Lecture -127
Inverse Elasticity Pricing Rule

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So, we are going to look at the Inverse Elasticity Pricing Rule. What is this? So, remember we obtained MR is equal to MC, for the profit maximization and this is true as long as a firm is trying to maximize profit whether the firm is the monopolist or it is one of the firm operating in the perfectly competitive market. So, what we get that MR is equal to P 1 Q d P by d Q. So, marginal revenue is given by this expression for the monopolist.

Now, we can we have already done. So, what we can do is we write it as function of price elasticity of demand which comes out to be 1 by epsilon and this is equal to MC.

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$$\Rightarrow \boxed{\frac{P - MC}{P} = \frac{1}{|\varepsilon|}}$$

Perfectly elastic demand

$$\boxed{P = MC}$$
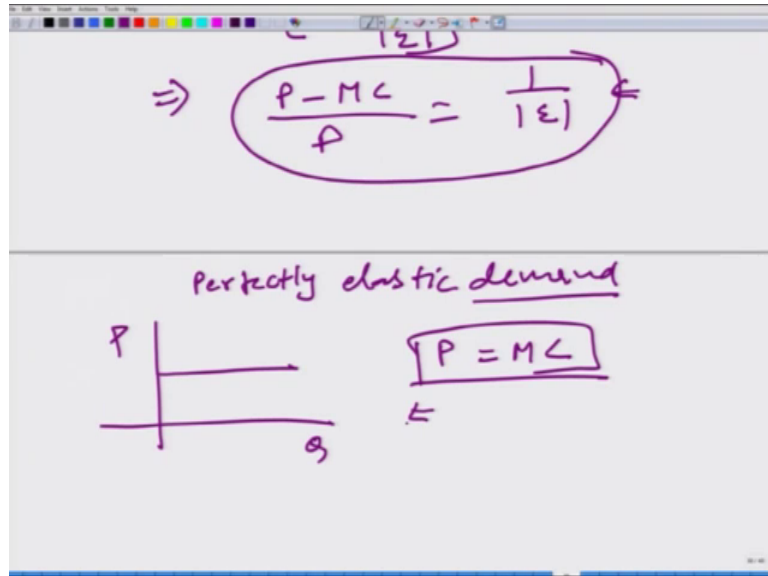
Now, to further rearrange it what we get is P minus MC divided by P has to be equal to 1 by the mode of price elasticity of demand. This particular equation is called IEPR; that is inverse elasticity pricing rule. Why? This rule is quite important; we will be would understand that the market power. And the market power just to remind you is the ability of the firm to price its product above the marginal cost. That is what the market power is.

So, this equation also determines the market power and we will come we will talk about it in a moment. But first let us look at this expression. When we have perfectly elastic demand what does it mean, that demand curve is horizontal and we are not talking about the demand faced by one firm like we were doing in the perfectly competitive market. Here, also it is the demand faced by one firm, but that firm is the only supplier in the market. So, this is also the market demand function ok.

So, what happens here, let us look at it, here epsilon is infinity. So, 1 by epsilon is going to be equal to 0. So, P would be equal to MC. So, monopolist a profit maximizing monopolist will have to price its product at its marginal cost. It means this firm even though this firm the monopolist it would not enjoy any market power ok. Of course, this is a theoretical construct in reality we do not see perfectly elastic market demand curve.

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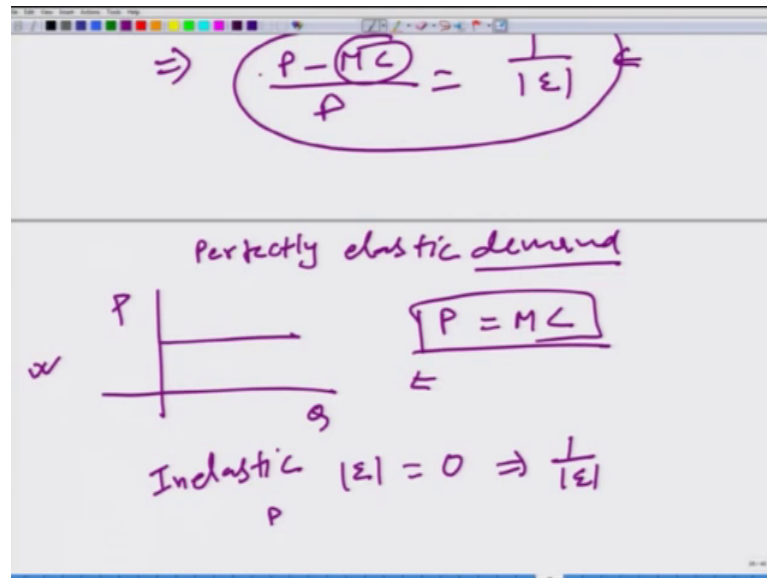
Now, let us look at another case, another extreme where the demand is perfectly inelastic. In that case, epsilon is going to be equal to 0. So, 1 by epsilon would approach infinity ok. In that case, P would be any value, P can be any value. The MC would not affect the pricing. So, what it means that in this particular case the firm would have market power.

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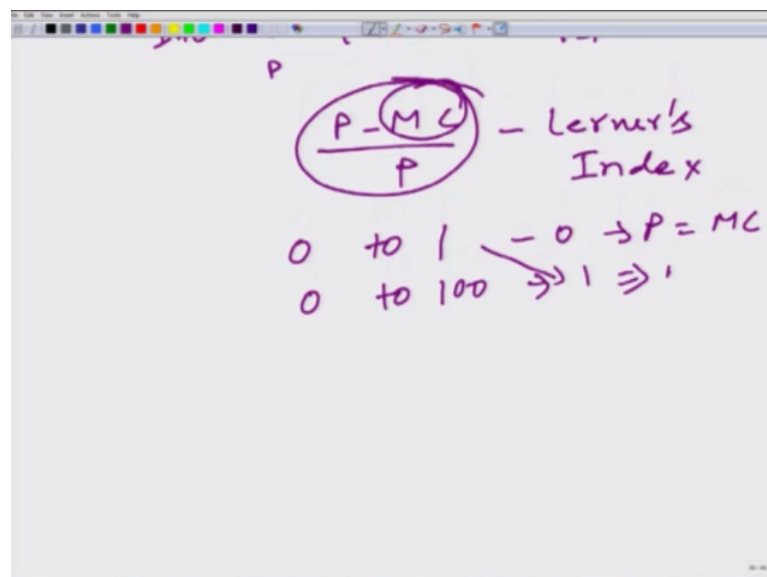
Now, let us look at the left hand side only, the left hand side is P minus MC by P. And let us not just talk about it in terms of the left hand side of the IEPR; this has a special name,

this is also called Lerner's Index. And it indicates as it should be clear from the discussion so far, that it indicates the market power.

So, this should vary between 0 to 1; also one can think if you allow it in the percentage term from 0 to 100; what does 0 mean, that P has to be 0 implies; P has to be equal to MC, it means the firm has no market power. And 1 or 1 or 100 means that. So, 1 or 100 means that this MC plays no role, that is the maximum value it can take very high market power. Let me, also go back and see whether let us check for inelastic. So, it is 1 by 0 infinity. So, that is it about IEPR and Lerner's index.

Thank you.