gives more output which more than fully offset the cost of regulation, cost of innovation that means, what Porter said that there is no cost for imposing environmental regulation, rather the lunch is paid, which is completely against the economist's view.

Wherein, they believe, economist's they believe there is no free lunch in this world. There is no free lunch in this world, whatever you achieve, you have to pay a price for that. So, because of these, why this has happened, because he has not mentioned about the cost, what is the cost of regulation.

So, this Palmer Oats and Portney then, they developed a simple framework to highlight the cost of regulation also and what was their objective, their objective was to show if regulation, if innovation was not profitable, before the imposition of the regulation, it is still not profitable, even after the imposition of the regulation, if you include the cost component carefully, what is the cost for technological innovation.

So, now, we will discuss that simple model suggested by Palmer Oats and Portney to challenge Porter's argument. Let us see what is the framework, simple framework that they have designed.