**Strategic Trade and protectionism - Theories and Empirics**

**Prof. Pratap Chandra Mohanty**
**Department of Humanities and Social Sciences**
**Indian Institute of Technology, Roorkee**

**Lecture – 30**
**Effective Protections: Latest Facts & Figures**

Welcome, once again guys to the you know NPTEL module on Strategic Trade and Protectionism, Facts and Figures, where we have been you know discussing the exact or the core aspects of protectionism. We have already you know started with the lecture on tariffs and this is our lecture number 30, week number 6, where we are going to you know give the latest facts and figures of effective protection, the effective protection we have already started in the last lecture.

So, this lecture is meant for you know identifying the latest facts and figures from important sources for our better understanding. Now this is myself, Pratap C. Mohanty, a faculty member in the Department of Humanities and Social Sciences, IIT, Roorkee.

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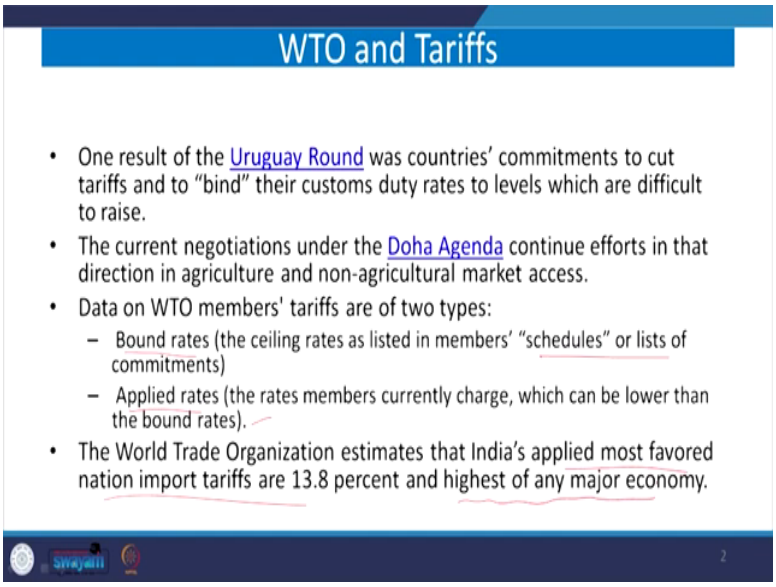


Now, as I have already explained that you know under the purview of WTO negotiations various tariff sets are defined and those tariff sets actually, you know over the time we have been reduced. Though now number of questions rise over the confusion relating to non tariff. So, in the next lecture or next week onwards, we are supposed to talk about non tariff barriers and the nitty gritty's of trade.

Now as I have already mentioned since the Uruguay Round. Now, where the country is committed to actually reduce the tariff and to bind their customs to duty rates to level which are difficult to raise. Now even in the Doha Agenda continues to effort or efforts are given in the direction of agriculture and non agricultural market access.

Now, so far as the WTO members in their negotiation on tariffs are concerned those tariffs are broadly divided into two types. One is called bound rate as I have already mentioned in our

earlier lecture. Another is called one is called bound rate another is called applied rate. Bound rate where the ceilings are defined according to different schedules or list of commitments. Whereas, the applied rates are the rates where member country can change and which can be lower than the bound rates, generally, lower than the bound rates.

As per the WTO estimates India's applied most favored nation import rates are 13.8 percent and highest of any major economy. We will discuss now in this particular lecture we will be confining our discussion to the latest facts and figures and India position in the tariff rates.

So, far as Indian tariffs are concerned, we are counting the facts and figures. So, therefore, it is important to emphasize the effective protection accordingly. So, far as the tariff Indian tariffs are concerned, Indian tariffs average 5 percent or less on industrial products in developed nations, but are much higher in developing nations.

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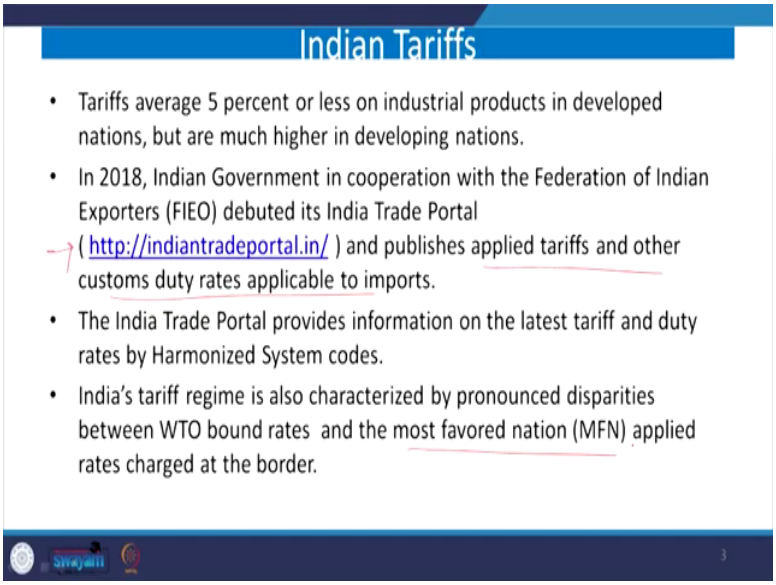

So, in 2018 Indian government in cooperation with FIEO debuted its trade portal India you know had is Trade Portal from 208 I mean 18 and publishes applied tariffs and other customs duty rates applicable to import. This is the source where you can follow all those latest tariff rates characterized by India.

So, Indian Trade Portals provides information on the latest tariffs and duty as per the Harmonized standard codes. So, India's tariff regime is also characterized by pronounced disparities between WTO bound rates and most favored nation applied rates charged at the border.

So, most favored nation I think recent episodes with the Pakistan is quite familiar to all of you. So, usually you know most favored nation, where at once the country is granting that, it has to be you know equal to all the most favored nations. Usual those rates are much lower than that of the rates to non most favored nation states.

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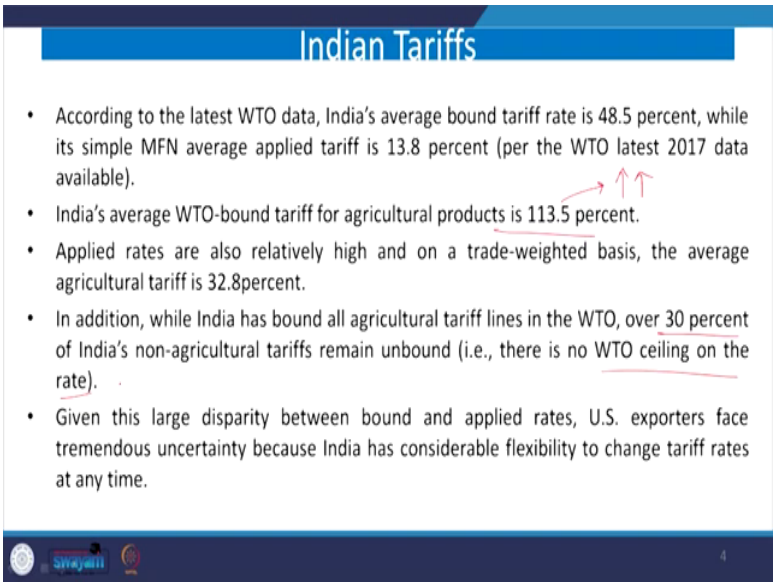


According to the latest facts of WTO, India's average bound rate which is where the ceiling rate is defined and usually higher than that of the applied rate is 48.5 percent while its simple MFN average rate is only 13.8 percent. So, this is as per the 2017 data of WTO.

Now, India's average WTO bound tariff for agricultural product is much higher. Now, we will also discuss why this kind of products where the rates are actually very high. And in order to protect those informal sectors the applied tariff rates are also you know relatively high on a weight traded basis, the average agriculture tariff is so far as applied tariff rate not the bound rate, it is only 32.8 percent.

In addition while India has bound all agricultural tariff lies in WTO over 30 percent of the India's non agricultural remain unbound ok. Though you know agriculture tariff are bound by

the WTO norms see remaining 30 I mean over 30 percent are yet not for non agriculture are unbound there is no WTO ceiling on those rates.

So, therefore, there is no bound binding defined. So, given these large disparities between you know bound and applied rates US exporters face tremendous you know challenges or an uncertainty because of India's flexibility to change tariff rates at any time as per the WTO norms.

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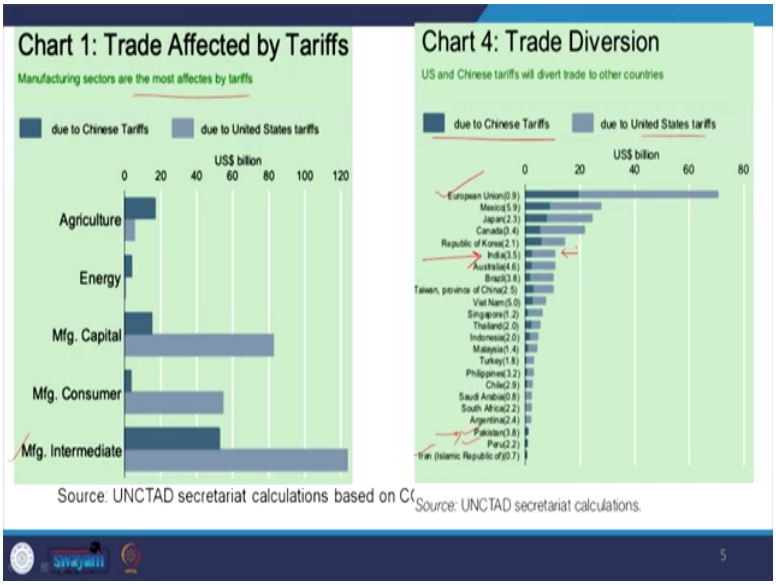


Now, the latest figures from one of the UNCTAD report, I am referring this document as published by the UNCTAD report, UNCTAD sector calculation based on the figures of WTO. Now, what they observed? Since we are discussing the facts and figures of you know protection, what it counts? It actually counts in terms of effects or affects by tariff. What how it affects?

Now, in the chart 1, we are discussing the trade affected by tariffs in different sectors. Whereas, in chart 4 we have discussing trade diversion by usually by you know these days there is a trade war as we discussed between China and US. So, because of this trade war how these figures have been getting diverted.

Now, if we just try to talk about or understand trade you know affected by tariff, now out of the broad important you know 5 sectors presented in this table, it is it is easily visible that the manufacturing intermediate products specially manufacturing products at the bottom mentioned are most affected you know sector, so, far as tariffs are concerned.

So, manufacturing sector are the most affects by tariff whereas energy or agriculture is least affected. So, far as the trade diversion due to US and Chinese you know tariffs are concerned, now here it is the you know deep shaded you know portion is Chinese tariff and the light shaded portion is by US tariffs, where you know how it diverge trade. Now the highest diversion of trade due to this trade war or tariffs imposed by these two big nations, highest are Cuba to the European Union. It has created huge diversion. I have already discussed trade creations verse you know, we have not discussed we have already discussed you know intra industry trade versus intra industry inter industry trade.

The trade diversion we mean, you know some member country used to have certain possibilities certain extent of trade, but due to some kind of agreement or due to some kind of restrictions they divert from one country to another country that is all about called trade diversion.

So, European Union as a whole has been examined that you know the trade diversion has actually been you know the highest due to this effect. Now followed by Mexico; the least is around the Pakistan, Peru you know as we know that these countries are having less trade, less association even Iran.

Now similarly looking at looking at India's perspective in this figure, India's perspective it is also affecting among the top 4 or 5 you know group. Chinese you know effect, is higher for

India as compared to the US effects of imposition of tariff. Now looking at other perspectives these are expressed in US billion dollar.

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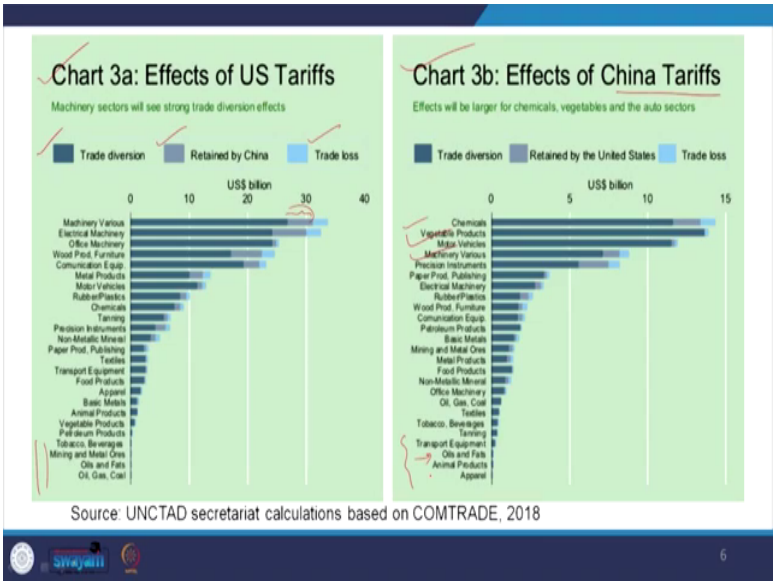


Now, other effects of US tariffs, let us some examine by trade diversion or by you know retained by China or trade loss; you know these three aspects is explained the deepest or in the contrast color is explaining trade diversion, where you know which is retained by China and in trade loss is highlighted in the lighter color. Now looking at the world trade this is basically world trade for different sectors.

Now, it is clearly visible that due to those you know effects or due to the US tariff this diagram is for chart number 3a is for you know US tariff; where a chart number 3b is for Chinese tariff. In case of a US tariff it is clearly understood that machineries or electrical machineries, where the trade diversion is examined to be the highest.

And because of the case that you know US has restricted a huge number of you know imported goods with higher tariff for Chinese products. So, this has diverted their product, so, far as trade is concerned. And so, it is by retained by China is the little portion in that particular aspect and I mean still even if tariff is imposed by US. So, this much is still retained by you know China.

Now, so, least is observed in case of you know oil, or gas, coal, petroleum products. The highest is observed in communication related equipment, machineries. Similarly, when the China imposed tariff from the products, trade diversion is again observed in case of chemicals, vegetable products, motor vehicles, machinery products again, but least is again observed related to oils, transport equipments; they are different you know, it depending upon that basket of commodities consumed by the bigger nations so, far as Chinese tariff is concerned, since Chinese not importing much due to higher tariff.

So, this diverse the trade from you know from one country to another country or also reduce the trade as well.

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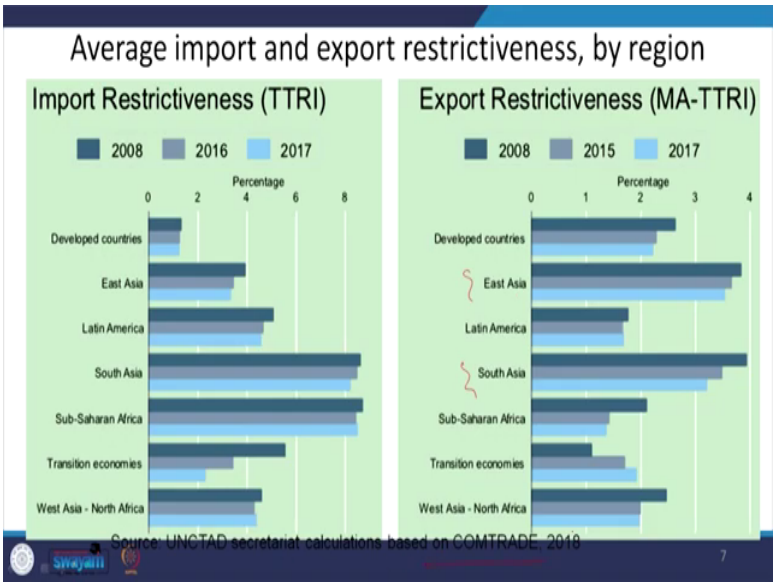


What about average import and we know export restrictiveness by regions? You may talk about different regions and these are important facts to be unfolded for better understanding. I feel that you know TTRI stands for as a notation for one in you know calculation for import restrictiveness. Whereas, in the right diagram, we are explaining export restrictiveness. These are from 2008, 2016, 2017 figures. Now look at import restrictiveness these are based on average imports.

So, highest is observed in South Asian countries and followed by sub Saharan Africa and the least is in the developed countries so far as import are concerned. So, they have less restrictions towards imports. Whereas export restrictiveness usually very less impose by the countries but still even highest in East Asia and Southeast Asian countries these are the calculation from the COMTRADE 2018 of UNCTAD.

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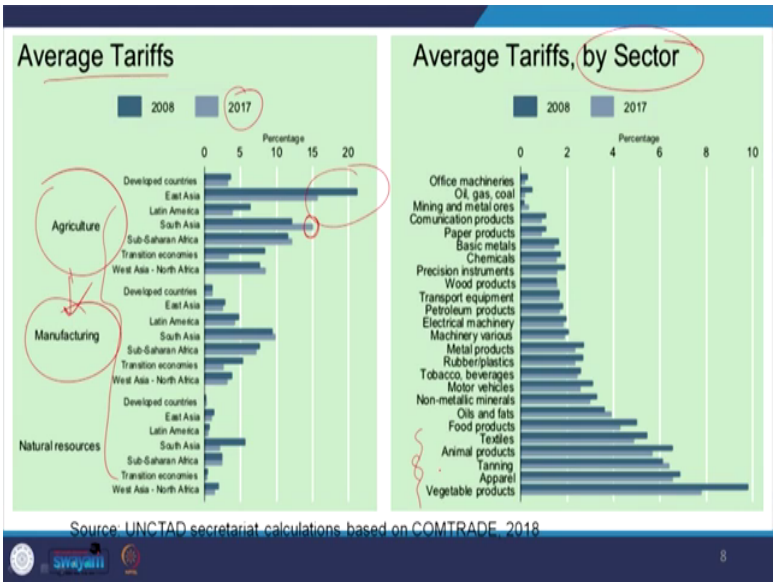


Now, counting the average tariff again by wetted you know index in comparing with 2008 to 2017 figures.

Now, the here in the left hand side we are discussing average tariff, here we are discussing by sector. Average tariff by countries broadly, about even you know largely we categorize with sector as well with broad sectors. Now look at average tariff is actually higher on the a grade for agricultural sector followed by manufacturing. So, now, look at these two very carefully which says that East Asian countries has the highest though the rate of change has been you know significant over time and even South Asia nation South Asian countries the 2017 figures is actually higher as compared to 2008 So, far as average tariff in agricultural products is concerned, but in East Asian countries this rate has been reduced.

Now, counting the average tariff order by sector as we have already said the tariff is much higher in vegetable, apparel, tanning, animal product, textile, food etcetera. Whereas oil, mining, communication products, the tariff line is very less. So, therefore, those products are also traded internationally with huge volume.

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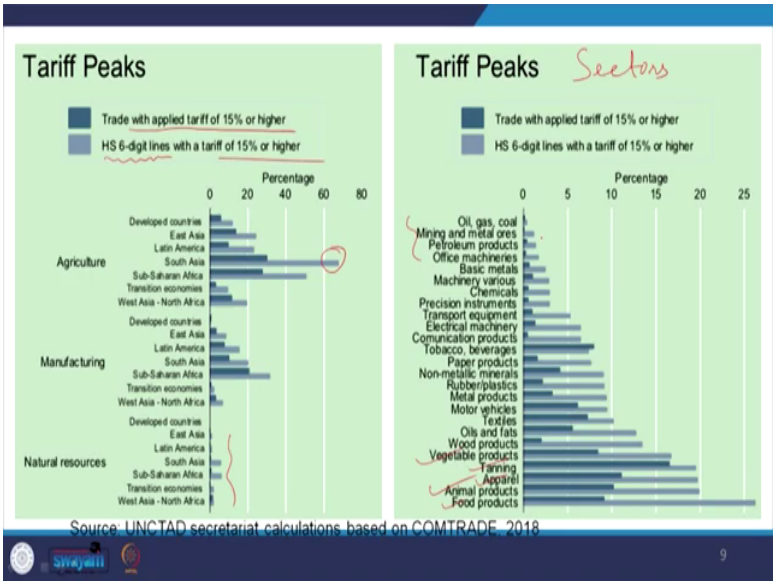


So, far as peak tariff is concerned, tariff peaks concerned by countries and by sector here we are referring to broad sectors. So, here we are referring 2 countries and 3 specific segments.

Now, peak tariff we mean the trade with applied tariff of 15 percent or higher wherever whichever the country having highest. Even we also check with their figure for HS 6 digit lines which is you know which is disaggregated at a 6 digit level with a tariff of 15 percent and higher. So, it is observed that South East Asian countries especially South Asian countries and East Asian countries are also having highest peak tariff. And so far as natural resources and

their tariff is concerned it is the least and understanding the you know peak sectors, where tariffs lines are very high it is food products, animal, apparel, tanning, vegetable products etcetera.

So, these whereas oil, natural gas, mining, natural gas, mining coal etcetera are touching very less you know peak tariffs.

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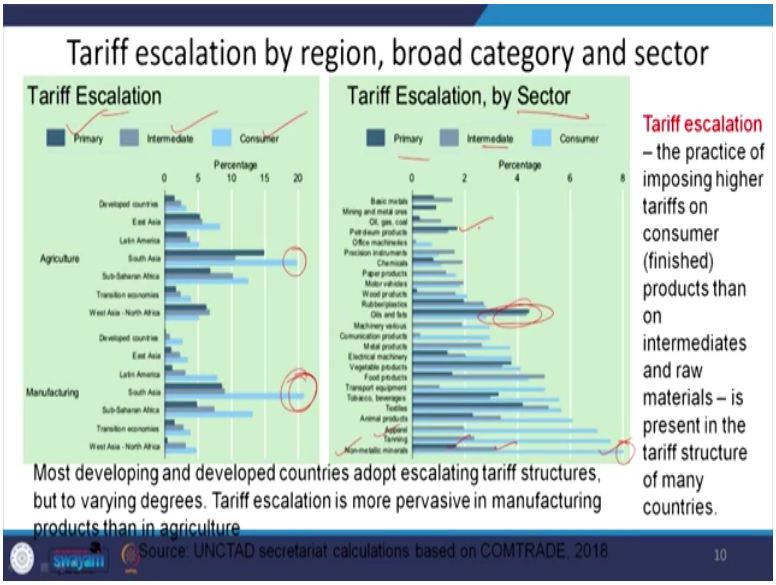


Now, one of the important aspects of our understanding of latest facts and figures through a tariff escalation, I think, we have already mentioned somewhere you know earlier lectures that tariff escalation is the practice of imposing. You know higher tariffs on intermediate goods you know; higher tariff not on intermediate are the higher tariffs on the finished goods, in order to facilitate trade for the intermediate goods. So, finished goods are charged with higher tariffs as against the intermediary goods.

So, I mean basically this present a tariff structure of many country. This is the you know cases of figures in practice by many countries and what we have observed here most developed countries. Now looking at escalation by sector on the right hand side and this is by country. Most developing and developed countries actually follow escalating strategy of tariff structures, but to of course, two different varying degrees. Tariff escalation is actually more pervasive in manufacturing production than the agriculture one, more pervasive in manufacturing.

Now, therefore, since South Asia, you look at this, it is very you know pervasive; look at primary, intermediary and the finished or the consumer goods segment, where the consumer is finally given this is increasingly very high. Similarly for agriculture also this is much higher.

Now largely it has been followed that the developing countries have you know higher forms of tariff escalation. Now by sector again here there are certain changes. Nonmetallic minerals touches higher tariff escalations; tanning, I mean is the I mean the change between primary I mean look at these changes. Primary then intermediary or intermediate or the final the changes are huge.

Now, similarly the changes are also observed much higher in apparel or tanning related you know trade, where at the base metal mining coal even communication are touches much lower tariff escalations.

And the reverse is observed in case of oil and fats, where the primary you know products because primary are more or less the you know I mean there is hardly any difference between the primary and the finished products. There are very less number, therefore, the reverse trade is observed. In case of oil and fats related products.

Similarly, petroleum products as well I mean very less number of countries processes and re-refined products differently. So, therefore, it touches different you know order, all totally. So, these are called tariff escalations followed in different countries.

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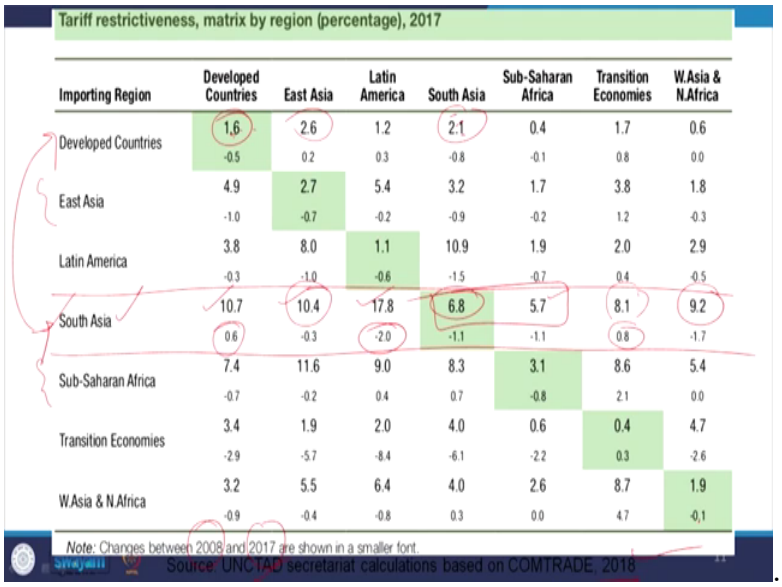

Tariff restrictiveness, matrix by region (percentage), 2017

| Importing Region | Developed Countries | East Asia | Latin America | South Asia | Sub-Saharan Africa | Transition Economies | W.Asia & N.Africa |
|---|---|---|---|---|---|---|---|
| Developed Countries | 1.6 | 2.6 | 1.2 | 2.1 | 0.4 | 1.7 | 0.6 |
| | -0.5 | 0.2 | 0.3 | -0.8 | -0.1 | 0.8 | 0.0 |
| East Asia | 4.9 | 2.7 | 5.4 | 3.2 | 1.7 | 3.8 | 1.8 |
| | -1.0 | -0.7 | -0.2 | -0.9 | -0.2 | 1.2 | -0.3 |
| Latin America | 3.8 | 8.0 | 1.1 | 10.9 | 1.9 | 2.0 | 2.9 |
| | -0.3 | -1.0 | -0.6 | -1.5 | -0.7 | 0.4 | -0.5 |
| South Asia | 10.7 | 10.4 | 17.8 | 6.8 | 5.7 | 8.1 | 9.2 |
| | 0.6 | -0.3 | -2.0 | -1.1 | -1.1 | 0.8 | -1.7 |
| Sub-Saharan Africa | 7.4 | 11.6 | 9.0 | 8.3 | 3.1 | 8.6 | 5.4 |
| | -0.7 | -0.2 | 0.4 | 0.7 | -0.8 | 2.1 | 0.0 |
| Transition Economies | 3.4 | 1.9 | 2.0 | 4.0 | 0.6 | 0.4 | 4.7 |
| | -2.9 | -5.7 | -8.4 | -6.1 | -2.2 | 0.3 | -2.6 |
| W.Asia & N.Africa | 3.2 | 5.5 | 6.4 | 4.0 | 2.6 | 8.7 | 1.9 |
| | -0.9 | -0.4 | -0.8 | 0.3 | 0.0 | 4.7 | -0.1 |

Note: Changes between 2008 and 2017 are shown in a smaller font.

Source: UNCTAD secretariat calculations based on COMTRADE, 2018

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Now, looking at tariff restrictiveness in a matrix by region, look at we have already understood that South Asia countries South Asian and East Asian countries usually have higher type rates from the previous figure that is compared to other nations. Now, let us calculate let us observe with two lines of comparison. This is one.

Now in this we can also compare this as well and also you can have a comparison with developed countries all as well. Now looking at the South Asian perspective for the developed countries their tariff restrictiveness is much is 10.7 percent, whereas among the South Asian countries it is 10.4 percent then among the I mean where the trade is being you know is being you know taken place between the Latin American country it is 17.8 percent.

Whereas for this you know I mean for the East Asian countries it is 10.4 for their own South Asian countries usually they have huge number of agreements. So, therefore, the tariff lines

are low or the restrictiveness are low with sub Saharan Africa it is even lower, transition economy is little higher, West Asian and North African countries it is little higher.

So, the least is between these two countries. So, far as the matrix of South Asian restrictiveness is concerned for the products those are being imported to the South Asian countries. Now how the developed countries actually react, I mean retaliate it is not the figure mentioned here about how they practice. Now it is visible from here that they impose only 1.6 percent on among the OECD countries or among the developed countries.

Whereas this is literally higher among you know East Asian countries maybe even higher than that of the developed and the you know South Asian countries. I mean these rates are much lower than that of the South Asian you know restrictiveness.

Now if you look at the change over two time period, here we are mentioning 2008 2018 and 2017, the changes are actually the fall usually is observed between these two periods. Much higher specially for Latin American countries and increases the I mean they have increased their restriction to the developed country, it is positive, also among the you know positive among the transition economy; that means, the South Asian countries have been becoming more protective towards the developed countries then developing the strategy to restrict the products of developed countries and while facilitating trade among themselves.

So, this is one of the very finest you know calculation made by UNCTAD secretariat based on the data COMTRADE data of 2018. Is a very latest report. I followed for your better understanding. So, you can also have a check on your own if you wanted to understand this figure carefully.

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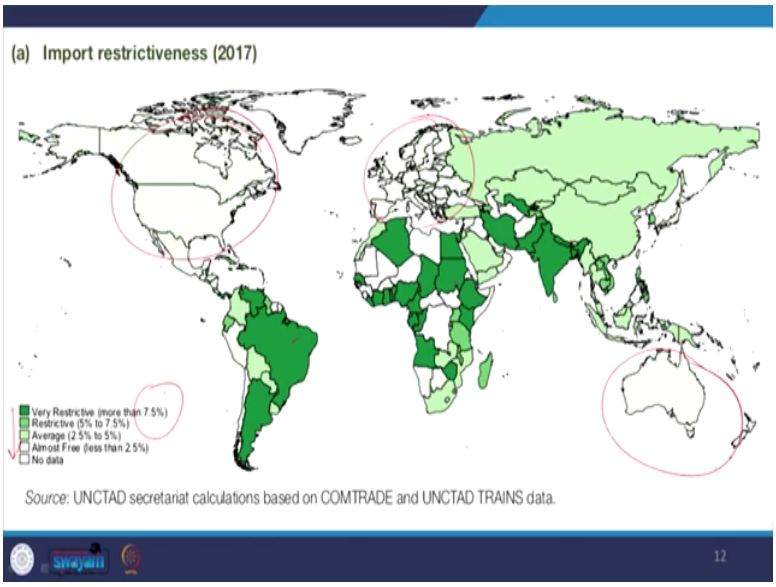


Then let us move to the understanding of tariffs in a map. This is again look at the source. Source is a UNCTAD secretariat calculation on COMTRADE and UNCTAD you know TRAINS -data, we have already mentioned. We also talked about those you know data later. Now look at the import restrictiveness especially by tariff lines. Very high restrictive rates are observed more than 7.5 percent are observe with the you know deep shaded you know color.

Now, look at India among those countries; India, Pakistan even near about those you know South Asian countries are observed to be much higher. Some of the countries in African also having the same; in Latin American countries also having the highest rates. Now, as I have already said the developing country these are largely the developing countries or on a developed countries, they practice higher restrictiveness. Whereas this there has been a

continuous fall or there is a reduction I mean the rates are much lower for other countries especially for the, among the developed nations.

Look at this portion, even those this portion, even these portion, the magnitude of taxes or the extent of taxes towards restricting the trade or towards tariff is much lower whereas in developing country it is higher. So, therefore, this map also clarify your understanding of effective protection. What about export restrictiveness? Usually countries do not prefer to go for protecting their exports or restricting their exports by imposing tariff.

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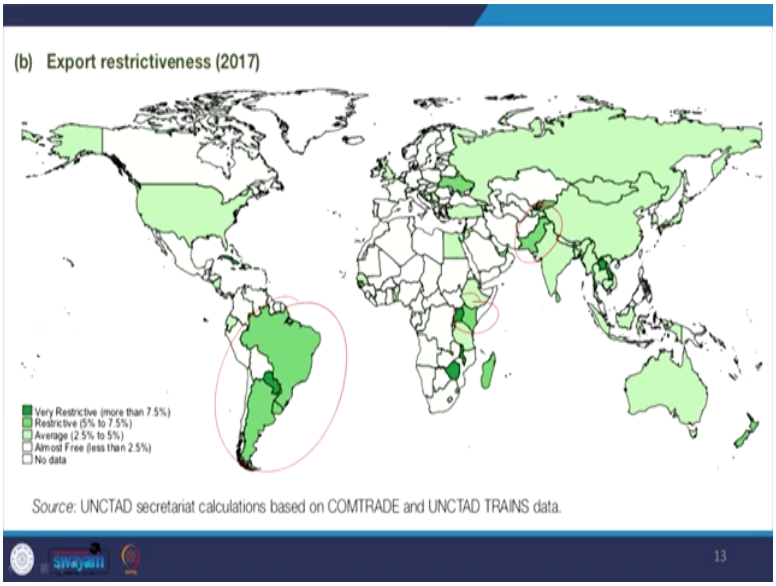


I think in that regard except, I mean there are some countries Latin America countries and Pakistan they also have certain you know restrictiveness towards their trade. Whereas largely many countries even the South Asian countries also prefer not to restrict their exports because

those exports are actually you know creating export restrictions would actually hinder their trade and will undermine their effects on trade.

So, it is I think clearly understood guys. Now what we have already explained in the previous lecture? We need to actually revisit with certain examples of effective versus nominal rates of protection though I have already explained some of it. Those effective one what we have already said that it is not just the nominal tariff it is the effective one; the exact impact through the tariff on intermediary goods. Some of the intermediary finally, final products primary products we are already discussed through examples.

Now, let us understand through another important example and its calculation. I think as I told you already in the last class through the value added approach there were some confusions, let us clarify it now. Some of those examples are also valid or to be verified or to be you know clarified at the time of you know question and answers.

So, we will have I mean this is this will be very useful this slide will be very useful for preparing your question and answer section. So, let F be the final you know good. There are good A and good B are the intermediary products and B is used to produce 1 unit of F. In case of free trade, let the value of the or the price of the final good is 1000, whereas the price of these intermediate goods for A variety is 500 and B variety is 200.

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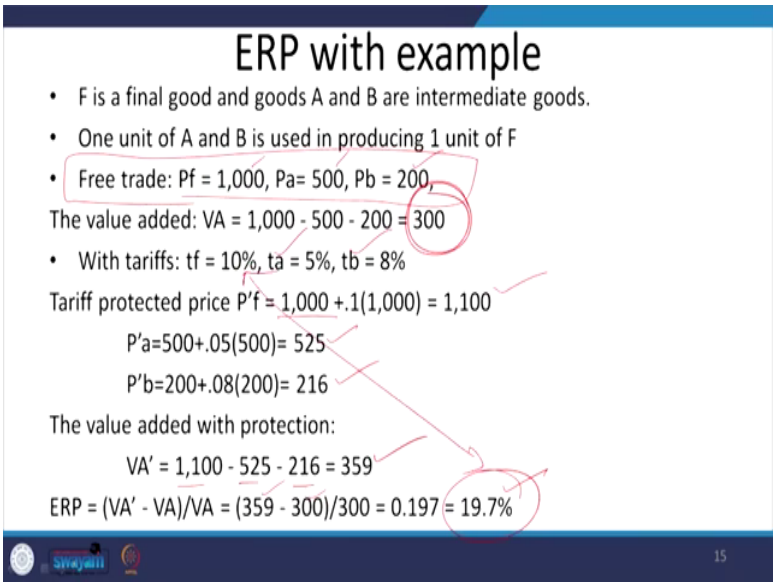


Now, these are the final good, so far as the so far as before tariff is concerned. So, the total value added is of course, you know I mean the price of intermediary goods is 500 plus 200 that is 700 and the price they are selling or the final price they are selling at the market is 1000; 1000 minus 700. So, 300 is the pre trade or free trade without in tariff free trade value added. Whereas, with tariff lines let it be you know a higher tariff it for final product. And little lower tariff for the you know intermediary products.

So, let 10 percent be the tariff after trade on the final product and 5 percent on commodity A and 8 percent on commodity B. So, let us understand the total price or total value up to tariff. Now total value is originally it is 1000 plus 5 percent plus 10 percent, so, that is 0.1 of 1000 since it is 100.

So, 100 so, it will be equal to 100 plus 1000; it is 1100. Whereas in other two it is 525 and 216 if you again subtract these two, we will get 359 we have subtracting these two from the new value added after tariff this is 359. So, the new tariff I mean the value added is 359. So, as per the value added method, new value added minus the original value divided the original value added is nothing but the effective data protection; how much extra we add value due to tariff on different levels.

So, 359 minus 300 divided by 300, it is basically 0.197 this is 19.7 percent. So, therefore, the effective rate of protection is 19.7 percent whereas the nominal protection is only 10 percent. So, effective protection is better than that of the nominal one.

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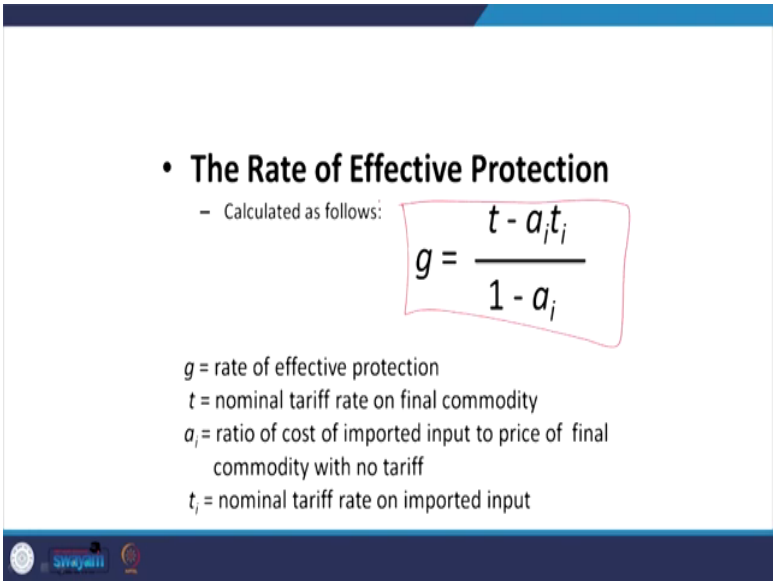


This is that you know equation I have already explained.

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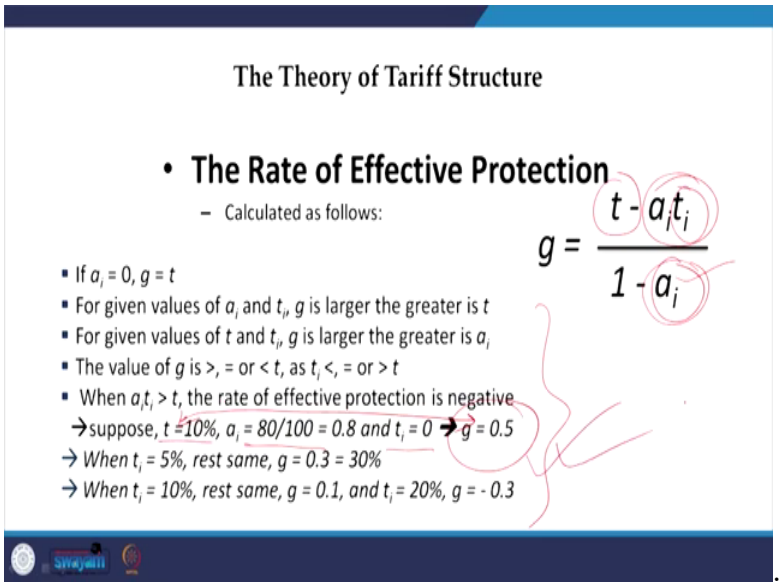


I mean in another approach we can also calculate the effective data protection, we have already verified you can go and check in detail. And especially you need to check with ai. Now ai as I told you is the percentage of value added to the final good; how much the raw materials or the you know imported inputs imported input used in the production of final good. Usually you know varies from you know 70 t, 80 percent, 90 percent like this and ti is the tax on the raw materials which are imported or the tariff.

So, t stands for the tariff on the final product. When there is no imported inputs that means, ai is equal to 0. So, therefore, so, when ai is equal to 0, so, t nominal tariff is nothing but the effective rate of protection but when ti equal to 0 there is no tariff on the finished products, then on the intermediary products.

When there is no tariff on the intermediary products, it is for sure that you know intermediary products is attaching with no restrictions. So that means, the numerator these person is this person boils downs to be 0 and then accordingly we can find out how much content of ai, so, accordingly you can define.

So, given the fact that 10 percent if it is 80 percent, ti equal to 0 g equal to 50 percent. Now, just compare, this is equal to 10 percent where this is equal to 50 percent.

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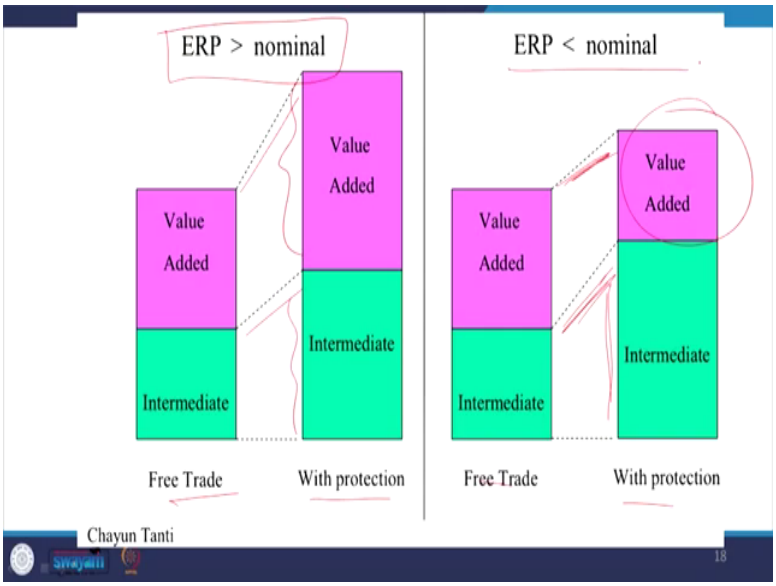


So, we have already verified and these are given for your clarity, you can follow it off and try to understand in a detailed you know format.

Now this is the diagram you know referred I mean to the original you know diagram made by Chayun Tanti. So, basically where effective rate of protection is compared to nominal rate or

the nominal rate of protection is observed. Now look at the intermediate product and the valuated product in case of if there are certain differences, free trade is compared to with protection. Here also we have discussing free trade with compared to protection.

Now look at this. Among these I mean look at the change here look at the change here. Change is very less, where the value added is much higher. So, therefore, when the value added is much higher as against the intermediary values, so, the effective rate of protection is much higher than that of the nominal rate. This simple protection I mean interpretation we have already mentioned.

Now similarly when the change is much higher change is very steeper here for intermediary products being imported is against the value this is very less value added is compared to much lesser the effective protection is not so effective. So, this is one of the very interesting you know interesting interpretation made by Tanti in his diagram is a very simple diagram to be followed.

So, with this we have presented so many facts and figures of latest TRAINS of tariff on different categories of products by product I mean by you know HS classification by you know sector by countries. So, I think you might have you know enough idea of tariff being factorized in different countries for their protection.

In the next lecture, we are going to discuss specially in the next week lecture we are going to talk about non tariff barriers in detail. So, here we are closing the tariff related barriers. We will have comparison for non tariff and tariff barriers as well in the next week as well. So, I think this is clearly understood to you. With this I should stop here.

Thank you.