Foundation Course in Managerial Economics
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Lecture - 29
Public Policy and Regulation

Hello and welcome back to our last module in monopoly. We discussed in the last class that there is considerable efficiency difference between a monopoly outcome and a competitive outcome. And we saw that the monopolist if the monopolist is able to price discriminate it can increase its output and it can charge prices differently to different consumers.

So a price discriminating monopolist behaviour is at least better than a monopolist who charges the uniformly same price to all consumers and hence ends up producing less amount of output in the economy.

So today we are going to discuss what happens when there is regulation of public policy. That is the government intervenes. So basically the government knows that a monopoly outcome is not desirable because the full potential amount of output is not getting produced in the market so the government may like to control a monopoly outcome.

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Public Policy and Regulation

- The monopoly outcome is less desirable than the competitive outcome since $P_M > P_{PC}$ and the $Q_M < Q_{PC}$
- Hence, the government tries to "maintain market competition by regulating anti-competitive conduct" by firms
- India has the Competition Act (2002) replacing the old MRTP Act (1969)

So what does the government do? The government can go for some public policies or it can decide to regulate the monopoly. So the monopoly outcome is less desirable than the competitive outcome since the price charged by a monopolist is more than price that gets charged in a

perfectly competitive market and a monopoly output is less than the amount of output that gets produced in a perfectly competitive market.

So the first point however should indicate that when we say P M and P PC they are not they may not be strictly monopoly and strictly price perfect competition outcome. What we mean by the first point is whenever there is some amount of market power with the seller the price is going to be more than competitive outcome and quantity is going to be less than competitive outcome.

So that is what that is the difference or that is the difference that market power brings to the market outcome. So coming back to the slides. Hence the government tries to maintain market competition by regulating anti-competitive conduct by firms. So hence the government strives to keep competitive environment in the market so that competitive outcome is achieved in the market and consumers get lower prices and higher amount of output in the market.

So when we discussed perfect competition you may remember that I had said that although perfect competition is a is not realistic we do not have absolute perfect competition in the real world. Yet the competitive outcome is important because it increases output it improves efficiency in the market it implies lower cost and lower prices to the consumers. It implies production at minimum cost or implies highly efficient level of production and hence a competitive outcome is highly desirable for the consumers in a economy.

So hence the government tries to maintain market competition by regulating anti-competitive conduct by firms and India has the Competition Act of 2002 replacing the old monopoly and restrictive trade practices act of 1969. So quickly although we are not going to go into the details of the competition law or why it is there in place etc.

But let me quickly just tell you this that the competition act has replaced the MRTP Act because the MRTP Act according to the ARTP Act monopoly per se was bad but now at least it has been recognized that monopoly per se is not bad. There are situations where a monopoly outcome or a monopoly monopolistic production actually brings about better efficiency and lower prices to the consumers.

How is that possible? If you remember in the last class we discussed about natural monopoly and in case of a natural monopoly the market outcome is better than too many firms existing in the market in which case the firms basically operate at very high cost and they cannot sell their products at lower prices to the buyers.

So in cases of natural monopoly it makes sense to have a single seller in the market. So hence MRTP Act has been abolished and we have the competition act which basically promotes competition in the economy than trying to remove monopoly in the economy.

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Regulation

- The government sometimes may regulate the prices that the monopoly could charge for the welfare of the consumers
- So the government may pressurize the monopoly to produce at the competitive level of output and charge a competitive price
- For natural monopolies, MC<ATC so P cannot be equal to MC
- So instead of MC pricing, average cost pricing is followed by the regulator or the government subsidizes for the losses

So coming to regulation, regulation is basically where the government exercises its power on the market and government basically says that any monopoly which is operating in the market it should not exploit the consumers in the sense that it should not charge too high prices especially say for say imagine a situation where the monopolist is either a natural monopolist where the monopoly is selling something as necessary good like say electricity.

So that is a natural monopoly and there if the monopoly outcome implies very high prices and low amount of output is produced in the market compared to the competitive outcome then it is not very desirable for the economy.

Secondly say for example the economy is a monopolist is selling something like medicines. It is a lifesaving drug that the monopolist is able to sell because it has a patent but at the same time it charges too high a price and so the drug is not affordable to the consumers. So in such kinds of situations it is possible for the government to step in and regulate the prices that the monopolist can actually charge in the market.

So coming back to the slide so the government may pressurize the monopoly to produce at the competitive level of output and charge a competitive price. For natural monopolist marginal cost is less than average total cost so price cannot be equal to marginal cost. So instead of marginal

cost pricing average cost pricing is followed by the regulator or the government subsidizes for the losses. So let me explain this through a diagram on the board. So as I said the first two points are understandable but what happens in case of a natural monopoly?

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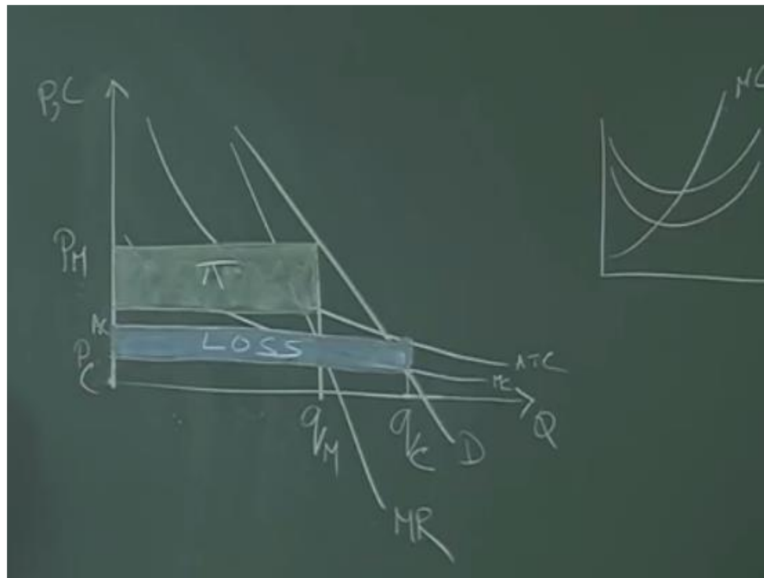

So say in case of a natural monopoly if you may remember from the earlier lectures so if you may remember from the earlier lectures that in we said what is a natural monopoly? A natural monopoly has very high fixed cost. Hence for the natural monopolist the average total cost looks like the average fixed cost and for a very huge amount till a very huge amount of output is reached, marginal cost is lower than the average total cost.

So let us so it looks something like this and marginal cost also goes on like this. So this does not mean to say that marginal cost is always lower than the average cost or it does not mean that this monopolist does not have the typical cost curves that we are familiar with that this is the average variable cost, the average fixed cost and average total cost and this is marginal cost. So this figure does not mean to say that we do not have a U shaped curve.

What this means to say is this goes on for a very huge amount of output till it is produced and then the marginal cost is going to intersect the average cost at the minimum point. So for till a very huge level of output is produced this is what the cost curve looks like to the producer and this is the very reason that it does not make sense to have too many firms in the economy because the amount that will be produced will be so small that the cost will be extremely high for the seller.

So this is a natural monopoly case and we have the say for example we have the demand curve, this is the demand curve and we have the marginal revenue curve. So we have the demand curve and this is the marginal revenue curve. So marginal cost intersecting the marginal revenue this gives us the equilibrium output q M is produced by the monopolist and it charges a price of P M. It charges a price of P M and what is the cost to the firm?

The cost is average cost at q. This is the cost to the monopoly, natural monopoly. So this is the cost to the natural monopoly. So green area is the huge amount of profit that the monopolist is incurring. So the monopolist is getting a huge amount of profit equal to the green rectangle and so the and the output is q M and price is P M.

Now what would have been the competitive output? The competitive output would be where marginal cost intersects the price line. But before that say the government is not happy with this amount of output. Say it is something a necessary good. Say it is electricity and electricity production more the better in the economy for the benefit of the economy and lower the price is it is better for the economy because it is a necessary input in most production processes.

So if you leave the power generation in the hands of a monopolist and it controls output to q M charges are high price P M this is not at all a ideal situation which the government would like to continue. Or say for example it is not electricity say for example it is something like a essential drug and this monopolist has a patent over the drug because of which it is a monopolist and it exercises and its cost is, why is the cost like this because he has say for example he has amortized the what we call sunk cost in the previous classes instead say he is treating the cost of inventing this drug as fixed cost and he spreads it over the output for all the periods to come.

So his fixed cost is very high and he decides I am going to produce only this many amount of medicines in the market and charge a very high price but say it is a lifesaving drug and the government says that no you have to produce a higher amount of output. So then what happens? So if the government would like to regulate this regulate the production of this drug or say electricity the government might say that you have to produce a competitive level of output.

What if the government says that you have to produce a competitive level of output in that case the production has to be where the marginal cost equals price. So competitive outcome will be let me call it q C is where marginal cost equals the demand line or the price line. Now what happens here? So lot of output is produced which is q C is much higher than q M. What is the price that is that the monopoly gets to charge? It charges a price over here P C.

But is it feasible for the monopolist to continue in this market if it charges a price P C? No because at q C the average cost is much higher than the price. So the basically the monopolist is facing a loss. So the monopolist is facing a loss. So this is his cost. So the monopolist faces a loss equal to this blue rectangle. So this is the loss that the monopolist will face if he is if it is directed by the government to produce at the competitive level of output.

So this is loss and this was the profit in the earlier case. So this is the loss that the monopolist has to incur and how does so if it is a loss then the monopolist is going to just shut down his production and say that I am leaving the market. I cannot produce at this produce this amount of output and incur such a huge loss.

So what are the options available to the government? What the government can do is government might say that okay I will subsidize you for these losses. So one option that is available to the government is government may pay the monopoly this blue rectangle or cover for the losses and force the monopolist to produce at q C and charge a price of P C.

But that is not again a very desirable output because where is this subsidy going to come from. It is going to come from taxes to be paid by the people. So they may not like it and it is not a very desirable output. So the next thing the next option that the government usually exercises is the government says that let it not be marginal cost pricing that is you need not keep your price equal to your marginal cost, keep your price equal to your average cost.

So that is called average cost pricing and the government says that okay fine you are allowed to charge a price along your average cost where average cost is equal to the price that you charge. So you can charge a price slightly higher so this is the price that you get to charge and you produce a output which is slightly less say q C1.

You produce a output slightly less but it is still much higher than the monopoly output. So this is what the government can do and say that so instead of marginal cost pricing average cost pricing is followed by the regulator or the government would subsidize for the losses. So this is the second option that the government has and what is the third option?

The third option is the government might say that please go for price discrimination. Please go for price discrimination and charge you may charge higher prices say for example peak load pricing in case of electricity. So you get to charge higher prices to say industries who consume a lot of power and during the peak time of the day and so you can charge high prices to them but

you have to charge low prices to other consumers say households. So this is the price discrimination is one option that the government may give to the monopolist.

So these this was our discussion about regulation and thirdly what else is possible to control so if the government is not government is wary about any market being in the hands of a monopolist because it knows that the quantity is going to be less and price is going to be more. In those situations the government may own the monopoly. The government may say that let this be run by the government so that public welfare is the topmost priority for this producer and it becomes a public ownership of monopolist.

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Public Ownership of Monopolies

- Example – the postal service or railways
- Not always efficient as absence of profit motive can result in inefficient production choices

So the examples are the postal services or railways. As I said in the earlier class, in India we have the postal service is a monopoly which is by the government. The railway is a monopolist. So however this is public ownership is not always efficient as absence of profit motive can result in inefficient production choices.

So what happens is in case of postal service or railways the government may being a extremely benevolent government may try to produce a competitive level of output here and incur a lot of losses which are covered from the government revenues but since it is already known that the loses will be covered so the efficient production choices may not happen.

Efficient production choices may not happen and since there is no profit motive probably the efficiency is compromised in case of a public ownership of monopoly which may not happen if the monopoly is monopolies has a profit motive and is under private ownership where there the

profit motive basically leads to the incentive to reduce cost and hence earn higher and higher profits.

So this was about this entire week we have discussed about monopoly and we have seen that the monopolist has a the output and price combination that the monopolist can decide on is slightly tricky for the monopolist because he has to not only decide the level of output he has to also decide the level of prices. However the monopolist knows the demand curve. It has an understanding of the demand curve.

So it respects the demand curve and after deciding on the profit maximizing level of output it decides its price on the basis of the negatively sloping demand curve and hence he decides on the price and output and he has to always be concerned about a negatively sloping marginal revenue curve because when he produces an extra unit of output his price basically goes down and there is a tradeoff between the output effect and the price effect.

And we also saw that from the unlike the perfectly competitive outcome in case of monopoly outcome there is some amount of deadweight loss or there is some efficiency loss and welfare loss in the market and which can be corrected through price discriminating price discrimination where efficiency level or total welfare in the economy is exactly same as the perfectly competitive outcome but consumer surplus is completely wiped out in favour of producer surplus.

So if the economy is indifferent between a producer and a consumer in that case the price distributing monopoly outcome is exactly same as the competitive outcome and we also discussed different examples of price discrimination where basically the supplier looks at price sensitivity of different categories of buyers looks at their demand curve of different categories of buyers at different time periods of buying the product.

And this is how any supplier any producer with some amount of market power he could price discriminate across different consumers and since monopoly outcome is not as desirable as competitive outcome we also discussed that the government may like to step in to correct the inefficiencies of monopoly outcome or basically to improve the welfare of consumers so that consumers get more supply of the output at a lower price so the government can have different kinds of policies.

One is the government by law tries to create a level playing field for all kinds of producers in the market so that a competitive environment is created in the market to encourage more and more producers to produce and sell the same commodities through the competition act.

And secondly the government may like to regulate the monopolies in case of specially natural monopolies the government may direct the monopolist to produce at produce higher level of output than a monopoly output and charge lower level of prices. This the government can achieve through either subsidizing the monopolist or going from for average cost pricing or asking the or allowing the monopolist to go for price discrimination.

And the another option that the government has is it basically controls the monopoly as a public ownership where instead of profit maximization output maximization could be the objective of the monopoly firm where it is the objective is not profit maximization but output maximization so that the necessary output is provided to all kinds of buyers in the economy.

However this is criticized because since profit maximization is not an objective it could lead to a lot of inefficiency in producer in the in this kind of monopoly and the cost could be too high which finally at the end of the day would have to be borne by the government from the taxpayers money.

So in the following week we are going to discuss about monopolistic competition where it will be somewhere the market will look somewhere in between perfect competition and monopoly where there will be lot of buyers but at the same time each of the lot of sellers at the same time each of the seller has some amount of market power because the product that he is selling is slightly different from the products of his rivals in the market. So this monopolistic competition we are going to take up in the following week. Thank you.