Strategic Trade and protectionism Theories and Empirics

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Lecture - 18
Intra- Industry Versus Inter- Industry Trade

Welcome friends once again to the trade module which is quite interesting to note because of its demand in the present days of trade where the number of items being exported and imported are very you know difficult to know only because there are large number strategies developed by you know participating countries for trade.

And in that context since the world has already been you know, opened up specifically after globalization, specifically after India's context after 1990, so, we are open to many risk because of the fact that our products are very differentiated and products are you know very you know differentiated by quality marginally or relatively.

So, they have port to differentiate product and the nature of demand across the board is very difficult to define. In this backdrop this particular lecture is meant for and, we are defining a clear cut identification of Intra Industry trade and Inter Industry trade. Though we have already defined the differences by theory, now we will be approaching towards India's need and strategies developed for various products and the nitty-gritties within it.

So, this is lecture number 18 week number 4, myself Dr. Pratap Mohanty faculty member in IIT, Roorkee. Now once again revisiting the structure of our of our module of this week we are sticking once again to the New Trade Theory; this is new one again I am saying because you know we are attaching the production function to be very realistic and which is based on economy of scale of production or increasing returns to scale which is explained here.

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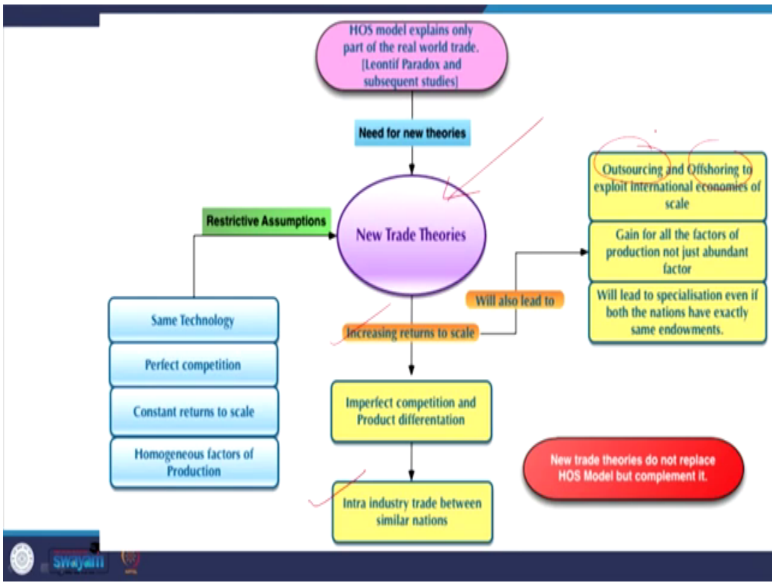

And the result of this is imperfectly competitive market and which results you know differentiated products. And due to differentiation in the product intra industry trade is the outcome and there are other possibilities as well for through trade called outsourcing and offshoring. We will also take it off in our due course of lectures for because of which the basis of trade is our you know a specialization due to increasing returns to scale that lead to gains from trade.

We have already you know noted in the last lecture on; what kind of gains are expected for the consumers, for the producers, for exchange for specialization, for price minimization, there are various possibilities. So, let us tune into the core aspects of intra industry trade and on the way we will also differentiate to intra inter industry trade.

So, a to start with the difference we have already said one is based on internal economies and another is based on external economies, but both are actually you know important for trade, but present days discussions are largely dependent internal economy of scale and the Krugman's theory is actually based on this internal economy of scale.

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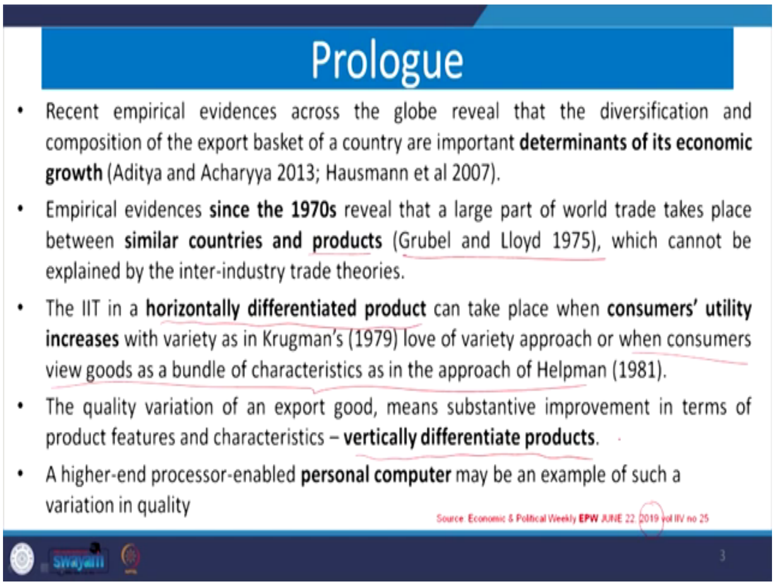

Now in order to refer this particular lecture and its content you may follow EPW latest article published just recently last month, 2019 June 22nd. So, economic and political journal has you know come up with one special article. Now why it is important? In the prologue and our next slide is on justification of intra industry trade hm.

Why recent evidence is basically in the present days in the world economy which suggest that? The primary reasons of economy growth are or the determinants of economy growth are diversification and the composition in the export basket in the globe. So, diversification is one of the most important outcome.

Now second one again very empirically you know derived, and those are the evidences in the 1970s which says that the large part of our world trade actually takes place between similar countries and also similar products and initially identified by Grubel and Lloyd therefore, our index which we are going to go talk about in the next class measuring you know a intra industry trade by GL index; Grubel and Lloyd index.

Again there are the differentiation and by different expert we will you know take it forward accordingly. So, which actually cannot be explained by I mean the similar products and the similar countries. How why they are trading each other? They are actually not discussing the intra industry theories.

Now, the you know intra industry trade in a horizontally differentiated product basically, products which are just differentiated because of the variety and those are you know not by quality, but by just you know substitutability is there; which largely due to the you know increase in the consumers utility and as identify by Krumans piece of literature published in 1979 which resulted him for receiving Nobel Prize.

This is a consumer’s utility increases result in higher horizontal differentiated products so, their law for variety approach specially the Krugman’s talks about variety approach, when the consumers view goods as bundle of characteristics is the approach mention in the Helpmans article published in 1981.

So, after a Krugman’s identification Helpmans also talked about you know consumers attach bundle of goods which are which are having with higher characteristics or different characteristics. So, that these are the two economist who are actually recognized for this initial phase of research. Similarly, so far as the quality variation among the exported goods are concerned they are had been substantive improvement in terms of product features and characteristics and those are called those are called you know vertically differentiate products.

So, we will hands on emphasizing on horizontal differentiate products and vertically differentiated products. So, we have different indexes accordingly. Now higher-end processor as an example to start with higher end processors enabled personal computer maybe an example of such variation in quality just can personal computer and higher end variety of personal computers.

So, these two are you know refer in the context of vertical vertically differentiated products and are responsible for intra industry trade. What are the further justification for intra industry trade? Now one of the most important justification for intra industry trade is income you know disparities across nations. As we all know that you know per capita income of the developed country is much higher than out of the developing and under developed countries.

Now, India's case is quite different than the that of you know many developed countries they are also differ by they also differ by technological differences due to endowment in terms of skilled labor also specially for developing and the India's context human capital is very different than all other countries.

So, these are responsible for differentiating products due to better incorporation of innovation in that trade module. So, so, quality difference is as we already said, but in some of the literature piece of literature like. You know Flam and Helpman in 1987 after 1981 Helpman talked about consumer you know looks for different characterization of goods or different characteristic of a goods.

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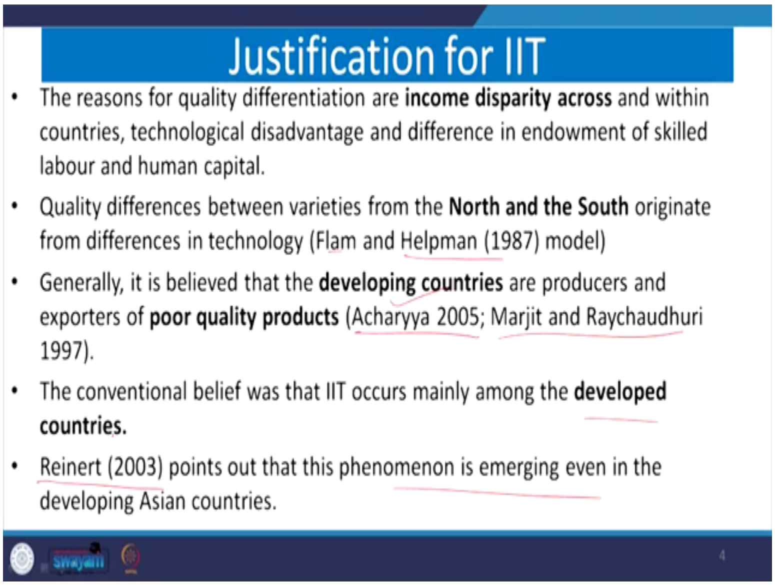

Flam is also attached with identifying North versus South trade which is largely due to technological differences north usually refers for the developed countries and south usually refers for the developing or under developing countries. So, quality difference is actually arises or attaches difference attach with trade between two sets of economy like north and south.

It is generally believed that the developing countries are attach with four you know quality products and they largely export the poor variety of products identified in one of the paper by Acharyya from Indian economist also. So, you know Marjit and Raychaudhuri in their 1997 paper they said that largely we have you know Indian products or even developing countries products are poor in quality and those are exported are poor in quality in this context many other theory also developed.

So, again the convectional belief and in different works of experts which says that IIT Intra Industry trade occurs mainly among the developed countries with similar you know varieties of resources, similar country features. So, therefore, IIT is actually usually you know evidence in developed countries, but over the time this is not the fact like you know Reinert 2003 points out that the phenomenon is actually emerging among the South Asian developing economies. So, not necessarily in the developed countries it is now very much in the phenomenon for the developing countries like India.

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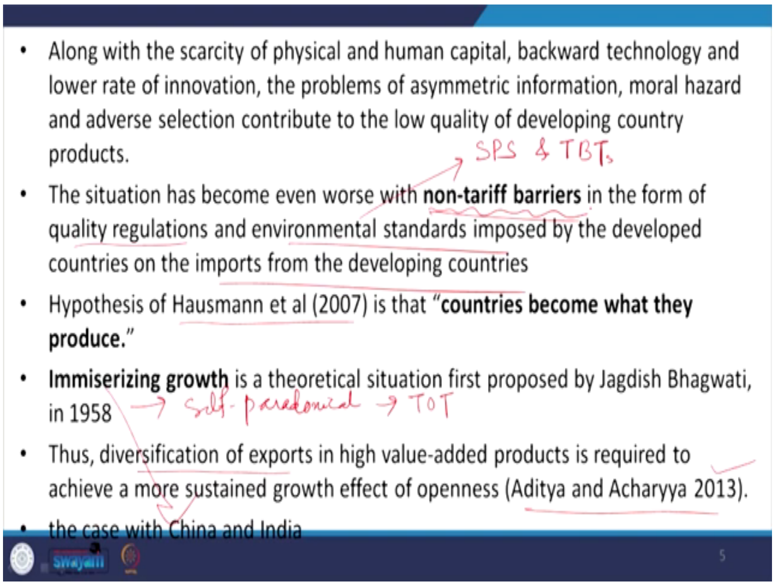

So, there are other justification to talk about like you know in the scarcity of physical and human capital, and the backward technology a low rate of innovation, and there are in many information's are asymmetric in nature, moral hazards asymmetric means you know the buyers and sellers are not properly connected the buyers in one country is differing with the buyers in another country due to information lacking.

Similarly, moral hazard this is one of the also strategy the moral of the you know party; one party is actually hazardous and which is resulted in you know differing quality for the others or the access for the others. So, when one knows the one knows the that you know the quality is not good, but those are being sold in another market specially the second hand market in the present context if you count down OLX type of a platform OLX and Quikr type of platform where, even if we know that products are not good, but we expect that another to suffer and we can sell it differently by developing different strategy.

So, similarly adverse selections are made due to those factors and which resulted in you know low quality of a products among the developing countries and these are the very much a trivial you know factors in developing countries for which has which has been responsible for low quality exported products. Since the another important connection of intra industry trade for strategies since, products are you know different by quality vertically as well as horizontally.

Now it has been also observed that various forms of restrictions and the regulations are developed by participating countries those are largely called nontariff barriers in the present day they are nontariff barriers in the form of quality regulations and moral standards, I think I already emphasize from the beginning, but I will have separate dedicated sessions for it called a Sanitary and Phytosanitary measures.

And technical barriers to trade where some you know technicalities are attached TBTs and SPS are very important regulatory framework developed by the participating countries to restrict the product specially imports from developing countries. So, this is the recent phenomena and the countries are actually suffering and this is one of the problem where intra industry trade must have been discussed in detail or otherwise you know those participating countries might be resulting you know various forms or other trades.

So, hypotheses in one of the woks by Hausmann in 2007 we said that "countries become what they produce." So, countries become what they produce as emphasized by Hausmann. So, if the country produce better variety better end products will actually attach a good you know a good return and because of their participation in trade and then if they these countries are actually you know are participating their products with low and varieties the end is also bad for them.

So, usually it has been observe they are the developing countries a practice this and they are poor because their activities are poor and their productions are poor it has also been talked about in one of the important model by Professor Jagdish Bhagwati in 1958 called immiserizing growth rate which is a theoretical situation initially is proposed by him.

He says that you know our productions are self paradoxical self paradoxical. So, specially, in India developing countries context which explain to the fact that you know many products are actually a very you know low quality in nature and countries do not attach better terms of trade and our terms of trade in the globe is very low.

So, TOT terms of trade is very low in the international context. Diversification of exports in high value added products is required to achieve more sustained growths effects of growth effects openness has also pointed out Aditya and Acharyya in their latest article published in 2013. So, they refer they suggest that diversification of exports especially high value added products is very essential. So, far as growth and its impact on the export is concerned or trade openness is concerned.

So, these are the cases we try to link with the China and India because, China and India's you know products are largely you know low quality in nature and they are attach a very low terms of trade in the international prices. So, suggestions are accordingly made even the immiserizing growth rate is connected to these two countries largely even in the works of Hausmann 2007 also referring to the context of you know India and China.

Similarly, these two countries are under threat often the case especially India's case in the context of non tariff barriers. So, non tariff barriers are actually are huge form of restriction to these countries. So, we must take it forward you know as detailed as possible to understand the intra industry trade and its connection to trade.

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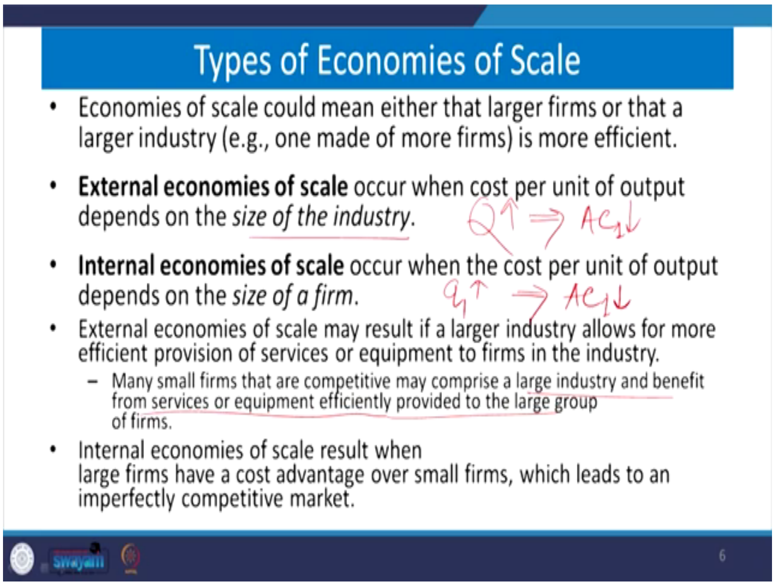

So, what are the different types of economy of scale which has connection with intra industry trade should be discussed in detail? We have already discussed last to last lecture where internal and external economies of scale. In external we mean size of the industry when Q whole Q as a whole increases you know the result in average cost of the particular firm to fall and similarly, when only the firm q 1 increases so, that also result in average cost of the firm first firm or the firm concern decreases.

So, this is a you know very important because you know we need to explore which has resulted in is it the agglomeration effect or the industry as a whole growing therefore, the particular firm is growing or their domestic you know or the internal adjustment or the efficient allocation of resources which has caused the particular firm to actually reduce their average cost.

Now what is more important when many small firms that are competitive may comprise a large industry and benefit from the services equipment or equipment efficiently provided to the large group of firms? So, these are basically the external economies and internal economies of scale result when large firm have a cost advantage over small firms which leads to an if imperfect competitive market; where actually referring to the context of imperfectly competitive market and imperfectly competitive market; which actually measures the efficiency of this particular firm and its economy of scale.

So, in the previous class we have already explained this diagram. So, in a nutshell let we mentioned it is only unidirectional. So, direction is more important the. So, there is no overlap where as incase of intra industry trade. So, we emphasize the matter for their you know economy of scale or increasing you know returns to scale of production; where there are you know both the directional trade some of the components are with both the you know direction.

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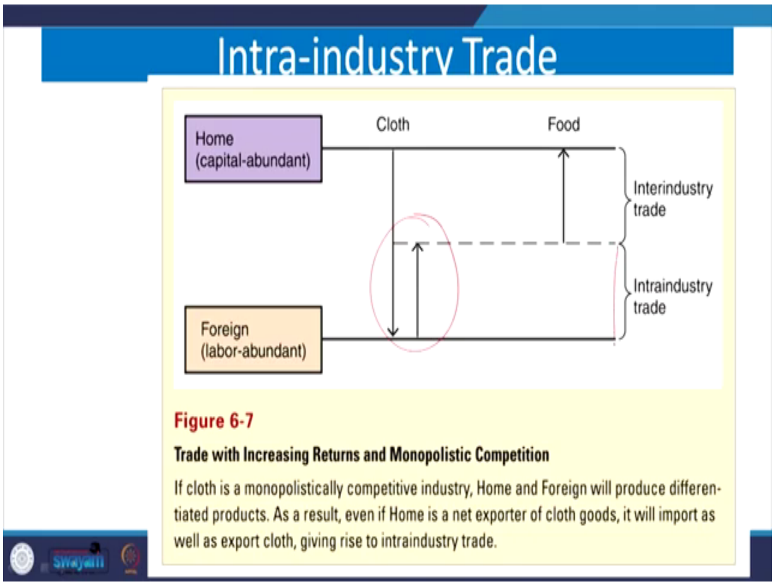

So, these segment is called Intra industry trade where other segment is called Inter industry trade. We have already discussed this. So, you know to differentiate further for intra industry and inter industry trade let me again recapitulate with the some theories because it is very important to imbibe for better understanding. So, the basis for trade since I have already discussed in the last class I am only touching upon the conclusion part of those theories.

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So, the basis for trade in earlier theories specially in comparative advantage it is due to the comparative cost differences, H O theory it is factor endowment differences where in Krugman we have been emphasizing the internal economies specially internal economies not the external economies and the differences in terms of trade. Now what? How India stands? Is very important, as a case, now onwards our classes must be oriented towards more on cases, more on evidence articles written by the experts in different journals.

So, these are the article we are referring to the EPW 2019 June edition June 22nd edition. So, where we are saying that in Acharyya's you know work 2013, it is very important to note here that it has been evidential that the unskilled labor abundant you know countries are actually exporting higher in percentage or largely to the skilled labor abundant countries.

So, therefore, the unskilled labor countries which we assume earlier in our earlier you knows suggestions by experts which says that you know that the it is intra industry trade is the phenomenon observed in developed countries among the similar countries, but now they are not similar they are dissimilar. Unskilled labor abundant, exporting their product to skill labor abundant countries like U.S or India to U.S and its products are actually exported differently.

Now, second most important for China and India in the work by Rodrik in 2006 which says that, India and China particularly are the outlier among the developing countries so, far as the productivity of the export basket is concerned. I mean they basically collected all the products and which they are exporting. So, they observe the you know the productivity of the export basket they found that they found that India and China are actually the outlier.

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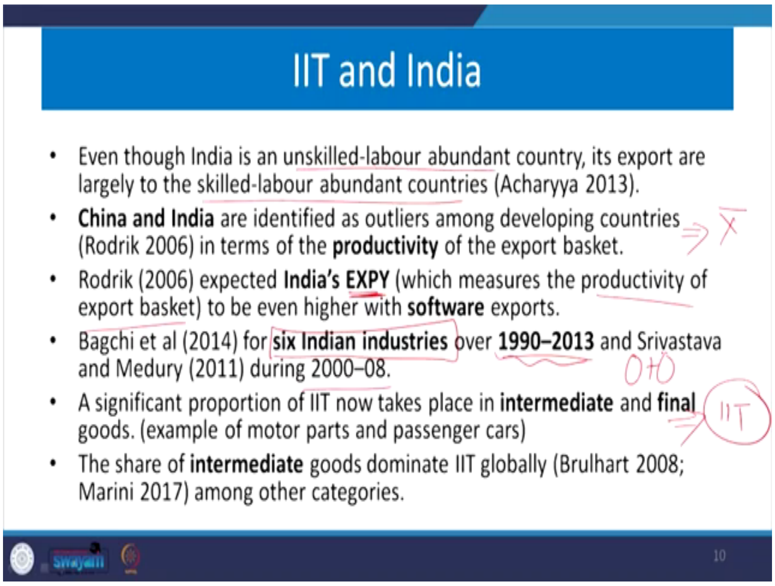

So, they their productivity is much higher than out of many of the developing countries. Similarly in his work Rodrik expected that India's EXPY he has used the term I will clarify now or to be even higher with software exports I mean, the first statement India and China are the outlier when you are not including the software exports, but once you are including software exports India's export and their productivity EXPY they have used the productivity of the export basket in sort their target EXPY.

The India export basket is actually very competitive and very you know productive especially in the software segment. Now, Bagchi and other authors published an article in 2014 which says that which is also identify intra industry trade specially they observe for six Indian industries six Indian industries and the period mark the period 1990 till 2013 in this range of various years they observed that you know there are evidences of intra industry trade thought for Indian six industries and Medury 2011 they studied for 2000 to 2008 period as well Srivastava and Medury 2011 article also is evidential for intra industry trade.

So, I mean basically in their work they are found that it is very much evidential and IIT Intra Industry Trade takes place a significant portion in our export basket I think you know as I already said from the introduction of intra industry trade that you know in the present days the world market is actually a covered by intra industry trade components and specially if we decomposed by sectors in intermediary sector and the final sector are the example major example of intra industry trade.

I mean the significant portion of the trade are in the intermediary you know a sector for example, motor parts or passenger cars motor parts are very much part of you know passenger cars and you know. So, in the passenger car the final segment and motorcars are the intermediary goods. So, and it has been observed that you know many countries are exchanging their motor parts from India especially you know getting you know huge motor parts from other countries and assemble here.

And this is also very true to the fact that the country which received higher FDIs has also higher cases of have also higher cases of you know higher cases of intra industry trade and, we as we already said that countries you know largely you know exchange their goods on the same varieties I mean qualitatively they are different and due to that since they are slightly different it is better to you know locate the assembly unit in one place or assemble from various countries to make a differentiated goods.

For example China is now number one in designing the specially you know packaging you know designing they assemble also many products and many even in pharmaceutical industry the design is given by China largely derive huge benefit out of intra industry trade. Now these are we are referring to the you know intermediary segment and the these are the outcome due to outsourcing and offshoring outsourcing plus offshoring has also resulted these evidences.

The share of a intermediate goods has identify in one of the work in two works you know Brulhart a 2008 and Marini 2017 very latest article among other categories intermediary goods share is square dominant in for IT I appear in the case of intra industry trade globally so. So, intermediary goods actually gets highest share now let us understand types of IIT.

What are different types of intra industry trade? So, one we are I mean based on the features based on the type of products they very largely divided into two types; one is the products are or of the characteristics are different by their attributes. So, they are basically, since attributes are different features are different. So, they are actually a horizontally different.

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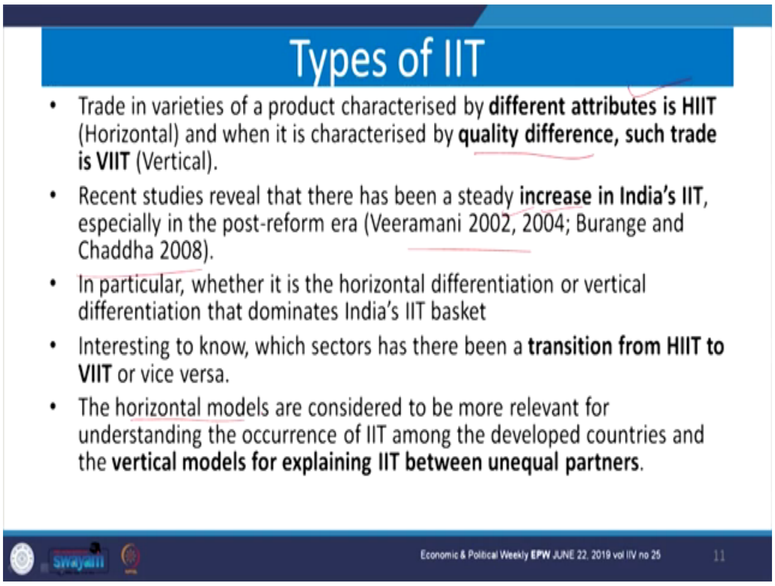

So, they are called horizontal intra industry trade whereas, when the characteristics or the they are characterized by quality differences on the same attributes the still the quality are different such type of products are called you known vertically integrated products or a vertical I mean if their trade is taking place these are all vertical intra industry trade.

Now, what is more recent in the works, specially, in the post reform era for Indian context in Indian you know trade basket they have been significant rise in trade as we already said, but specifically from you know post reform era studies reveal that there has been you know steady increase in the India's IIT Intra Industry Trade and specially in the work a recently by Veeramani and two articles also you know Chaddha 2008 J K Chaddhas article also emphasize this facts.

So, in particular what we wanted to say that horizontal differentiation as well as vertical differentiation dominates India's intra industry trades basket. So, it is also interesting to note and also to understand that the sector has been in a transition from HIIT that is a Horizontal Intra Industry Trade through Vertical Intra Industry Trade and also they are in transition from vertical to horizontal.

So, it is very interesting to note because you know which segment the quality is getting added or the attributes are added. So, some of the experts analyze will now discuss these things in detail in the next class with certain latest works by different papers. So, what is then important we have already said that in horizontal models are considered to be more relevant for understanding the occurrence of IIT among developed countries?

Once again this is to be noted that horizontal models are more relevant for the developed countries where, the partners are almost having you know equal attributes in nature whereas, the vertical models are largely evidential in the unequal partners developed and under developed partners. So, then what are the approaches to measure you know we have seen types we have seen evidences we have seen necessities for it we have all already explained the justification behind the need of intra industry trade in the present context.

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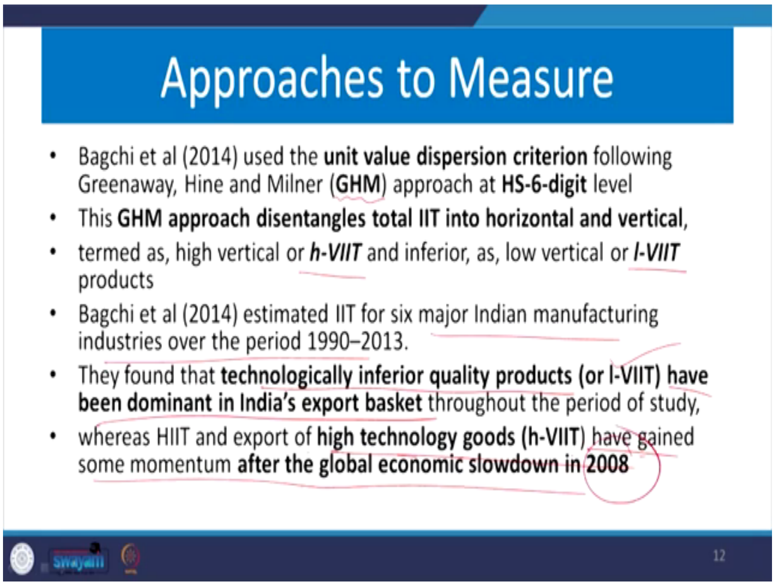

So, Bagchis article in 2014 you know talks about you know unit value dispersion criteria unit value dispersion criteria following a Greenway, Hine and Milner approach you know in famous term called GHM approach using HS 6 digit level industry, that approach actually GHM approach disentangles total IIT Intra Industry Trade into horizontal and vertical those are also termed as high vertical or low vertical industries in short H VIIT and I VIIT.

Bagchi to 2014 article estimated that IIT for 6 major Indian in manufacturing industries over the period 1990 till 2013 they found that technologically inferior quality products have been dominated India's you know export baskets. So, basically l VIIT has been dominated in this huge you know period whereas, high technology exports have you know, whereas, H IIT export of high technology goods have gained some momentum after global economic slowdown specially after 2008 h VIIT is observed now you just see the you know differences.

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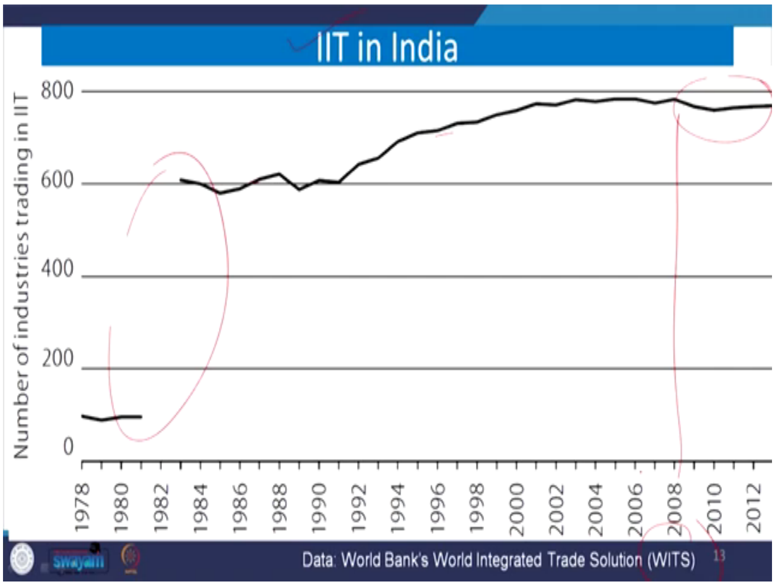

We will again discuss this one in detail our intra industry trade in India over the period is risings and there is a gap because of on availability of data. So, therefore, these are you know disconnection. Specially in 2008 onwards the h IIT in the high and the varieties goods are very high and otherwise it has been rising for Indian case and the data are based on world intellectual trade solution of world bank, you can also follow and we will test its or we will also estimate you know intra industry trade in the next class by using you know Grubel and Lloyd index also various other indicators and that will be very empirically best. So, next class will be very interesting to note. With this I think we will stop here.

Thank you.