International Economics

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Good afternoon. So, we will talk about one of the instruments of trade policy that is tariffs today. And we will see the impact of the tariffs, when it is imposed by the large country. Large country is defined as the one, where by by its trading it can have an impact on the world prices. What are world prices? World prices are the prices, which are determined whenever world demand is equal to the world supply.

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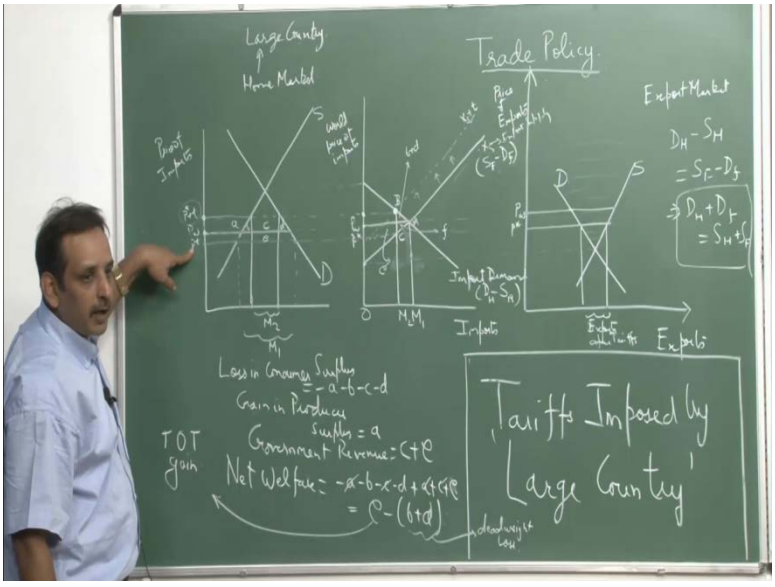

Now, please recall from the last lectures discussion on the on the home market. We have the demand curve, we have the supply curve, and now we this home country is a large country. So, the export supply curve that it faces is not horizontal as we had seen the case when tariffs were imposed by the small country.

The export supply curve that it faces, that is the large country is upward slope. You have the import demand curve, you have the an upward sloping export supply curve, and look at how export supply curve is made. If you look at this particular point, where imports

are zero, but you have this the world price of imports, look at the exports supply curve, this starts from the intersection of the demand and supply curve in the export markets.

So, higher are the price of the exports larger will be the exports from this country this is depicted by the export supply curve. Import demand curve look at this the importer is the home country. This starts from this point as the price of imports go down the imports go up this is depicted by the import demand curve. So, you have an export supply curve you have an import demand curve, wherever they intersect this is the world prices denoted by P W.

So, import demand is D H minus S H, export supply is export supply is S F minus D F. So, wherever import demand is equal to the export supply the prices, which determined this. That is wherever world demand is equal to world supply that will give you the world prices.

So, these are the world prices which prevail before, tariffs are imposed. So, P W is the world prices, which are prevailing and. So, the imports are m one. So, this producer is producing that same homogenous product. And if he tries to charge a price higher then P W no one will buy it from him. So, every producer faces a demand curve, which is like this is the demand curve. So, every producer then has to decide how much he would produce in the market. And that will depend on his marginal cost curves. So, this is also his demand curve which is perfectly horizontal.

Now, you see a situation, where for various reasons this country imposes tariffs. We have already discussed about their various reasons why a country imposes tariffs. For revenue reasons for safeguarding, their own industry for negating any competition from outside. For promoting domestic industry and if, you would also see that another reason that you impose tariffs is that it increases, the terms of trade the terms of trade goes up.

So, for various reasons this country imposes a tariff this is a large country. Like the u s Brazil Argentina India china it imposes tariffs. So, when a large country imposes tariffs, the foreign exporters would see it as a tax which is been imposed on their supplier. So, the supply curve will shift up. So, look at the supply curve it shifts up. So, the prices which prevail in the domestic markets would in this case be equal to P star plus T.

It is different from the case of the small country where the increase in domestic price was equal to the increase in the tariff rates.but here there is something else happens because this is the price which prevails in the home country, the net amount which the foreigner gets is bereft of the tariffs. The foreigners do not get the tariff revenue it is only the government in the home country which gets the tariff revenue.

So, the price that he gets the foreigner the exporter gets is P star this is the price that the foreigner gets. So, the domestic prices after tariffs will be P star plus T. It is less than the increase in tariffs, which is T. So, the domestic price which prevails is P star plus T in the home country. Now think of this in this fashion. I am the exporter you are an importer, you impose tariffs the only way that I can enter your country is that if I reduce my prices then only. So, if the price of exports goes down the price of imports go down.

So, that is what is happened here. The price of exports or the price of imports for the home country goes down. So, they increase the increase in the domestic prices P star plus T. So, then if this happens then you can work out the net welfare effect. The loss in consumer surplus same minus A minus B minus C minus D. The gain in producers surplus and the government revenue little different from the small country case it is C plus E. Why because remember P star and P star plus T the difference is T multiplied by M 2 will give you the government revenue. So, the government revenue is C plus E. So, the net welfare works out to be E minus B plus D.

So, that is the result that the impact of tariffs on the large country is ambiguous why it is ambiguous because it depends on two things one is E minus B plus D and I tell you what is E is. E is the difference between P W world prices which prevailed before tariffs were imposed and P star is the world prices which prevail after tariffs are imposed.

So, you see a decline in the price of imports. Which is equivalent to saying that the terms of trade increases. So, this is the terms of trade gain, E B plus D are the distortions, which are created in the economy b is the production distortion D is the consumption distortion. So, the effect of tariffs on the large country is ambiguous its E minus B plus D.

Now, look at what happens in for the exporter, the poor exporter was selling at P W earlier. Now because your country has imposed tariffs the only way he can enter your market is by reducing his prices. So, this guy reduces prices he reduces prices, he

reduces the amount of exports. So, the loss that he has is equivalent to something like this if you see this, particular area which is E plus F. Now please mark it properly this is this is E E this small triangle is f this small triangle above is B plus D.

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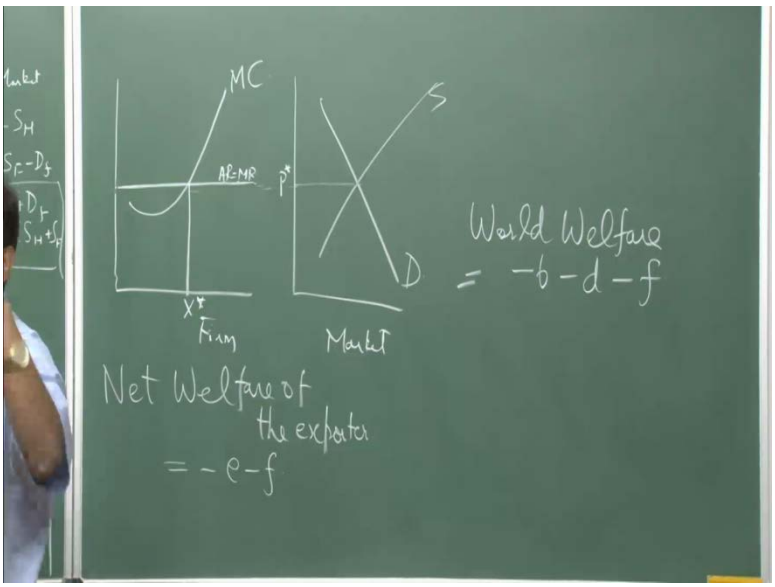

So, the net welfare of the of the exporter is (No audio from from 10:21 to 10:33) is this minus e minus f minus e minus f. Now, can you find, let me know what will be the world welfare now? So, the world welfare which is a sum of welfare for the home, and the foreign country works out to be minus b minus d minus f. And that is the reason that the w t o or the gat keeps talking of reducing asking countries to reduce the tariff tariff tariff levels. So, the logic is that the world welfare goes down, and because it creates distortions in the home and the foreign country.

So, the world welfare goes down when a country imposes tariffs. So, it is like the dead weight loss the dead weight loss is that the loss, which cannot be compensated here. Here it is the production distortion, the consumption distortion and there it is because he has to reduce the prices and he has to sell less.

So, the exporter sells less and that to at a lower price. So, there are distortions, which are created in the foreign country. Now, you can see when you find out the world welfare whatever is the terms of trade gain here is the terms of trade loss for the exporter. So, that cancels out right. So, so then you have this world welfare, which is minus b minus d minus f.

(( )) the world is just an addition of these two countries.

The world is an addition of these two countries, where you have an importer and an exporter. And therefore, if you work out the world welfare it will be the sum of welfare here and in the exporter.

That is the world demand.

That is the world demand this import demand is the demand which is coming from here, export supply this is coming from the export market. So, you see this. So, you see this result. So, when the tariff was imposed by the small country the net welfare was minus b minus d and when it was when it is imposed by the large country the net welfare. For the home country is e minus b plus d it is ambiguous it depends on, e and b plus d and so. You can always find one tariff rate, which will maximize the welfare of the home country and that tariff rate or tariff levels, which maximizes the welfare of the home country is called the optimum tariffs.

So, that handout that I have given to you work out the optimal tariffs for steel products. The table shows optimal tariff for steel products, calculated with the elasticity formula. So, you can see this is the work by Christian broad and davidweinstein. And they have these different product categories they have worked out the elasticity of export supply. They worked out the optimum tariff which is one by elasticity of export supply. So, they worked out the optimum tariffs and then they can compare it with the actual tariffs.

So, one can say that for alloy steel flat rolled products there is still scope of for increasing the tariff rates from 30 percent to 370 percent. Iron and steel rails and railway tracks there is still possibility of increasing the tariffs. But for, iron and steel tubes pipes and fittings where the optimal tariff is one and a country like U S imposes thirteen to fifteen percent.

Actual tariff there is something wrong about this policy because this would mean that you are creating distortions in the economy which are greater than the terms of trade gain. So, this also tells you how tariffs are how you determine tariff rates in the country.

Once you have an optimal tariff you can always workout your actual tariffs. Now W T O only talks of reducing the ceilings it does not talk of reducing the actual tariffs.

There is this ceiling rates ceiling rates are defined for different tariff lines it wants this ceiling rate to come down it does not talk about actual tariffs.

So, lot of people have wrong perception that W T O talks of reducing the actual tariffs it talks of reducing this ceiling level of tariffs. So, this is about tariffs now come to quotas remember quotas are when countries decide to physically restrict the amount of imports coming in. So, it will say that we will only import 500 shirts from India. That is like that is like a quota. And when you restrict imports then, you need to decide something else that how will these 500 shirts which are coming in will be distributed among the producers in the home country.

Because they may be importing it for as a raw material there are home there is a home country, it is there are producers it wants some ingredient and. So, if a country imposes quotas on the ingredients which are coming in then the home country also has to decide. How much should each producer get, and for that it needs to decide about giving licensing licenses to the producers.

So, then we will see what happens, again this scenario is the same perfect competition. And the difference is that now you have quotas now most of the results that you get will be similar to what happens in tariffs. But then quotas can sometimes be more pernicious than tariffs. So, we are we are going to discuss the small country case again and see whether quotas and tariffs, have the same impact.

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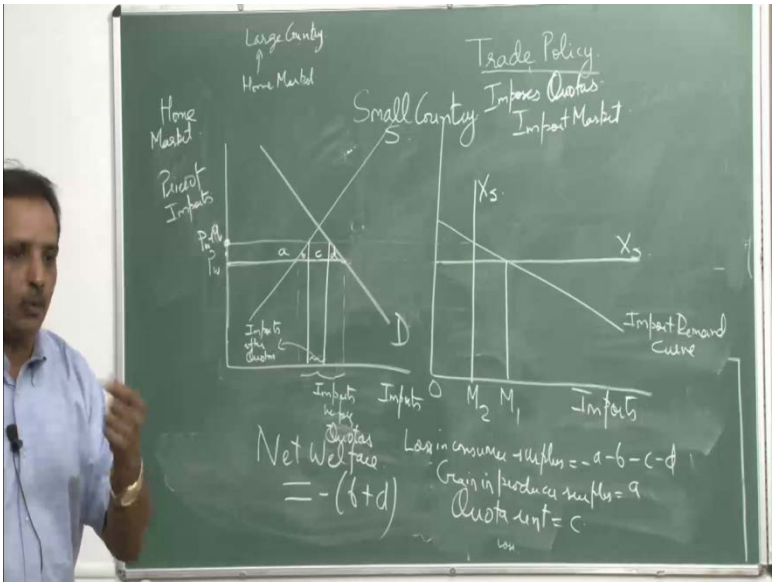

So, now you have a small country. It imposes one of the non tariff barriers which are quotas. So, physical restrictions on the amount of goods coming in. And you have various examples wherein countries have imposed quotas. The U S traded for automobile industries, in the 80 it is still does it for cheese. Australia New Zealand did it for textiles did it for, automobiles and then there was some agreement called M f a multi fiber agreement. It started way back in 1974 and went up till 2005 under that agreement. There were physical restrictions on textiles and readymade garments coming in at least three four developed nations. In the U S in some of the European countries, Australia New Zealand they had physical restrictions on textiles and readymade garments coming in from the developing country.

So, this agreement started in nineteen seventy four went up till two thousand five. So, most of the countries had employed this trade policy instrument that is quota to restrict imports from outside. So, then how do you see this again the same thing, this is a small country. So, you have demand you have supply, say this is the price which prevails. And because it is a small country. The export supply curve that it faces is perfectly horizontal. This is the import demand curve. This is the import market. This is the home market. This is price of imports; these were the imports before tariffs (No audio from 21:10 to 21:21). This were the imports before tariff sorry before quotas are imposed this is imports before quotas are imposed.

So, see what happens when this country imposes quota. Now look at the export supply curve it was perfectly horizontal see this is because this country is a small country. This is again that demand curve that a home producer faces. Now this is the point that we missed yesterday this is the demand curve of the home producer. So, that home producer which is producing that homogeneous product.

If he wants to charge a higher price nobody will buy it from him because all consumers will buy the same product from outside at a lower price which is P W. So, the price that will prevail finally, in this market is p w and where this is the demand curves for the home producer.

Now, this country decides to restrict imports, this much import was coming in. So, it wants to restrict it. So, look at the export supply curve that it will have this is the export supply curve that it will have once quotas are imposed. So, the prices which will prevail,

which will prevail are P W plus Q. So, it is like saying that you have restricted imports. So, when you restrict imports and your demand is this your demand is this and you restrict something the prices domestically will go up.

So, the manufacturer who gets the license will import that product at P W and then can sell the same product at a price which is higher than p w. In that context he gains and that gain is the quota rent. So, then same a b c and d. So, if quotas are imposed. So, this is this is a case where small country imposes quotas. So, the net welfare for this country is.

Let us look at the net welfare loss in consumer surplus (No audio from 24:29 to 24:36) minus a minus b minus c minus d. The gain in producers surplus because the domestic price of the same product has gone up a. But then it is not tariffs,but c which is the difference between P W plus Q and P W c into the imports after quotas. Is the quota rent which is equal to c which accrues to the producers who were lucky to get those licenses?

So, the producers who get the license can import the product at P W and then potentially sell it at a higher price which is P W plus Q. In that sense he gains that set of producers gain in the in the form of quota rent which is equal to c.

So, the net welfare again works out to be same as the case of tariffs, which is minus b plus d. These are the distortions, which are created in this economy when quotas are imposed.

Now this is only one possibility when I said that quotas are more can be more pernicious than tariffs now this quota rents can be lost. It can be lost when there is possibly a corruption in the economy, when the government has to give licenses to few then people start approaching you. So, in that sense this quota rents can be lost in the corruption. So, then your net welfare in case of corruption can work out to be minus b minus d minus d minus c minus c minus c minus d.

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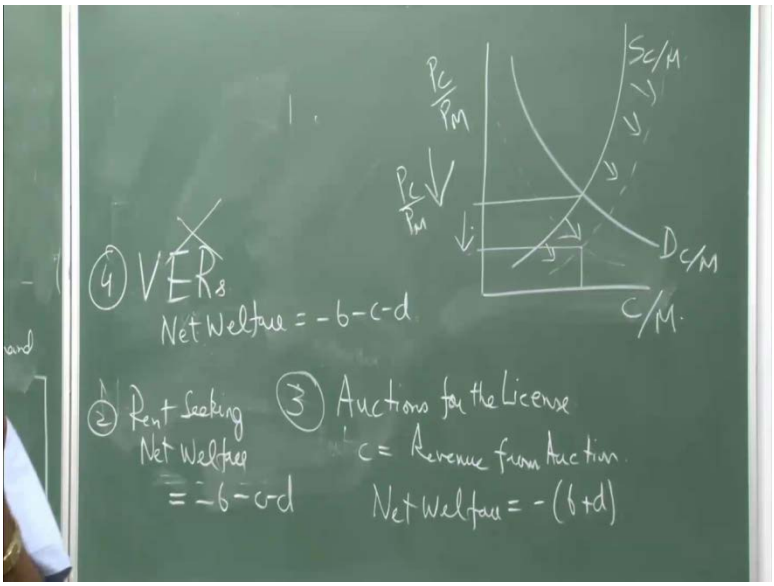

So, the second case is in economics you do not call it corruption you call it rent seeking. In case of rent seeking the net welfare works out to be, minus b minus c minus d because c gets c gets lost in corruption. The third is when auctioning is done.

So, the government achieves revenue or a equivalent to the quota rent which is equal to c. So, here the only difference is that when it allocates these licenses it does it systematically it adopts the auction process. Not like what we saw in two g where everything was given on first come first serve it does proper process and. So, in this case the auction revenue can be equal to c.

So, that revenue you can third is when you do the auctions, for the license in that case c is the revenue from auction other things remain the same. So, the net welfare in this case again works out to be minus b plus d. This is one more case. That one more case is the case of voluntary export restraints called V E R s.

Where the licenses are not given to the producers in the home country,but they have given to producers outside. Like what happened, in the U S in the 80 when the U S was going through a recessionary phase and therefore, it also saw a surge in Japanese cars coming in their markets. So, the government the administration decided to impose quotas on all Japanese cars coming in. But then the difference was that the quota licenses went to the Japanese producers.

So, the Japanese government was given the task of allocating licenses to its own producer has. So, in that case the quota rent does not accrued to the home producers it goes away and it is given to the foreigners. In that case also the net welfare works out to be equal to minus b minus c minus d. So, in two of the cases in two of the cases, you see the equivalence of tariffs and quotas, but in two of the cases where you have rent seeking and V E R s. You see the net welfare much greater than the loss in net welfare greater than the case where the loss of welfare where, if you compare the loss of welfare when tariffs are imposed in the small country.

So, then under the W T O rule now that rule was never there in the 80. So, they could afford to do it the U S could do it they could they could give this quota licenses to foreigners. So, now, under the W T O rules V E R s are not allowed at all. Because they tend to reduce the welfare of the countries. But interestingly, when Chinese wanted to be part of the W T O just, an year before they joined that is 2005. They were asked to have restraint on the exports of say textiles and readymade garments.

So, there were things which were happening, beyond economics some something more political. Where the Chinese were said that if you wish to be part of the W T O then you have to show some restraints on your exports of textiles and readymade garments. And this was also the time when this M f a agreement was getting abolished, remember this m f a agreement started in seventy four and came in came to an end in 1974 in 2005.

So, the developed nations were little bit panicky that one china will be part of the W T O. Second once this M f a agreement gets abolished there is a possibility that there will be a surge of clothes textiles readymade garments coming from china. So, then they imposed a condition the Europeans the U S you need to show the Chinese need to show V E R s. With Chinese took it, because you can see that under the V E R s the it is the net welfare of the home country which goes down.

These people the Chinese would be the gainers because they will now have the administration of allocating those licenses to their own producers.

So, the licenses which are supposed to be given to the u s producers and the European producers. Now comes to china and they are the ones who would give this to a set of producers. And therefore, this word restraint export restraint voluntary export restraint,

behind this is the fact that the licenses are not coming from your country its coming from the other country right.

So, V E R s are not allowed, but because of many political reasons you see a v e r been imposed on Chinese products. Now another thing is something which happened after two thousand five. Was when the say if you look at this diagram what happens if countries are told to, move from quotas to tariffs.

There they are asked to dispense with quotas what do you think will happen to the prices which prevail in the country. (No audio from 34:35 to 34:45) Now clearly you can see that when quotas are imposed the domestic price of that product goes up. So, when the quotas are removed, the prices of the products go down and generally it is seen when the prices go down the quality also suffers.

So, you saw after 2005 that the products which were coming from china they were priced lower, but the quality also deteriorated. Right recall an instant which is totally opposite to it when U S imposed quotas in 80's. The type of cars which came from Japan after quotas were imposed they had higher price, but their quality was much better than the cars which were sold in the U S. The U S producers, started also selling the cars at a higher price, but the type of cars which came after quota was imposed were better quality cars higher horse power big in size and things like that. So, this is what.

Quotas do now this is a case for a small country. What happens if a quota is imposed by the large country. The only difference is that the export supply curve is not horizontal its upward sloping. So, again you have an upward sloping export supply curve you have a downward sloping import demand curve, that will decide the world price and then if quotas are imposed you will get a new export supply curve.

You would have the price rise in your country which will not be (No audio from 36:45 to 36:56) to the increase because of quotas because the international prices will go down. So, again you would see an improvement in the terms of trade.

So, we will end up here on, the note that V E R V E R s are not allowed and even country has are now asked to move from quota regime to tariff regime. And as a whole they want to reduce the tariff rates that is the ceiling tariff rates. One small point on a things, that we are going to discuss tomorrow is something about on export subsidies.

Just remember the diagram that we made yesterday of c by m and then p c by p m, and you had the demand curve and you had the supply curve. Now let us see a case of [a]base where export subsidies are given to by the home country. When export subsidies are given it raises the price of the export good.

Now, this is what you have to do understand how because the exporters now receive say whatever is the world price P plus say rupees s for each unit exported. So, if you are producer you will get whatever you are getting internationally world price, plus my scheme government scheme that I will give you rupees s for each unit exported. So, then the price that you receive is P W plus that S rupees that I give it you as a subsidy from the government side.

So, what it does it raises the price of the export good. Now come back to this diagram we have a country which imposes export subsidy now what do you think will happen to the supply of cloth by manufacturing if cloth is the export good. And m is the if the imported good. So, now, you are getting higher price for the cloth that you are selling what would you do as a producer. You will increase your production so the supply curve shifts to the right, but then there is something else which happens there are consumers also. As soon as they see that the price of the exported good goes up what happens to the demand goes down.

So, the demand goes down the new terms of trade p c by p m the international prices go down. Now this is what is you have to understand as you give export subsidies the terms of trade goes down. So, when you impose import export subsidies two things happen terms of trade goes down and there are distortions which are created in the economy both production and consumption distortion.

So, your welfare goes down because your terms of trade go down. Your welfare goes down because there are production and consumption distortions. So, exports subsidies theoretically are always welfare reducing.

Now, think of this and try to think of the argument, which goes on outside this room, export subsidies there is recession, the government, the parliament talks about giving subsidies to the exporters. So, that they can sell it, but theoretically it is always welfare reducing. So, think about it come tomorrow, and we are going to discuss the case of export subsidies, and then what happens if there is a imperfect competition in the home

market. If there was only one seller in the home market, then what happens? Can he charge a higher price, then what prevails when tariffs are imposed these are things that we are going to discuss tomorrow.