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Is TRIPS suffering from Big Giant's Syndrome: Good Economics versus Self Interest?

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Summary

The paper discusses TRIPS as a protection measure on knowledge and new technologies through property rights and analyses the Southern concern if protection of new technologies by means of TRIPS may mean that South can no longer imitate the North in implementing emerging technologies and concepts as was the case with Newly Industrialized Countries of Asia in 1980s. The paper shows that trade and research and development trends are highly skewed in favor of the North and this means that in any such international economic landscape, TRIPS may advantage the North and restrict the South from trading under a technologically aligned level playing field.

Keywords: Commercial Policy; Protection; Promotion; Trade Negotiations

J.E.L codes: F13

1. Introduction:

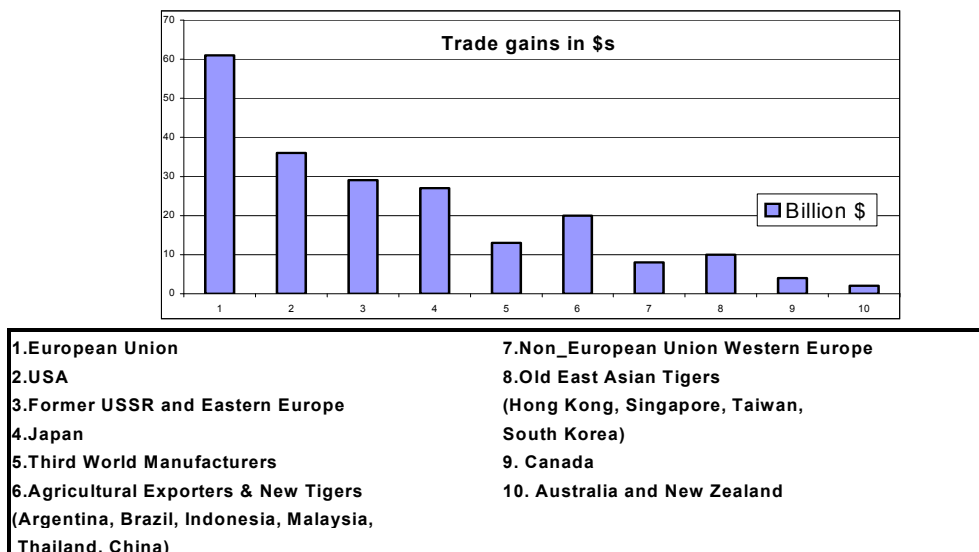
International trade is like a game in which gains are related to the extent to which one plays the game. When the rules of the game improve or referees become more powerful, the main players gain more and those who play occasionally gain much less. It is therefore in the nature of things that big traders will gain more not only in absolute terms but also in proportionate terms in relation to small traders.

The traditional theory of comparative advantage in international trade based on factors of production (land, labour, capital and organization) has been revised from a static game to a dynamic one. Export success and dominance of international markets depends not so

much on static advantage embodied in natural resources or derived from low labour costs as on the dynamic capacity of a country to adapt, initiate and imbibe new technology. Information is becoming a key element in production process as raw materials and labour costs are declining as a proportion of production costs. Countries can now be divided into technologically rich and technologically poor or leaders in technology and followers. The leaders in the field are tempted to restrict diffusion as it enhances market value of their lead and protects their monopolistic position. In the dynamic sense the international trade scenario may then be loaded against developing countries.

As shown in figure 1, in recent times the main beneficiaries of trade have been the OECD countries where also coincidentally the head quarters of the administrators of international trade exists. Now with the increasing dynamics of services sector, trade in goods has been linked to the trade in services. As TNCs currently provide the underpinning of the global economy, this linkage will clear the decks for expansion with long protection of patents and freedom to invest anywhere around the globe. Trade in Services, TRIPs and TRIMs has become subject to International Conduct Rules and its supervision has been internationalized. There is a broadening in the scope of property rights for new ideas, thus extension in the period of protection and the strengthening of the enforcement mechanism.

Figure 1



In India, Brazil and other leading developing countries one of the major basic objection in subsequent WTO talks has been on its provisions pertaining to intellectual property. It is alleged that whereas the Capitalist System swears by competition, the credo of intellectual property rights tends to foster monopolies; it restricts competition, restrains production and thereby tend to contract overall trade. This is contrary to the objectives of GATT, which is to expand trade. There is much truth in the assertion as the developing countries have failed to get a commitment to freer transfer of technology as quid pro quo for the protection of intellectual property rights. The agreement on intellectual property rights is likely to be used against the developing countries as how in many developing countries see the emphasis upon initiatives like TRIPS. Such concerns are also pointed out by many prominent economists in the West, where the likes of Stiglitz (2006) have become vocal skeptics of TRIPS and its implementation. For example, technology advancement in developing countries will be retarded by 20 years patent protection and 50 years for copyright. The compulsory enforcement of new patents and copyrights seems to be designed in favor of rich OECD countries.

The major objective of the paper is to understand the concept of trade related Intellectual Property Rights and their importance in the present scenario of the patterns in international trade especially between North and South.

The paper proceeds as follows. The second section gives detailed theoretical definition of TRIPS. The main provisions of the agreement are also discussed there. Section 3 tries to capture the factors which give economic motivation for the agreement to be implemented in the first place. It revives Bhagwati's concept of "Big Giant Syndrome"¹ by implying that Northern economies may end up following a policy of protectionism by introducing

¹ Bhagwati (1988) introduced this concept in his book Protectionism by stating that England in late nineteenth century was suffering from Big Giant Syndrome because it became the advocate of protectionism after its exports were hampered.

the concept of intellectual property rights on to the world as otherwise there is a possibility for Northern comparative advantage to be worn out with the passage of time. The asymmetries existing in North and South are also stated to be the reason for a negative outcome of TRIPS for developing countries in this section. Some empirical evidence in this respect is also being reviewed. Finally, concluding remarks comprises section 4.

2: Definition and Nature of TRIPS

2.1. An Overview:

The Uruguay round introduced, for the first time in the history of the General Agreement on Trade and Tarrifs (GATT), multilateral negotiations on “trade related intellectual property rights”. Under strong pressure by the industrialized countries, a specific agreement on the availability and enforcement of such rights became the part of the final act of the round: the Agreement on Trade-Related Aspects of Intellectual Property Rights (hereinafter called “TRIPS Agreement”). The TRIPS Agreement is the most comprehensive international instrument on intellectual property rights (IPRs), deals with all types of IPRs. The agreement claims that widely varying standards in the protection and enforcement of intellectual property rights and the lack of a multilateral framework of principles, rules and disciplines dealing with international trade in counterfeit goods have been a growing source of tension in international economic relations. Rules and disciplines were needed to cope with these tensions. To that end, the agreement addresses the applicability of basic GATT principles and those of relevant international intellectual property agreements; the provision of adequate intellectual property rights; the provision of effective enforcement measures for those rights; multilateral dispute settlement ; and transitional arrangements.

2.1.1. The Agreement:

The Agreement establishes minimum standards on:

1. copy right and related rights, including computer programmes and databases
2. trade marks
3. geographical indications
4. industrial designs
5. patents
6. integrated circuits, and
7. undisclosed information (trade secrets)

the standards of protection set forth relate both to the availability of rights as well as to their enforcement.

This means member countries can not, in specific areas and issues covered by the Agreement, confer a lower level of protection than provided under the agreement. At the same time, members can not be obliged to provide “more extensive” protection (Article 1.1). Provisions of enforcement are more detailed in the TRIPS agreement than the preexisting conventions on IPRs. TRIPS also allow a country to apply cross retaliation measures like quotas on exports of such a country which is found to be guilty of noncompliance with the minimum standards.

2.1.2. Main Provisions of the TRIPS Agreement

Part I of the agreement sets out general provisions and basic principles, notably a national-treatment commitment under which the nationals of other parties must be given treatment no less favourable than that accorded to a party’s own nationals with regard to the protection of intellectual property. It also contains a most favored nation clause, a novelty in an international intellectual property agreement, under which any advantage a party gives to the nationals of another must be extended immediately and unconditionally to the nationals of all other parties, even if such treatment is more favourable than that which it gives to its own nationals.

Part II addresses each intellectual property right in succession. With respect to copy right, parties are required to comply with the substantive provisions of the Berne Convention for the protection of literary and artistic works. Industrial designs are protected for a period of 10 years. Owners of protected designs would be able to manufacture, sale and importation of articles bearing or embodying a design which is the copy of the protected design.

As regards patents, there is a general obligation to comply with the substantive provisions of the Paris Convention (1967). In addition, the agreement requires that 20 year patent protection be available for all inventions, whether of products or processes, in almost all fields of technology. Inventions may be excluded from patentability if their commercial exploitation is prohibited for reasons of public order or morality; otherwise, the permitted exclusions are for diagnostic, therapeutic and surgical methods, and for plants and (other than micro organism) animals and essentially biological processes for the production of plants or animals(other than microbiological processes).

2.1.3. Restrictive practices in licensing agreements

The TRIPS Agreement allows member countries to control and ban restrictive practices provided for in licensing agreements that in particular cases constitute an abuse of intellectual property rights with an adverse effect on competition. The Agreement thus introduces the ‘competition test’ for the purpose of verifying and curbing the use of restrictive clauses, as proposed by industrialized countries during the long and unsuccessful negotiations under UNCTAD auspices on an international code of conduct for the transfer of technology.

2.1.4. Enforcement

The Agreement also contains detailed provisions regarding judicial and administrative procedures and other measures related to the enforcement of rights, as well as specific rules for preventing trade in goods bearing false trademarks and in pirated works which

infringe copyrights. The enforcement part of the Agreement constitutes a major innovation as compared to previous international conventions on the matter, which dealt exclusively or mainly with the availability of rights and not with procedures for exercising them.

2.1.5. Dispute settlement

The provisions of the TRIPS Agreement as such cannot be the direct and sole basis of a claim by a private party, that is, it has not been conceived as a self-executing instrument. An action which charges non compliance with the rules of the TRIPS agreement can only be taken by other WTO members and not by individuals or firms. Non-compliance with the new rules, once adopted, would give rise to a dispute settlement procedure under the WTO rules and, possibly, to retaliatory commercial measures in any field (not only in IPRs) by the country whose nationals are affected by such non-compliance. Since, within the WTO, adherence to the new IPRs universal standards will be monitored by the Council for TRIPS, the possibility of deviations from those standards is drastically reduced, unless a non-complying country is prepared to bear the costs of any trade restrictions that may be imposed. The new WTO "Understanding on Rules and Procedures Governing the Settlement of Disputes" provides a limited time frame and considerable automaticity for the settlement of disputes. It creates a Dispute Settlement Body (DSB) composed of all WTO members and stipulates a 'negative consensus' rule for the establishment of panels, the adoption of their reports and the authorization of retaliatory measures. Such a rule means that the panel process will be instituted if at least one country favors this course.

The adoption of this Understanding also means that unilateral actions, such as action under section 301 of the US Trade Act, cannot be imposed before the DSB has verified the existence of a case of non-compliance and authorized retaliatory action. Any unilateral action taken before or outside such a procedure would be illegal under the WTO agreement.

2.1.6. Transitional provisions:

Finally, the Agreement contains provisions that allow developing countries to delay complying with any or all of the Agreement's obligations for up to five years from the date of entry into force of the Agreement. An additional five years is allowed in the case of countries which did not grant product patents before entry into force of the Agreement but which now have to do so under the terms of the Agreement. The least-developed countries may delay implementation for up to 11 years. This term may be extended by the Council for TRIPS upon request setting out the reasons.

2.1.7. Technical co-operation:

Developed countries members of WTO are obliged, under Article 67 of the TRIPS Agreement, to provide "technical and financial co-operation" in favor of developing and least developed countries to facilitate the implementation of the TRIPS Agreement. Such co-operation, which is to be provided upon request and on mutually agreed terms and conditions, includes assistance in the preparation of laws and regulations, support for domestic offices and in the prevention of abuse of IPRs. This obligation on the part of developed countries, if not adequately fulfilled, may be the subject matter of a claim before the Council for TRIPS, as in the case of any other obligation defined by the Agreement.

2.1.8 Review of the TRIPS Agreement in the WTO:

The TRIPS Agreement is to be reviewed for the first time five years from the date of its entry into force, and at two-yearly intervals. There after (Article 71). The Council for TRIPS may also undertake reviews when new developments warrant modifications.

3. Is TRIPS really a Big Giant Syndrome?

Industrialized countries have lobbied to initiate negotiation of an agreement on TRIPS with the clear objective of universalizing the standards of IPRs protection that the former had incorporated in their legislation, once they had attained a high level of technological and industrial capability. The evolution of IPRs standards, following changes in the relative strength of different industries, has been tangible in the patent field, as illustrated by the late introduction of pharmaceutical product patents by France, Switzerland, Japan, Spain and other developed countries. Developing countries reluctantly accepted increased standards of protection for IPRs in GATT by making reforms of their intellectual property legislation without obtaining any major concessions from industrialized countries.

A number of factors that converged during the last decade or so explain the priority given by some countries especially the US, to a far reaching reform of the intellectual property system world wide.

Firstly, technology became a factor of growing importance in international competition, particularly for the production of technology intensive goods and services, which account for the most dynamic segments of international trade. This trend was reflected in the steady increase of research and development (R&D) expenditures in industrialized countries since the 1970s, with growing participation of the private sector in total R&D. In many of these countries, half or more of R&D expenditures are funded by the private sector, particularly by big companies in science-intensive sectors.

Secondly, high externalities in the production of knowledge associated with new technologies limited the appropriability of R&D results and prompted reforms in the IPRs regimes in order to create or reinforce exclusive rights. The US pioneered the extension of IPRs protection in the field of new technologies. Based on their domestic developments, US firms and government actively pursued the internationalization of the

new standards of protection via unilateral action and initiatives in various multilateral fora, including the World Intellectual Property Rights Organization (WIPO) and GATT. This process was clearly shown with regard to computer programmes, semi conductors and biotechnology.

Thirdly, the elimination or reduction of trade barriers in developing countries increased the opportunities for direct exports for those countries. It also led to increased pressure by multinational enterprises to get unrestricted access to those markets and to be freed from the obligation to exploit patented inventions locally or to transfer technology to local firms.

Fourthly, during the 1980s US supremacy in manufacturing and technology had been eroded by catching-up process in Japan, first, and in Asian newly industrializing countries (NICs) later. These countries emerged as aggressive competitors in consumer electronics, microelectronics, robotics, computers and peripherals, as well as in various services (e.g., engineering and construction). The erosion of the technological leadership of US firms in certain high-tech areas, coupled with high US trade deficit, was particularly attributed to too-open technological and scientific system which allowed foreign countries to imitate and profit from US innovations. Thus, a major source of declining American competitiveness was conceived to be the losses from overseas piracy and counterfeiting activities. This perception was effectively promoted by industrial lobbies (particularly the pharmaceutical, software and phonogram industries), which convinced the US government about the need to link trade and IPRs in order to increase the returns on R&D and to prevent imitation. The monopoly rights granted by IPRs have also been regarded as an instrument to avoid further catching-up based on imitative paths of industrialization, that is, as a tool to freeze the comparative advantages that had so far ensured US technological supremacy.

3.1. The North-South Asymmetries:

The new emerging framework on IPRs basically universalizes standards of protection that are suitable for industrialized countries or, more precisely, for certain industrial sectors in which firms based in such countries dominate. Though the TRIPS agreement leaves a certain room for maneuver at the national level, it restricts the options available and ignores the profound differences in economic and technological capabilities between the North and the South. The developing countries only account for about 6% of world R&D expenditures in 1980s as can be seen in table 1 and the trends are still declining for most developing countries. Developing countries are, hence, overwhelmingly dependent upon innovations made in North.

Table 1:

Distribution of world R&D (%)	
Region	% world R&D
Africa	0.4
Latin America	1.5
Asia, including Middle East and China	4.1
<hr/>	
NICs and LDCs	6.0
Former USSR and Eastern Europe	20.0
OECD	74.0

This dependence is also reflected in patent statistics. Thus, 95% of 1,650,800 patents granted in the United States between 1977 and 1996 were conferred on applicants from 10 industrialized countries. In that period, developing countries accounted for less than 2%. The share of developing countries in the trade of medium and high tech goods also indicates that industrialized countries will benefit the most from the new rules on IPRs. Of the exports of the Group of 8 (G8) leading industrial countries to OECD (Organization for Economic Cooperation and Development) countries, 56.7% consist of medium and high technology goods, a proportion similar to that of the Asian “Tigers” (53.3%). The degree of Latin American specialization in those goods is significantly lower (26.5%).

But Asian Tigers and Latin American countries together only account for about 11% of total exports of such goods to OECD countries, against 50.6% for G 8 countries (Alcorta and Peres, 1995).

3.2. Protection by means of TRIPS

In this section, dynamic trade models of intra industry trade between North and South are being discussed to capture the distortion effects of TRIPS; which is more of a concept of intra industry trade.

Krugman (1990) developed some dynamic models to show the possible outcomes of the trade between two countries. Here we try to show how TRIPS can fit in these models. There are two basic assumptions of these models. First, markets are both oligopolistic and segmented: firms are aware those there actions affect the price they receive and are able to charge different prices in different markets. The second assumption is that there is some kind of economies of scale e.g. a declining marginal cost curve or dynamic scale economies of learning curve. The basic model was started by assuming two firms: home and foreign. Each firm produces a single product, which it sells in a number of markets in competition with the other firm. The firms' products may but need not be the perfect substitutes. The segmented markets in which they compete may be divided by transport costs, border taxes, or type of purchaser; they may include markets in each firm's home country and also markets in third countries. Thus in market i ($i=1, \dots, n$) the revenue function of the home firm is $R_i = R_i(x_i, x_i^*)$ where x_i, x_i^* are deliveries to the i th market by the home and foreign firms, respectively. Similarly, the foreign firm's revenue function is $R_i^* = R_i(x_i, x_i^*)$

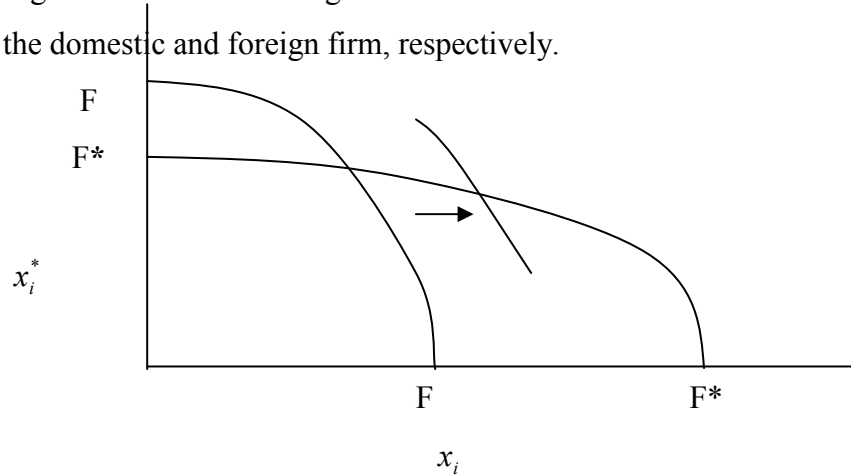
He assumed that each firm's marginal revenue is the decreasing in other firm's output.

On the other side, each firm will face both production costs and transport costs: thus total costs for each firm will be

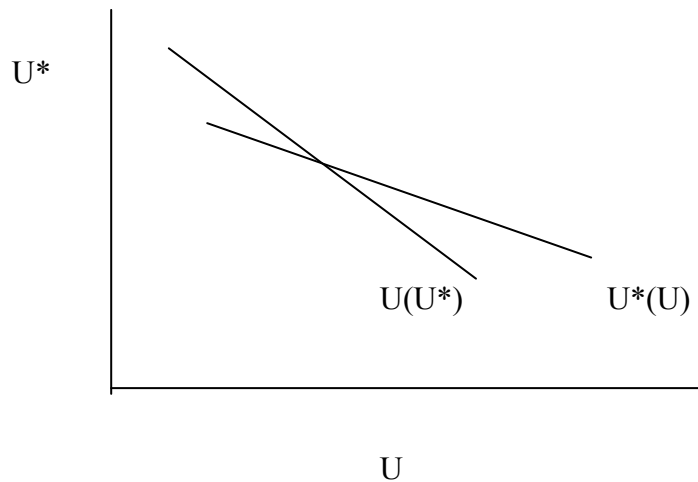
$$TC = \sum t_i x_i + C(\sum x_i)$$

$$TC = \sum t_i^* x_i^* + C^*(\sum x_i^*)$$

where as MCs of production are also declining. By using multimarket Cournot model, Krugman estimated marginal costs μ, μ^* . The figure 1 shows the competition in the representative market for given estimates of marginal costs. The curves FF and F*F* are the reaction function of the domestic and foreign firm, respectively.



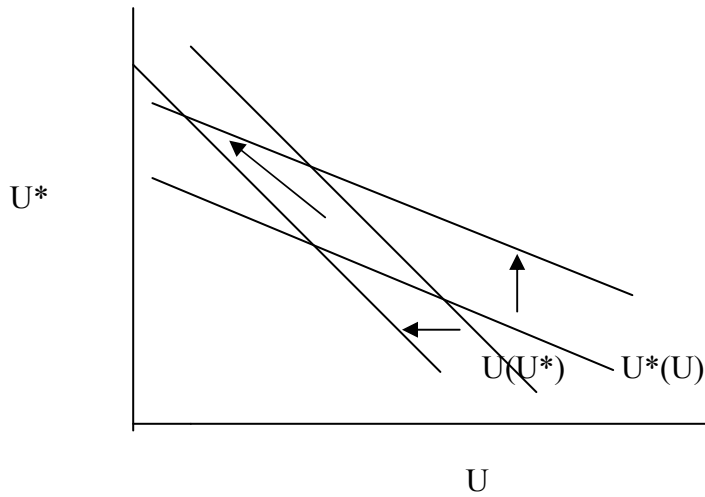
If μ , the home firms marginal cost is reduced, the FF will be pushed out as shown in the figure. x_i will rise and x_i^* will fall. This will happen in each market in which the firms compete, so that total output of the firm will rise and total output of the foreign firm will fall. This will lead to a further increase (decrease) in the marginal costs of the foreign (domestic) firms. This shows that domestic marginal cost is the decreasing function of foreign marginal cost, and vice versa. Krugman showed this in the form of a figure.



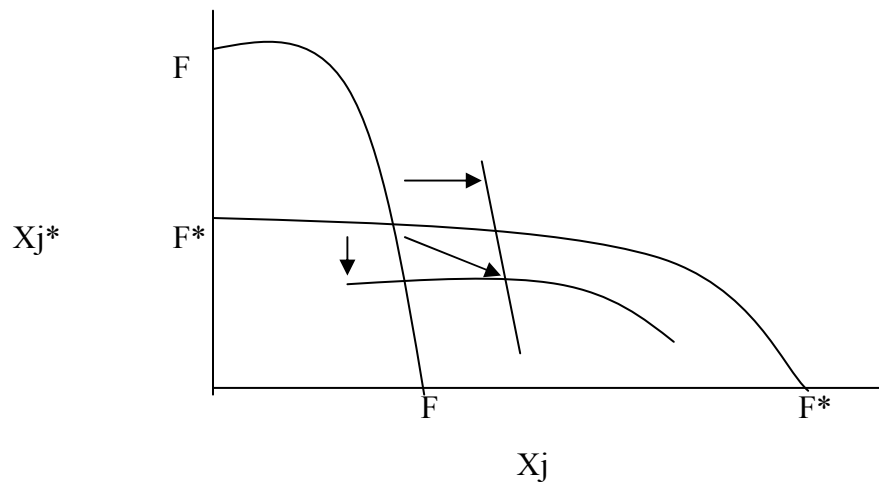
CASE 1: Protection

Suppose that the home government excludes the foreign firm from some market previously open to it. This market might be the whole domestic market or some piece.

To find the effects of this, we first hold U constant. The effect under this is solely to raise X_i and lower X_i^* in the newly protected market. This in turn however, affects marginal costs. Thus for a given level of foreign marginal cost, domestic cost falls: for a given level of domestic marginal cost, foreign cost rises. The curve $U(U^*)$ shifts left, $U^*(U)$ shifts right. The result is a fall in U and rise in U^* .



Now the change in MCs cause FF to shift out, F^*F^* to shift in; X_j rises, X_j^* falls.



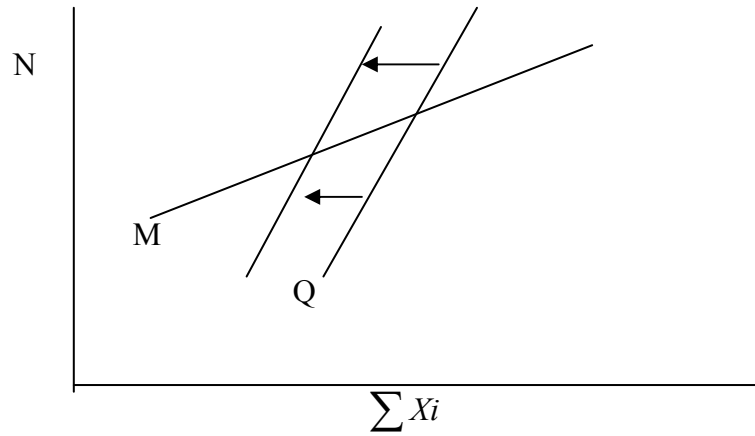
Protecting the domestic firm in one market increases domestic sales and lowers foreign sales in all markets. Thus by protecting one market the government gives the domestic firm greater economies of scale while reducing those of its foreign competitors.

If we consider foreign firm as NORTH and domestic firm as SOUTH, then the implications are that the South can easily out class North by protecting its industrial sector as it did in the case of Asian miracle where North loses out its market share in automobiles and light manufactures. The heart of the story is decreasing costs.

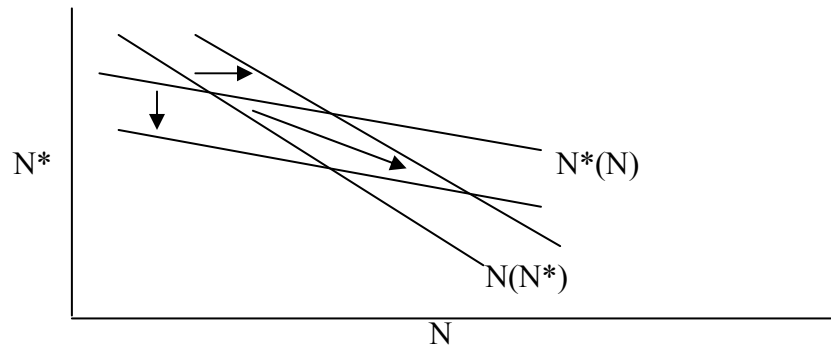
CASE 2 : Competition in R&D:

Krugman also introduced model comprising dynamic economies of scale involved in Research and Development. The model is similar to the one discussed above. There are again two firms, competing in number of markets; demand looks the same as in model I. Costs, however, look some what different. Marginal production cost is independent of the level of output but decreasing in the amount of investment each firm does in R&D. Where, marginal costs are the decreasing function of R&D (N). Profits of each firm are revenue, less production and transport costs, and also less R&D expense. By using the open loop concept, Krugman made the parallel between R&D and static economies very transparent. In the model the investment in R&D has an effect on profits that is proportional to expected sales. This is a form of increasing returns and is the key to the model. Firstly the levels of R&D expenditure were chosen and then implied MC is used to compute outputs. This process was repeated till convergence. The figure below show the determination of N given N^* . The higher the N , the lower be the marginal production cost, and thus higher will be the output; the curve QQ captures this relationship. On the other hand, the larger the output the greater the marginal profitability of R&D, so N is increasing in output along MM . QQ is assumed to be steeper than MM . If the foreign firm were to increase its own R&D, the effect would be to lower its marginal cost and reduce domestic output for any given N . The QQ will shift left and N falls. The result is that N is decreasing in N^* and vice versa; in figure below the stable or own effects dominating case is shown.

$$U=U(N), U^*=U^*(N^*)$$



The effect of reserving some market for the domestic firm is obvious. At given N and N^* domestic output rises and foreign output falls. The QQ curve shifts out, its foreign counter part shifts in. Thus $N(N^*)$ shifts right, $N^*(N)$ shifts down; N rises, N^* falls. Reduced marginal production costs for the home firm and higher marginal production cost for the foreign firm mean increased domestic sales in all markets.



The point here is that protection, by increasing the home firm's sales and reducing those of its foreign competitors, increase the incentive of domestic R&D at foreign expense. This in turn translates into a shift in relative production costs, which leads to increased domestic sales even in un protective markets. Even though there are no static scale economies, the result is same as in previous model. Here, if domestic firm is from the North and foreign firm is from the South, TRIPS would reduce the production of similar manufacturing goods in the South.

CASE 3: Learning Curve:

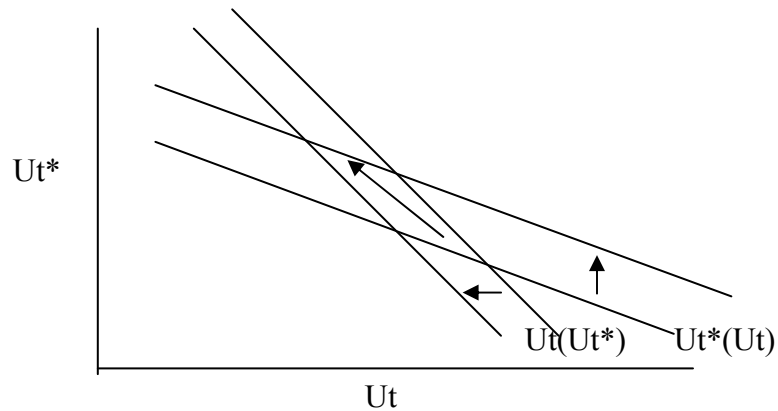
In this version there are neither static economies of scale nor explicit investment in R&D; instead, the increasing returns take a dynamic form: higher output reduces the costs of production later. These learning by doing economies turn out to yield results very similar to those in the other models. Again there are two firms, home and foreign. They compete in a number of markets, but now they compete over time as well as space. In market the revenues of the two firms are

$$R_i = R_i(x_i, x_i^*)$$

$$R_i^* = R_i(x_i^*, x_i), \text{ where } i = 1, \dots, n$$

where x_i and x_i^* now represent rates of delivery per unit time. On the cost side firm faces constant transport costs t_i, t_i^* to each market. At a point in time production costs are characterized by constant marginal costs μ, μ^* . Each firm's terminal marginal cost will be decreasing in other's: equilibrium is illustrated in the figure, where once again it is assumed that own effects predominate cross effects. The effect of protection is now exactly parallel to its effect in the case of static scale economies. Excluding the foreign firm from some market increases the cumulative output of the domestic firm and reduces the cumulative output of the foreign firm for the given U_t, U_t^* . The result is that $U_t(U_t^*)$ shifts left, $U_t^*(U_t)$ shift up; U_t falls, U_t^* rises. This in turn means that x_i rises and x_i^* falls in all markets, whether they were directly protected or not. Once again if the

domestic firm is Northern and Foreign firm is Southern, TRIPs is clearly a protection against South in a way that South will not proceed with the process of learning by doing.



It is the logic of monopoly to charge as high a price as the market can bear, with the purpose of maximizing profits. Price increases shall be a regular feature, and not an accident, with the introduction and /or strengthening of patent protection in developing countries. An outstanding example is the case of Pharmaceuticals. There is a solid set of studies, undertaken in developed and developing countries, and in institutions such as World bank and the International Monetary Fund (see Box 1, Appendix 1) that consistently indicate that developing countries are going to suffer from substantial price increases and other costs.

Many authors have investigated the likely impact of the strengthening or introduction of IPRs in developing countries. Most of the studies are, however, limited to the patent field. They include Chin and Grossman (1988), Primo Braga (1989, 1992, 1995), Primo Braga and Fink(1995), Deardoff (1992), and Diwan and Rodrik(1991), among others. It is difficult to draw general conclusions from these studies, given their different scope, assumptions and methodologies. Chin and Grossman (1988), for instance, examined the “welfare economics of patent protection” in a trading environment. They concluded that IPRs do enhance global efficiency at least for substantial innovations, but the South

would incur losses which the North should be willing and able to compensate. Deardoff (1992) explored the welfare effects of extending patent protection and found that, since at least the poorest countries could not be expected to gain from it, they should be exempted from any new agreement that is made to extend patent protection under GATT.

4. Conclusions

As part of the concluding remarks a further data analysis on the total exports (in US dollars) of the world from 1990 to 1997 is being undertaken by dividing it into two categories; North and South. North is a combination of 31 developed countries where as South comprises of 115 developing countries (see figure 2, APPENDIX 1). The first graph obtained by the analysis show that for every given year there is a sharp increase in the total exports of the North. Where as South also witness some increase in the exports but it is negligible. The second graph shows the gap between the total exports of North and South for every given year. Once again, it is evident from the graph that the gap is increasing over the years, especially after 1994 there is comparatively a sharp rise in the export gap of the two entities. The last graph tells us the growth rates of exports of North and South for the sample period. If we look at the period after 1994 in the graph, a very interesting observation could be made; the growth rate of North's exports is following an increasing trend, whereas that of South is falling down. The irony is that this is more or less the period considered to be the best in the history of international trade by the proponents of free trade. Such trends indicate that current international trade scenario is biased against the South. There must be some truth to the skeptics of globalization that TRIPS is working for the interests of a small group of developed nations (31), where as the majority of the world (115), which unfortunately lies in the South, are, being ignored and their interests are being hampered

Overall, the adoption of TRIPs agreement represented a major victory for industrialized countries and for their most active industrial lobbies. It mirrors the standards of IPRs protection that are suitable for industrialized countries at their current level of

development. Under such circumstances, the least North could do is to provide South with the opportunity or margin to maneuver left by the TRIPs agreement so that they can avoid or reduce eventual negative effects. Developing countries need the time, expertise and the political determination to implement the Agreement in conformity with their own conditions and needs.

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Appendix 1:

Box 1²:

Impact of patents on prices of medicines

1. The minimum welfare loss to a sample of developing countries (Argentina, Brazil, India, Mexico, Korea and Taiwan) would amount to a minimum of US\$3.5 billion and a maximum of US\$10.8 billion, while the income gains by foreign patent owners would be between US\$2.1 billion and US\$14.4 billion.
2. A “national health disaster” has been anticipated by the Indian Drug Manufacturer’s Association as a result of the implementation of the TRIPS Agreement in the country, where only 30% of the population can afford modern medicines in spite of the fact that drug policies in India are one of the lowest in the world. Comparisons of the prices of drugs between India and countries where patent protection exists indicate that in some cases they are up to 41 times costlier in countries with patent protection (National Working Group on Patent Laws, 1993).
3. Similarly, drug prices in Malaysia, where patent protection existed, were from 20% to 760% higher than in India, which reflected a profit maximizing behavior based on “what the market can bear. Welfare and price effects are also found to be negative for a number of Asian countries. Price increases estimated for patented drugs ranges from 5% to 67%. Annual welfare losses for India(the biggest market) ranged between US\$162 million and US\$ 1,261 million, and annual profit transfer to foreign firms between US\$101 million and US\$839 million(Subramanian, 1995a and 1995b).
4. Price increases of drugs resulting from the introduction of product patents in Egypt were estimated at five to six folds as compared to non patented products.
5. Some estimates also suggest that the introduction of pharmaceutical product patents in Argentina would imply an annual additional expenditure of US\$194 million with a reduction of 45.5% in the consumption of medicines, as a result of a price increase of around 270%. The increase in remittances of foreign firms abroad would reach US\$367million. Fiscal expenditures would have to increase by around US\$200 million annually in order not to affect the current public health level.

² The information is taken from Carlos (2000)

Figure 2:

