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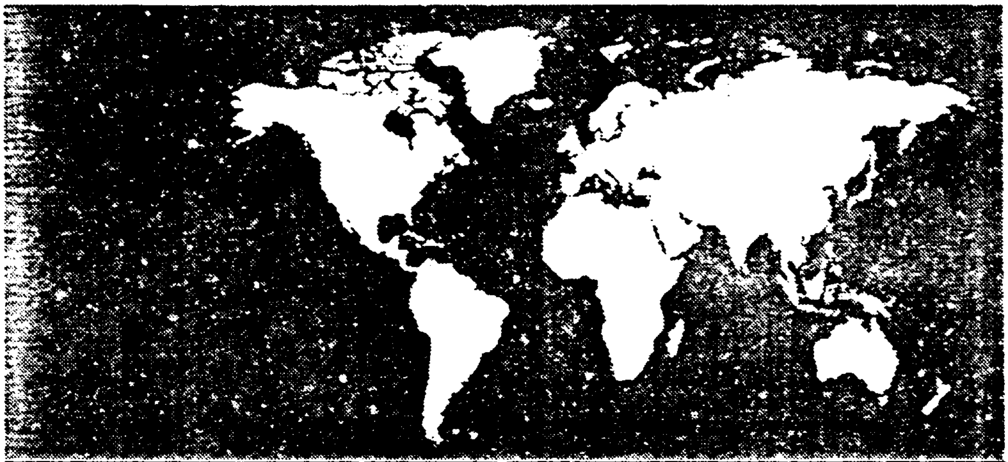

Background Paper

Effects of the Uruguay Round Agreements on industrialization in developing countries

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CONTENTS

LIST OF ABBREVIATIONS

ACP	African, Caribbean and Pacific States
EU	European Union
GATT	General Agreement on Tariffs and Trade
GSP	Generalized system of preferences
LDCs	Least developed countries
MFA	Multifibre Arrangement
MFN	Most Favoured Nation
NAFTA	North American Free Trade Agreement
TRIMs	Trade-related investment measures
TRIPs	Trade-related intellectual property rights
VERs	Voluntary export restraint agreements
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

1. INTRODUCTION

The purpose of this paper is to provide background information on the likely effects of the Uruguay Round agreements on industrialization in developing countries. This information should be useful for the UNIDO secretariat in preparation for the convening of the Global Forum on Industry: Perspectives for 2000 and Beyond to be held in New Delhi, India, from 16-18 October 1995. This forum will be attended by 80-100 senior experts from governmental bodies, industrialists, recognized academics and representatives of international bodies involved in industrialization of developing countries. This Forum will provide important recommendations for the Sixth General Conference of UNIDO to be held in December 1995.

This paper will focus on the environment for international trade and, in particular, changes in that environment resulting from the Uruguay Round agreements. The Uruguay Round is important for three reasons. First, these agreements will result in significant changes in rules governing international trade. Second, the Uruguay Round involved the most ambitious negotiations ever to occur under the auspices of the GATT- these agreements involve issues far beyond the traditional scope of market access. Third, for the first time, developing countries have played significant roles in the negotiations from the outset.

To review all issues covered by the Uruguay Round would be a Herculean task. The scope of this paper will be limited to those issues with direct influences on industrialization and industrial policies in developing countries. Section 2 of the paper presents a brief survey of the important outcomes of the Uruguay Round agreements, including issues that will not be examined later. Section 3 examines the effects of the agreements on manufacturing and trade of the developing countries both in the near term and over the longer term, with emphasis on issues relating to market access such as tariff reductions, issues related to sectors important to developing countries (e.g., textiles and apparel), issues relating to investment, and issues relating to intellectual property. The fifth section analyses the extent to which the agreement limits the scope for industrial policies in developing countries. The final section presents the main conclusions.

2. BRIEF SURVEY OF THE URUGUAY ROUND AGREEMENTS

The Uruguay Round agreements cover a multitude of issues, not all of which will be addressed. The issues included will be those of most significance to developing countries and which have had the most significant effect on changing the international environment.[1/] These issues will be treated in turn.

1/ Examples of issues not covered include the balance-of-payments provision, sanitary and phytosanitary measures, technical barriers to trade, pre-shipment inspection, non-discriminatory rules of origin, import licensing procedures and the plurilateral trade agreements that are not binding on all members of the GATT. Rules governing trade in services constitute a significant part of the Uruguay Round Agreement. While trade in services might constitute measures that complement industrialization, this issue will be considered outside the scope of this paper.

a. Establishment of the World Trade Organization

The Uruguay Round agreements include the establishment of a new organization, the World Trade Organization (WTO) thereby raising the stature of the GATT from a trade agreement to that of a fully fledged international organization such as the World Bank and the International Monetary Fund. The most important change will be that member countries must accept all of the obligations inherent in the Uruguay Round. Membership in the WTO is a "single undertaking approach" rather than the previous situation in which a country might participate in some codes of conduct but not others. Partial compliance is no longer an option.

Decision-making will continue to be by consensus whenever possible. However, in some cases, time deadlines will exist for decision-making; if consensus cannot be reached in time, voting will occur - one vote per member country, with a three-quarters majority required for many decisions.

The WTO does contain a number of provisions that address the special situation of developing countries. Authorization for "special and differential treatment" is continued in the WTO. Moreover, developing countries are given certain variances in complying with the obligations set forth in the WTO. In many cases, these variances involve a longer grace period before full compliance with WTO obligations is required. The least developed countries are exempt from complying with several obligations.

b. Safeguard measures

At inception, the GATT included an "escape clause" provision to permit countries to withdraw a concession that resulted in increased imports sufficient to cause material damage to a domestic industry. In order to take escape action, the importing country was required to introduce equivalent alternative concessions (i.e., to provide compensation) and to apply the escape action on a Most Favoured Nation (MFN) basis.

The escape clause was designed to deal with cases in which there was a clear linkage between a GATT concession and increased imports. However, during the last three decades, concern about injurious imports has emphasized emerging suppliers and changes in the pattern of comparative advantage rather than GATT concessions. Since there were no GATT provisions for such problems. countries invented their own. For example, the US import relief provision (section 201 of the Tariff Act of 1930, as amended) permits "imports relief" action that is more liberal than the letter of the GATT escape clause. There is no linkage between GATT concessions and injurious imports, there is no provision for compensation, and the outcome often includes discriminatory voluntary export restraint agreements (VERs). The widespread use of bilateral VERs and other "grey-area" measures rather than GATT sanctioned escape action is further evidence of the void in this area.

Negotiators were unable to resolve these issues during the Tokyo Round. A major issue of contention between developed and developing countries involved the requirement that safeguard measures be introduced on an MFN basis. The developing countries were concerned that permitting countries taking safeguard measures to target import surges from particular supplying countries would result in a disproportionate application of safeguards against imports from developing countries. They worried about the discrepancy in bargaining power and the likelihood that powerful industries in developed countries would succeed in closing markets to imports from competing developing countries.

Agreement was reached during the Uruguay Round on a new safeguard measure. The overall philosophy was to provide temporary relief to a domestic industry suffering serious injury caused by increased imports; the objective is to provide a period of relief during which the industry can adjust to the new conditions of competition. This agreement maintains compensation and MFN conditions, with limited exceptions; it also limits the duration of safeguard measures and the extent to which quota allocations can discriminate against import surges.

Developing countries are granted special and differential treatment in two areas. No safeguard measure shall be applied against imports from individual developing countries having less than a *di minimus* 3 per cent import share unless all *di minimus* developing countries have a combined import share of more than 9 per cent. Developing countries can invoke safeguard measures for a longer period of time; they also have shorter grace periods during which no safeguard action is permitted.

Of significant importance, the safeguard agreement includes a commitment on the part of all member countries not to take grey-area measures; those in force are to be phased-out. Further, members shall not encourage or support equivalent measures introduced by public or private enterprises.

The important elements of the safeguard provision are listed below:

- Prior to taking safeguard action, the importing country must conduct an investigation to determine that imports have increased and are the cause or threat of serious injury to domestic industry; the investigation must be public and provide an opportunity for all interested parties to have inputs.

- Safeguard measures shall be applied on an MFN basis.

- Safeguard measures shall be limited to the extent necessary to prevent or remedy injury and to facilitate adjustment of the domestic industry.

- If quotas are used, the quota shall not reduce imports below the quantity imported during a recent representative period, normally the average of the three most recent years. If quotas are to be allocated among supplying countries, the allocation should be based on agreement with the countries having substantial interest in exporting the product. If such an agreement is not reasonable, the allocation shall be based on import shares during a recent representative period. Any departure from this allocation must include consultation under the auspices of the Committee on Safeguards with a clear demonstration that (i) imports from particular countries have increased disproportionately, (ii) the reasons for departure from normal allocation are justified, and (iii) the result is equitable to all supplying countries.

- Safeguard measures shall normally be limited to four years. An extension is permitted if continuation is required to prevent or remedy serious injury, and there is evidence that the domestic industry is adjusting. The total period of application of a safeguard measure is eight years (ten years for developing countries).

- If a safeguard measure is applied over a period longer than one year, it shall be progressively liberalized. If extended, it shall not be less restrictive than at the end of the normal period and should be progressively liberalized. This provision is designed to promote adjustments in the domestic industry.

- No safeguard measure shall be applied to imports of a product that was subject to a previous measure during a period equal in duration to the period of previous application (one-half the period for developing countries). If the previous application was longer than six months, the non-application period shall be at least two years. If the period was shorter than six months, the period of non-application shall be at least one year, provided a safeguard measure has not been applied to the product more than twice during the previous five years.

c. Procedures for the settlement of disputes

A major dissatisfaction with the GATT through the years has been the fact that numerous countries have taken significant liberties with its rules. In the early years, there was no mechanism to enforce rules. And even of late, countries were able to block enforcement procedures applicable to their violations. Compliance with the rules of GATT has essentially been voluntary.

A significant outcome of the Tokyo Round was the establishment of a formal dispute settlements mechanism. This mechanism included the filing of formal petitions by one member government against another alleging wrong-doing (i.e., violation of a GATT rule), the formation of a panel to investigate the allegation, GATT coercion for the disputing countries to resolve the issue through bilateral consultations, the panel submitting a report of its findings, and a review of the panel findings by the full body of the GATT. This mechanism essentially formalized GATT procedures that were being practised informally. While this formalization of procedures was a significant step forward, there were too many opportunities for failure in practice. There were opportunities for governments subject to a dispute to delay the procedures or even block the outcome.

One aim of the Uruguay Round was to improve GATT disciplines through the improvement of the dispute settlements mechanism. Much was achieved. The most important outcome was a reversal of philosophy. Under the Tokyo Round, dispute settlements procedures could be blocked by individual countries at several stages, resulting in a stalemate. In essence, the petitioning country needed unanimous support to push the matter to conclusion. Under the Uruguay Round, procedures go forward automatically unless interrupted by the Dispute Settlement Body, but only by consensus. Unanimous support is now needed to interrupt the proceedings. The result is a procedure that places much more pressure on the wrong-doing country and provides significant support to the country being wronged, with less weight to the relative political strengths of the two countries subject to the dispute. This change may prove to be very important for individual developing countries who often are unable to negotiate with developed countries from a position of strength.

The major additions to the dispute settlements mechanism agreed to during the Uruguay Round are the following:

- Panels are established automatically if bilateral consultations have not resolved the dispute within 60 days of the filing of an allegation of wrong-doing. Previously, disputing members could block the formation of a panel. Now, however, only if the Dispute Settlement Body of the WTO decides by consensus that a panel should not be established will the procedure be delayed at this point.

- There is a time limit for panel deliberations, normally six months, but in no event longer than nine months. The Dispute Settlement Body must adopt the report within 60 days.

- There is a new Appellate Body that will review panel reports regarding "issues of law" pursuant to request by an interested member; the Appellate Body must report within 60 days.

- The findings of the panel and/or Appellate Body are adopted automatically unless the Dispute Settlement Body decides against such adoption by consensus. Member governments cannot block the adoption of a panel report or Appellate Body review.

- If the wrong-doing country does not implement the panel recommendations within a reasonable period, and no satisfactory compensation is received, the country filing the allegation can request from the Dispute Settlement Body authorization to retaliate (i.e., suspend the application of WTO obligations); permission will be granted automatically unless the Dispute Settlement Body decides against retaliation by consensus.

- There is a new provision for the settlement of disputes arising from national measures that nullify or impair benefits accruing to a member country even when the offensive measures are not in violation of WTO rules.[2/]

2/ An illustrative example: a country might grant a tariff concession on a product which improves the competitive position of imports *vis-à-vis* domestic producers while at the same time granting domestic producers production subsidies to maintain their initial competitive position. Domestic subsidies that do not distort foreign markets are not a violation of WTO rules. But in this example the subsidy would nullify the benefits of the tariff concession to the trading partners.

d. Tariffs reductions and bindings

Historically, trade negotiations under the auspices of the GATT have emphasized reductions in most-favoured-nation tariff rates. The Uruguay Round is no exception in that tariff reductions have been negotiated covering a wide range of agricultural and industrial products. All GATT tariff concessions are subject to a "binding" commitment; the member country agrees not to subsequently raise the tariff for any product above its "bound" rate.

The tariff concessions offered by the developed countries do not constitute significant new market access for the products of developing countries. Pre-Uruguay Round tariff rates are generally quite low in the developed countries, averaging 6 per cent *ad valorem*. In most cases where high tariffs still exist, imports are generally protected by import quotas or variable levies in the case of agricultural products or by export quotas for textiles and apparel.

The developing countries have also granted tariff concessions under the Uruguay Round. In some cases, the tariff reductions are modest. The more significant contributions made by many developing countries involve an expansion of product coverage subject to tariff binding commitments.[3/] Security of access to markets is often of greater value than an improvement in access to markets.

The tariff reductions are to be introduced in five stages, the first stage to coincide with the entering into force of the Uruguay Round agreements. Subsequent tariff reductions will be introduced annually such that all five stages will be completed within four years.

e. Agricultural products

The agricultural sector has been more heavily influenced by government policies than any other broadly based productive sector. Government involvement runs the gamut from extreme protectionism, discriminatory trade regulations, heavy subsidization to export taxation and even export embargoes. Pursuant to the Uruguay Round, member governments have made significant commitments to introduce market-oriented incentives into the agricultural sector.

The commitments under the Uruguay Round emphasize two policy changes. First, imports are to be regulated by normal most-favoured-nation tariffs instead of other border measures such as import quotas and variable levies. Existing quotas and other border measures are to be converted into equivalent *ad valorem* tariff rates.[4/] The resulting tariffs will subsequently be reduced by at least 15 per cent for each product and

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3/ In some cases tariffs are bound at rates higher than those currently being changed.

4/ Japan and the Republic of Korea are exempt from tariffication obligations for rice; however, they are obligated to increase rice import quotas.

by an unweighted average of 36 per cent and then "bound".[5/] The developing countries must reduce average tariffs by 24 per cent, there is no tariff-reducing obligation for the least developed countries.

Second, governments will reduce production and export subsidies.[6/] There is an exception that involves government support measures that are not directly related to production and not financed by consumers. Examples of these so-called "green" domestic support measures include income payments to farmers (not related to output), domestic food aid, expenditures for public stockholding for food security purposes, services in support of the farm sector not involving payments to producers (i.e., research, pest and disease control, training, extension and advisory services, inspection services, etc.), crop insurance for national disasters, structural adjustment assistance, payments under environmental programmes, and payments under regional assistance programmes.

Member countries also agree to exempt agricultural subsidies that are consistent with the Uruguay Round agreement from anti-subsidy remedies under the countervailing provisions. Finally, there is a special agricultural safeguard provision to protect home markets from excessive increases in import volumes or at below market prices.

The Uruguay Round undertakings in the agricultural sector will be phased-in over a six year period. Developing countries are granted a ten year phase-in period; the least developed countries have no obligations under this agreement.

f. Textiles and apparel

Together with selected agricultural products, textiles and apparel are subject to the most protective policies. Currently trade in textiles and apparel is subject to export quotas negotiated bilaterally between importing developed countries and exporting developing countries. This arrangement is sanctioned under the GATT and is commonly referred to as the Multifibre Arrangement or MFA.

The Uruguay Round agreements provide for a phase-out of the MFA. The process will involve the application of GATT discipline to an increasing number of textile and apparel products. In GATT speak, textile and apparel products will be integrated into the GATT (or WTO). Once a product is integrated into the GATT, the only border

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5/ Tariffication is likely to yield prohibitive tariffs for many agricultural products. Special rules are included to provide minimum market access for all products. Current import levels are to be maintained. If imports account for less than 3 per cent of the domestic market, special tariff quotas are to be created (with lower tariff rates) to increase imports to 4 per cent of the domestic market during the first year and to 8 per cent of the domestic market by the sixth year.

6/ Domestic support programmes are to be reduced by 20 per cent over six years; 13.3 per cent over ten years for developing countries with no obligation for the least developed countries. Budgetary outlays for export subsidies are to be reduced by 36 per cent over six years; 24 per cent over ten years for developing countries with no obligation for the least developed countries. The quantities of subsidized exports are to be reduced by 21 per cent over six years; 14 per cent over ten years for developing countries with no obligation for least developed countries.

measures allowed will be tariffs.[7/] The process of integration will occur over ten years in four distinct steps. Step 1: each importing country whose markets are protected by MFA quotas must integrate products which account for at least 16 per cent of all imports of textiles and apparel on the date of application of the Uruguay Round agreements; quotas on these products must be terminated. Step 2: during the next three years, imports accounting for an additional 17 per cent of each country's imports of textiles and apparel must be integrated; quotas on these products must be terminated. Step 3: during the next four years, imports accounting for an additional 18 per cent of each country's imports of textiles and apparel must be integrated; quotas on these products must be terminated. Step 4: by the end of the tenth year, each country must integrate the remaining textiie and apparel products (accounting for up to 49 per cent of imports of textiles and apparel)- quotas on these products must be terminated. Thus, by the end of the ten year period, all quotas on textiles and apparel must be terminated and only tariffs will remain.

During the phase-out period, certain disciplines are imposed. Each phase-out must include products in each of four categories, i.e., tops and yarns, fabrics, made-up textiles, and clothing. However, each importing country is free to designate the actual products to be integrated - subject to the trade coverage requirements. Concurrent with integration will be a gradual liberalization of existing quotas. More favourable treatment is to be given to those exporting countries who are least developed countries, whose total volume of exports is small, and whose exports account for a small share of the importing country's market.

g. Trade-related investment measures (TRIMs)

With respect to international investment related to trade in goods, the Uruguay Round agreements require all members to comply with the "national treatment" and "quantitative restrictions" obligations under the WTO. The agreement lists five specific practices considered inconsistent with these commitments. In essence, these involve local content requirements (the use of domestic inputs), trade balancing requirements (restrict the volume or value of imports to an amount related to exports of local products, exports of local production, or foreign exchange earnings), and export requirements (require a volume or value of exports related to local production).

Members are obligated to bring their investment measures into compliance with these rules within two years; five years for developing countries and seven years for least developed countries. Developing countries are also permitted to deviate temporarily from TRIMs obligations for balance of payments contingencies.

The agreements also contain notification obligations and rules of transition. Governments are obliged to notify the Council for Trade in Goods of all TRIMs they apply that are not in conformity with the agreement. Such TRIMs are to be eliminated within the time frame described in the previous paragraph. Upon application, a

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7/ Of course, other measures applicable to imports under the WTO will be allowed such as normal safeguard measures, unfair trade rules, etc.

developing country may request a longer transition period for those TRIMs which are particularly difficult to eliminate. During the transition period, no government shall modify the terms of any notified TRIM to increase the degree of inconsistency with the agreement. During the transition period, governments may subject new investments to TRIMs equivalent to those applied to existing enterprises in order not to disadvantage the existing enterprise or distort competition between an existing enterprise and a new investment.

h. Trade-related intellectual property rights (TRIPs)

The issues surrounding protection of intellectual property are a double edged sword. Such protections contribute to world welfare by creating market incentives to reward those who generate new knowledge. The rewards are provided through the granting of monopoly power to the owners of knowledge, enabling them to charge prices above costs for the goods and services containing that knowledge. If such monopoly power were not granted, the incentives for discovery would be smaller, the volume of resources devoted to research and development would be smaller, and rate of growth in world knowledge would be slower.

On the other hand, monopoly power is typically granted to owners of knowledge for a long period of time during which competitors are significantly restricted. The markets for knowledge goods and services are distorted, with smaller volumes being produced for consumers and prices are higher. Fewer competitors at the point of market entry provide less competition in the discovery of small innovations and improvements. These factors lessen world welfare.

The question is whether the protection of intellectual property has a net positive or negative effect on world welfare. Many argue that the answer to this question has not been determined. The Uruguay Round agreement on trade-related intellectual property rights (TRIPs) clearly assumes the answer to the question is positive.

This issue is a source of conflict between the developed countries and the developing countries because of the gross disparity in the volumes of knowledge owned. Most of the world's marketable patents, trade-marks, copyrights and other intellectual property are owned by firms in developed countries. Thus, the developed countries are interested in maximizing the incomes to be earned from exploiting this knowledge. In contrast, the developing countries do not want to be prevented from producing particular goods because of artificial barriers such as intellectual property rights. There are cases in which firms in developing countries produce counterfeit goods (i.e., produce copies and sell as original goods) or engage in reverse engineering to "steal" patents. There are other cases in which the issues are more ambiguous.

The Uruguay Round agreement has three main elements: It establishes minimum standards of protection for the main categories of intellectual property; it requires that each member adopt national laws to enforce the rights of intellectual property; and it provides that disputes in this area can be brought under the WTO dispute settlements mechanism. The Agreement is built on the main existing protections under the World Intellectual Property Organization (WIPO) and accepts the following international conventions: the Paris Convention (1967) for the protection of industrial property, the Berne Convention (1971) for the protection of literary and artistic works, the Rome Convention (1961) for the protection of performers, producers of phonograms and broadcasting organizations, and the Treaty on Intellectual Property in Respect of Integrated Circuits (Washington 1989). The enforcement of intellectual property rights is to be granted on an MFN basis and foreign owners are to be granted national treatment.

It is well known that contractual licences might include conditions regarding the use of intellectual property which (1) might restrain competition, (2) might have adverse effects on trade, and (3) might impede the transfer and dissemination of technology. Thus, governments can legislate against licensing practices or conditions to prevent or remedy these types of abuses. Governments of nationals who license technology are also committed to enter into good faith negotiations upon request by a government who alleges that such nationals are imposing practices or conditions that violate the laws of the alleging government. In reverse, governments of nationals subject to proceedings pursuant to an allegation of violation in the country of the licensee shall be granted an opportunity for consultations.

This agreement includes special and differential treatment in favour of developing countries. Whereas developed countries must bring their national laws into conformity with the provisions of TRIPs within one year, developing countries and countries in transition are granted five years; the least developed countries are granted a ten year phase-in period. Governments of the developed countries also accept two additional obligations: (1) to provide incentives to enterprises and institutions in their countries for the transfer of technology to least-developed countries to enable them to create a technological base, and (2) to provide technical and financial cooperation to all developing countries in the areas of preparing domestic legislation and creating domestic offices and agencies, including training personnel, required for the protection and enforcement of intellectual property rights.

The particulars are listed below.

- Regarding literary and artistic works: the owners have the right to authorize or prohibit the rental, reproduction or rebroadcast of their works; these rights are conveyed for a period of fifty years.

- Regarding registered trademarks: the owners have the exclusive right to prevent unauthorized parties from using identical or similar marks in the course of trade where such use might confuse buyers. Member governments cannot require compulsory licensing of trademarks. Initial registration shall be for a period of at least seven years and shall be renewable indefinitely. Initial registration and renewal can be based on use where use includes use by a person other than the owner, e.g., an authorized firm. A trademark registration can be cancelled as a result of non-use during an uninterrupted period of at least three years.

- Regarding geographical indications:[8] governments shall provide legal means for interested parties to prevent the use of false geographical designations or designations that might be true but nevertheless falsely represent the good as originating in another territory. Wines and spirits are subject to tighter standards in that the use of geographical indications for goods not originating in the locality are prohibited even when confusion regarding the true origin is not to be expected. On the other hand, countries are allowed to use geographical indications that may violate these obligations provided the usage is of long standing. Finally, members are obligated to enter into negotiations with a view to establishing a multilateral system of notification and registration of geographical indications for wines.

- Regarding industrial and textile designs: governments shall provide for the protection of independently created designs; owners of protected designs shall have the right to prevent unauthorized parties from making, selling, or importing articles using such designs. Protections can be denied designs that do not differ significantly from known designs, designs that are combinations of known designs, or designs dictated essentially by technical or functional elements. The duration of design protection shall be at least ten years.

- Regarding patents: patents shall be available for any inventions of products or processes provided they are new, inventive and usable - without discrimination as to place of invention, field of technology and whether products are imported or locally produced. Governments can deny patents to prevent commercial exploitation that might harm human, animal or plant life or the environment, provided such denial is not merely because the exploitation is prohibited by domestic law.[9] Governments can also deny patents for medical procedures used to treat humans or animals. Governments can also deny patents for plants, animals and essential biological processes for the production of plants or animals; however, governments shall provide for the protection of plant varieties.[10] The owner of a patent shall have the fight to prevent unauthorized parties from making, using, offering for sale, selling , or importing protected products or products directly obtained by using protected processes. Patent owners shall have the fight to sell the patent or to conclude licensing contracts. Applicants for patents shall be required to fully disclose the invention such that any person skilled in the technical area could carry out the invention-, governments may also

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8/ Geographical indications are to identify a good as originating in a particular territory, region or locality where the geographical designation indicates quality, reputation or other characteristics of the good (e.g. geographical designations for wine).

9/ This clause would seem to apply to pharmaceutical and agricultural chemical products. There are, however, special provisions for pharmaceutical and agricultural chemical products (Part VII, Article 70 of the Final Act). If patent protection is not available on the date the WTO enters into force, government must have procedures for application for patents; such procedures must include exclusive marketing rights for products subject to application in those cases in which the product is protected by a patent in another country.

10/ This particular authorization for Governments to deny patents does not apply with respect to microorganisms and non-biological and microbiological processes.

require the applicant to indicate the best mode for carrying out the invention known to the inventor. Governments can provide for the unauthorized use of patents subject to obligations to notify the patent owner, to provide adequate remuneration based on the economic value of the use, and to provide the owner with fights of judicial review of the legal basis for the unauthorized use of the patent. In essence, this is a "compulsory licensing" requirement. The objectives underlying this compulsory licensing provisions include (a) to counter anti-competitive conditions in the country, (b) to make products available that otherwise would not be available, and (c) to provide for the non-commercial use of the patent for the public good.[11/] The duration of protection shall not be less than twenty years.

- Regarding layout-designs of integrated circuits: governments shall provide protection to layout-designs of integrated circuits; Governments shall also consider it unlawful for an unauthorized party to import, sell or otherwise distribute for commercial purposes a protected layout-design, an integrated circuit in which a protected layout-design is incorporated, or an article incorporating such an integrated circuit. Governments shall not consider unlawful the above acts if the person engaged in such acts did not know and had no reasonable grounds to know that the products incorporated protected layout-designs. However, Governments shall provide that such persons, upon learning of their violations, be obligated to pay reasonable royalties to the owner of the layout-designs incorporated in stocks in inventory and products ordered but not yet received. The compulsory licensing provisions of the Article on patents also apply to layout-designs of integrated circuits. The duration of protection is at least ten years; Governments may provide that protection shall lapse after 15 years.

3. EFFECTS OF URUGUAY ROUND AGREEMENTS ON DEVELOPING COUNTRIES

Predicting the effects of the Uruguay Round agreements on the exports of developing countries is a most difficult task. The first problem is to isolate the effects of the Uruguay Round from those of other major international economic events currently in train in many countries. Many developing countries are in the process of transforming their economic policies to incorporate more market-oriented policies and less government direction. These transformations include reduced government regulations, more liberal import regimes, more liberal exchange controls, privatization of national enterprises, more liberal rules and regulations regarding inflows of capital and technology, more liberal rules and regulations regarding the rights of establishment by multinational enterprises (including joint ventures and wholly owned subsidiaries), etc. These transformations improve access to markets in developing countries for exports from other developing countries; they also improve supply capabilities for more intense competition among developing country exporters in the markets of third countries. And

11/ Compulsory licensing of semiconductor technology is only permitted in cases of anti-competitive behaviour.

they are progressing under very different time schedules. It is important to note that these transformations involve resource reallocations, economic dislocations, and serious adjustment costs that are paid by the populations of the countries involved.

At the same time, countries in central and eastern Europe are embarking upon similar though more extreme transformations from centrally planned economies to market-oriented policies. Any successes will mean increased market opportunities for all exporting countries as well as competing supplies in traditional markets for exports from developing countries. These countries have received significant attention from governments in developed countries and are competing for scarce international aid and financial support.[12/] This will mean that the aid and financial support available for the traditional developing countries will be reduced at a time when external support is needed to offset some of the adjustment costs of their own transformations.

Moreover, a number of important countries participate in regional trading arrangements. The European Union (EU) was recently enlarged; the EU also has in force a number of free trade arrangements with non-member countries and is continually negotiating such arrangements with additional countries. Canada and the United States recently enlarged their free trade area to include Mexico to form the North American Free Trade Agreement (NAFTA). Negotiations are currently under way for the accession of Chile to NAFTA. Consultations are also under way between the United States and countries in Asia and the Pacific. Since most of these arrangements involve preferential treatment for member countries, they have adverse implications for non-member countries, including the developing countries, especially in the short term.

Over the longer term, these arrangements should stimulate rates of economic growth in the member countries, thereby stimulating imports from the rest of the world, including developing countries. Most empirical studies conclude that the longer term benefits to non-member countries outweigh the near term losses. Even if this proves to be correct, one should not overlook the fact that the near term losses to developing countries will occur at a time when many developing countries are paying the costs of their own transformation to market-oriented economic systems.

Evaluating the effects of the Uruguay Round as they interact with the effects of the above listed events is far beyond the scope of this background paper. These events will have profound effects on the export prospects of developing countries, in some cases far exceeding the effects of the Uruguay Round. Nevertheless, the focus of this paper is the likely effects of the Uruguay Round agreements. The implications discussed below should be considered as comparative static effects, i.e., effects that can be added to effects other than those resulting from the Uruguay Round.

The analysis will be divided into three parts. First, the current situation will be examined with emphasis on manufactured products. This will set the stage for the evaluation of the likely effects of the Uruguay Round agreements. The analysis of these effects will

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12/ Several of these countries now qualify for preferential tariff treatment under one or more GSP schemes.

be divided into two parts. First, the effects likely to occur over the short term, i.e., the next two to four years. These effects will be highly influenced by the fact that the Uruguay Round agreements provide for the gradual phase-in of most changes in international trading rules, including grace periods for developing countries. Once the near term effects have been analysed, the paper will present an analysis of the longer term implications. The longer term analysis will assume that all of the Uruguay Round agreements are fully phased-in and operational. In both cases, the issues to be analysed will be limited to those having the most significant effects on industrialization in developing countries. Thus, the emphasis will be on those elements of the Uruguay Round agreements which have the greatest implications for market access for manufactured products.

There are two issues of immediate and direct interest to developing countries, namely tariff reductions and the phase-out of the Multifibre Arrangement (MFA). Changes arising out of the Uruguay Round will have important implications for developing country exports of industrial products. While the agriculture agreements are not directly related to industrialization, they do have implications for processed food products and the availability of foreign exchange, which is in short supply in many developing countries. The last two issues to be analysed are TRIMs and TRIPs, which have implications for the investment flows which are central to industrialization efforts of developing countries.

a. The current situation

The developing countries as a group have made substantial progress during the past several years. Many have introduced significant changes in their economic policies and approaches to economic development. In particular there has been a dramatic change away from direct government control and toward market-oriented policies. This is not to say that government activism or stimulative economic policies have been abandoned. Governments have adopted new policy approaches that incorporate linkages to the world economy. Extreme protectionism is being dropped and domestic industry is increasingly being forced to respond to competitive forces. In this new environment, the economic growth rates of many developing countries have accelerated substantially.

Table 1 presents the distribution of world trade among developed countries, developing countries and the rest of the world (primarily socialist countries in Europe and Asia) in value and in market shares. The developed market economies (Dev'd ME) account for almost three-quarters of world trade; slightly more than one-half of world trade involves trade among these countries. The developing market economies (Dev'g ME) account for slightly less than one-quarter of world trade; trade among the developing countries accounts for 7 per cent of world trade.

Table 1. Distribution of world trade (1990-92 annual average)

Exporters	Importers			
	Dev'd ME	Dev'g ME	Other	World
	Values in US$ Billion			
World	2,487	791	186	3,464
Developed Market Economies	1 931	502	84	2,517
European Union*	1,146	181	45	1,372
Japan	178	124	12	314
United States	248	141	11	400
Developing Market Economies	474	226	54	754
OPEC Countries	112	44	4	160
Other	82	63	49	194
	Market Share in percent			
World	72	23	5	100
Developed Market Economies	56	14	2	73
European Union*	33	5	1	40
Japan	5	4	0	9
United States	7	4	0	12
Developing Market Economies	14	7	2	22
OPEC Countries	3	1	0	5
Other	2	2	1	6

Source: UNCTAD. ***Handbook of International Trade and Development Statistics***, 1993. Table 3.1.
* Of the European Union's exports to Dev'g ME $850 billion is intra-EU trade or 25% of world trade.

Table 2 subdivides world trade by major sectors. Exports originating in developed countries are heavily skewed towards trade in manufactured products (78 per cent of the total); the remainder is divided among foods, industrial raw materials and fuels in roughly equal proportions. The distribution of exports from developing countries is similar except for the greater significance of petroleum. This table also presents data for regional groupings of developing countries. Manufactured products account for only one-third of the exports originating in the developing countries in the Americas; primary products (food, ores and metals, and petroleum) account for the other two-thirds. Almost two-thirds of the exports originating in Africa involve petroleum, with the remaining exports equally divided among food, industrial raw materials, and manufactured products. West Asian exports are even more dominated by petroleum. On the other hand, the distribution of exports from developing countries in south and South-East Asia is very similar to that of the developed countries. The only exception is the slightly higher share of petroleum, mainly because of the significance of Indonesia.

Table 2. Distribution of world exports by sector (1991 in per cent)

Sector	Exporter						
	World	Dev'd ME	Dev'g ME				
			Total	America	Africa	W Asia	S&SE Asia
Food	10	9	11	26	14	5	8
Agric Raw Materials	3	3	3	3	5	1	3
Ores & Metals	3	3	4	11	6	2	2
Fuels	10	4	25	27	60	73	8
Manufactures	72	78	56	31	15	19	79

Source: UNCTAD, ***Handbook of International Trade and Development Statistics***, 1993, Table 3.2

Table 3 presents data on manufactured exports originating in the developing market economies, including export values and annual growth rates (1970-91). Exports of manufacturing products have been growing at an annual rate of 19 per cent, compared with an average 13 per cent for the developed countries. In the aggregate the developing countries outperformed the developed countries by growing 50 per cent faster during the past two decades. The division among developing countries by region reveals that countries in south and South-East Asia account for the lion's share (81 per cent) of manufactured exports of the developing countries. This performance is true for all the major sectors except that it is not quite so strong in the case of chemicals. These countries are also experiencing the highest growth rates although countries in west Asia are not far behind. The countries in Africa and the Americas are growing more slowly; but even the slowest growing - Africa - is matching the growth rate of the developed countries. The export growth rates across major sectors are relatively similar except for machinery and transport because of the rapidly growing subsector of electronics (primarily office equipment). The observation that rapid growth in manufactures is widespread across major industrial sectors holds for all the regional groupings of developing countries, including Africa.[13/]

A memo item is included at the bottom of Table 3 presenting data on the textiles and apparel sector. This sector accounts for one-quarter of developing countries' exports of manufactured products and has been one of the most heavily protected sectors in world trade. These exports, like all manufactures, are dominated by the countries in Asia. The overall annual growth rate of 15 per cent is 50 per cent higher than the average growth rate for developed countries. In all of the broad manufacturing sectors, all regional groupings of developing countries experience growth rates for exports that match or exceed those for the developed countries. However, for textiles and apparel, exports from the developing countries in the Americas and Africa are not growing as rapidly as exports from developed countries. A possible reason for this anomaly is that trade among developed countries is not restrained by MFA quotas. For example, imports of apparel into the United States from Canada and Italy have grown quite rapidly during the last couple of decades.

13/ The only exception for Africa is that the growth rates are lower. Nevertheless, in each of these broad manufactured sectors, the growth rates for exports from Africa equal or exceed those for the developed countries as a whole.

Table 3. Exports of manufactures from developing market economies
(1991 US$ billion and 1970-91 annual growth in per cent)

Sector		Exporter					
		Total	Dev'g ME America	Africa	W Asia	S&SE Asia	Socialist Asia
All Manufactures	US$bi	428.8	42.7	10.7	20.1	347.5	53.2
SITC 5+6+7+8-68	%	19	16	13	20	21	21
Chemicals	US$bi	34.9	7.0	2.6	4.1	20.2	3.9
SITC 5	%	18	13	15	19	23	18
Machinery & Transpo	US$bi	160.4	14.6	1.3	3.0	138.5	14.1
SITC 7	%	24	19	15	18	27	29
Other Manufactures	US$bi	233.5	21.0	6.7	13.0	188.8	38.2
SITC 6+8-68	%	18	16	12	20	19	20
Memo:							
Textiles & Apparel	US$bi	103.9	5.6	5.2	7.2	85.1	22.8
SITC 26+65+84	%	15	9	8	14	17	19

Source: UNCTAD. *Handbook of International Trade and Development Statistics*. 1993. Annex.

Table 4 presents data on manufactured exports of more narrowly defined product sectors; the five major developing country suppliers of these products are also listed. The objective is to identify more precisely the products in which the developing countries are experiencing the most success and the major suppliers of these products. The sample of products included in Table 4 is not exhaustive. For example, not all textiles are included; the products included account for two-thirds of the textile total.[14/] A similar statement could be made for each of the narrowly defined sectors in the top three categories in Table 4. In total the sample products account for 55 per cent of total developing country exports of manufactured products.[15/] The listed major suppliers account for 44 per cent of total developing country exports of manufactured products.

14/ The sample of products included in this Table is identified in the Annex. This sample includes the 40 SITC 3-digit product categories accounting for the largest values of developing country exports of manufactured products (the total value of developing country exports of each sample product exceeded $2.5 billion in 1991). The data are presented in four groupings of products: (1) traditional exports of textiles, apparel, leather and leather products including leather apparel and footwear, and toys and sporting goods; (2) electronics; (3) other major non-traditional products including automobile vehicles and parts, iron and steel, and plastic raw materials and articles; and (4) other residual products including ships, plywood and veneers, furniture and parts, paper and paper board.

15/ An additional 18 3-digit SITC product categories that are within the sample industries account for 6 per cent of developing country exports of manufactured products. Thus, these few sample industries account for more than 60 per cent of developing country exports of manufactured products.

Table 4 Exports of Developing Market Economies: Major Products and Major Suppliers (1990-91 in US$ million; shares and growth rates 1980-91 in percent)

Product Sector	Exporters														
	Dev'g ME				Major Suppliers										
	Total	Share of World	Annual Growth Dev'g ME	Annual Growth vs. World	First		Second		Third		Fourth		Fifth		Share of Dev'g ME
TEXTILES	25,332	33	12	+4	Kor	5,464	Taiw	5,450	Pak	2,666	HK	1,857	India	1,626	67
APPAREL	40,537	45	11	–	HK	8,858	Kor	5,243	Taiw	3,553	Thai	3,023	Turk	2,690	58
LEATHER&ARTICLES	21,859	43	10	+1	Kor	7,478	Taiw	3,947	Bra	1,439	Thai	1,325	Indon	914	69
ELECTRONICS: office	24,933	21	38	+21	Sing	9,363	Taiw	7,081	HK	1,942	Kor	2,030	Thai	1,676	89
ELECTRONICS: consumer	26,701	29	15	+4	Taiw	5,120	Sing	6,592	Kor	6,377	Mal	3,808	HK	2,044	90
ELECTRONICS: macninery	34,905	25	15	+2	Kor	8,264	Taiw	6,618	Mal	5,517	Sing	6,453	HK	2,273	83
AUTOMOTIVE	18,190	8	14	+5	Mex	5,228	Taiw	3,245	Kor	2,737	Sing	1,407	Bra	2,090	81
IRON&STEEL	10,681	16	15	+9	Bra	2,840	Kor	3,043	Turk	1,161	Taiw	657	Ven	400	76
PLASTICS	11,053	14	19	+9	Taiw	3,784	Kor	1,345	HK	1,183	Sing	1,092	SArab	795	74
PLYWOOD & VENEER	4,430	47	8	+2	Indon	2,906	Mal	444	Sing	215	Taiw	170	Bra	139	87
PAPER&PAPERBOARD	2,504	5	14	+6	Bra	685	Taiw	373	Kor	307	Sing	219	Yug	173	70
SHIPS	5,946	22	12	+7	Kor	3,465	Bah	444	Mal	438	Sing	352	Taiw	312	84
FURNITURE&PARTS	4,010	13	13	+3	Taiw	1,568	Yug	493	Thai	361	Indon	336	Kor	223	74
TOYS, SPORTING GOODS, ET(	6,945	34	8	–	Taiw	3,288	Kor	1,124	HK	665	Thai	517	Sing	284	85

Source: See Annex. The sectors included in this table account for 55% of dev'g ME exports of manufactured products; the listed major suppliers account for 44%.

The traditional products included in this sample (textiles, apparel, leather and leather products such as luggage and handbags, leather apparel and footwear, and toys and sporting goods, etc.) account for 22 per cent of all manufactured exports from the developing countries. The developing countries supply roughly 40 per cent of world exports; growth rates are marginally above those of the developed countries owing to trade restraints. The sample of electronics products accounts for a volume of trade similar to that of the traditional products included in the sample. The developing countries account for a smaller share of world exports, although growth rates are significantly higher and are considerably higher than those for the developed countries, especially for office equipment. Since the potential for future expansion of exports is inversely related to the share of the world market currently being supplied, the export prospects of the developing countries in the electronics sector are very promising, especially given the history of success. This is equally true in the other major non-traditional sectors (automotive, iron and steel, and plastics).[16/] The other products are a mixed bag. Plywood and veneer involve country specific varieties of wood products. The fact that developing countries account for 47 per cent or world exports is probably an understatement of the share of the major suppliers in their varieties. Though the potential for substitution exists, the major potential for future growth is likely to be limited by the growth in consumption in the major market countries. The potential for growth in paper and furniture exports is much greater given the low shares of developing country exports, the higher growth rates, and the vast opportunities for substitution for domestic production in the developed countries.

The point of the above is that the developing countries have done quite well exporting manufactured products during the past two decades. They account for almost one-quarter of world exports of manufactured products; their growth rates are 50 per cent higher than those of developed countries; developing countries in all regional groupings are participating although the Asia countries are at the forefront; and the developing countries are participating in the most rapidly growing sectors.

Of particular importance, all of this occurred prior to the Uruguay Round agreements. World markets were protected by tariffs and other trade restraints, including the MFA, were in force. Even so, the developing countries were able to export manufactured products. The high growth rates may have been somewhat easier given the low shares of world trade and the low base values for calculating growth rates. Nevertheless, this export performance has been spread across all regional groupings of developing countries.

The question is: What impact are the Uruguay Round agreements likely to have on future export prospects of the developing countries? To what extent can the Uruguay Round agreements be expected to accelerate these rates of growth in manufactured exports from developing countries? Or alternatively, recognizing that the developing countries now account for a much larger shares of world exports of manufactured

16/ The sample automotive products include vehicles and auto parts; iron and steel products are mostly the output of basic integrated facilities (ingots, bars, plates); and the sample plastics include raw materials (polymers) and traditional plastic articles.

products, and their base values are much higher: What can the Uruguay Round agreements contribute to maintaining these high rates of growth in manufactured exports? These question will be addressed in two parts, first over the near term during which not all features of the Uruguay Round agreements will be fully in force, and second over the longer term after all of the agreements are in force.

b. Near term effects

As mentioned above, the Uruguay Round provides for a phase-in of changes in rules governing international commerce. Both the TRIMs and TRIPs agreements provide for grace periods before developing countries must bring their practices into conformity with WTO rules. In general, the developing countries were granted a 5 year grace period with longer periods for the least developed countries. While some developing countries might bring their TRIMs and TRIPs into conformity with the WTO earlier than required, many will not. Those developing countries taking early steps to comply undoubtedly will be those that are effectively in compliance already. Thus, the adverse effects on these countries are likely to be minimal. As a consequence, the TRIMs and TRIPs agreements will not have significant near term effects; their importance owes to longer term considerations.

The Uruguay Round agreements in agriculture are to be phased-in over a six-year period and over ten years for developing countries and, thus, stretch beyond the near term. While there will be implications during the phase-in period, the major implications will be discussed below in conjunction with the longer term consequences.

As a general statement, the most significant sector of interest to developing countries is textiles and apparel. This sector is highly protected today through the use of MFA export quotas. There is little opportunity for developing countries to expand exports.[17/] Thus, the Uruguay Round agreement to phase-out protection in this sector is of profound interest to developing countries. The technique to be used to phase-out protection is called "the integration of textile and apparel products into the GATT/WTO." Once a product is integrated into the WTO, the only protection permitted is MFN tariffs; any MFA export quotas must be terminated.

During the four years immediately following the application of WTO rules, a total of 33 per cent of developed country imports of textile and apparel products will be integrated. While this degree of integration during the near term may seem important, there are reasons to suspect that this will not be the case. The importing developed countries have a great degree of latitude in selecting the particular products to be included at each stage of integration. It is anticipated that the least import-sensitive products will be integrated first. This, in turn, means that during the early stages of integration, little will be gained by the exporting developing countries. Thus, the likely impact of the Uruguay Round agreements on trade in textiles and apparel will be discussed below in the section on longer term consequences.

17/ As revealed above, developing country exports of products in this sector are growing no faster than world exports and are growing more slowly than exports of the other major manufacturing sectors.

Every major Round of negotiations after the birth of the GATT has emphasized reductions in tariff cuts. The Uruguay Round is no exception. The tariff cuts are to be phased-in equally over five annual periods beginning with the entry into force of the WTO; thus, in the main, the tariff cuts will be achieved within four years.

Many argue that Uruguay Round tariff reductions are not important for the developing countries; the real issues lie elsewhere. Reasons for such a conclusion might include the fact that two-thirds of developing country exports of manufactured products are destined to the developed countries. Little can be gained because these countries already have very low tariffs (pre-Uruguay Round tariffs average 6.3 per cent) and the Uruguay Round will reduce these tariffs by only 2.4 percentage points (post-Uruguay Round tariffs will average 3.9 per cent). While these facts are true, the implications may be misleading for three reasons. First, past tariff cuts were negotiated. Negotiators reach agreement on the least controversial issues first. Thus, the tariffs that have been cut by the largest amounts involve products for which tariff protection is less important. Future tariff cuts will involve products that are more import-sensitive and present the greatest opportunities for trading partners to increase exports.

Second, tariff cuts can be directly translated into profit increases for traders. To illustrate, a 1 percentage point cut in a tariff will increase net revenues for traders by 1 percentage point. If profits are 5 percentage points, a 1 percentage point cut in tariffs will increase profits to 6 percentage points, i.e., a 20 per cent increase in profits. Since tariff cuts have multiplied impacts on profits and, thereby, the incentive to trade, small tariff reductions can have significant impacts on the volumes of trade.[18/]

A third reason not to reach such a conclusion is that averages often mask important information. Imports of particular products are not charged average tariffs. More important, the averages reported above are trade weighted averages. Since high tariffs depress imports, high tariffs receive smaller weights. At the extreme, a prohibitive tariff has a zero weight and will not affect the calculation of an average. Conversely, low tariffs stimulate imports and receive larger weights. If all tariffs are reduced in the same proportion, the reductions on high tariffs are likely to have disproportionately high effects on trade flows.

A related issue is that even though the average tariff rate for developed countries is quite low, there are numerous products of export interest to developing countries that still face very high tariffs. Sectors of export interest to developing countries that still face tariffs in excess of 15 per cent include textiles and apparel, footwear, leather, rubber, and

18/ Large tariff cuts are likely to have price effects that are passed through to the ultimate buyers (i.e., consumers). Lower consumer prices can be expected to stimulate demand leading to larger volumes of trade. Economists estimate these trade effects of tariff cuts using demand and supply elasticities. The results of such studies are positively correlated with the size of the tariff cuts. Thus, if the tariff cuts are small, such estimates would yield small effects. The point is that even small tariff cuts can increase trader profits by large percentages thereby providing a large incentive for traders to expand trade volumes.

travel goods.[19/] Even if the post-Uruguay Round tariffs remain high, tariffs were cut by an average of 20 per cent in these sectors, these cuts offer potential benefits to developing country exporters. Market access is improved. Of equal importance is the substantial opportunity for future tariff cuts to bring even greater benefits.

The analysis of likely effects of tariff reductions is very problematic. Tariff cuts on products that are not of export interest can be dismissed. But how does one identify products of export interest? The easiest approach is to examine trade flows to identify products currently being exported in large volumes. The Annex contains a list of the 40 ma or sectors of current export interest to developing countries. However, there are also a number of products that are of export interest even though current export volumes are suppressed by trade restraints, by high tariffs, and by overvalued currencies. Since current trade volumes are low or zero, it is very difficult to identify which products might be of export interest.

A very detailed analysis of the tariff cuts negotiated during the Uruguay Round is beyond the resources available for this study. The following analysis will concentrate on those sectors of proven export interest, i.e., the sample of products included in the Annex. As a general statement, the greatest percentage tariff cuts occurred in products subject to relatively low pre-Uruguay Round tariff rates; full 100 per cent tariff cuts result for all products on which tariffs are cut to zero, i.e., access becomes duty-free. But small tariffs have small price effects. As a general rule, the best comparison for tariff reductions is to compare the reductions in percentage points. Thus, a 5 percentage point tariff reduction (from 25 per cent to 20 per cent) is more significant than a 4 percentage point tariff reduction (from 4 per cent to duty-free).[20/]

The likely effects of the Uruguay Round tariff reductions on the identified products of export interest to developing countries (see Annex) will be discussed in turn:

Textiles and apparel: These sectors are currently subject to very heavy protection under the MFA. Consequently, tariff reductions will not result in larger trade volumes until quotas are phased out. There is one near term benefit that will accrue to developing country exporters. The quotas create monopoly profits which are normally referred to as quota rents. The quota rents are currently being shared between importing country governments (who collect tariffs) and the developing country exporters (who receive the residual). At present the quota rents are being shared approximately equally between importing country governments and developing country exporters. However, if tariff rates are reduced, the share of quota rents accruing to the developing country exporters

19/ Trade in textile and apparel products is still controlled by MFA export quotas. Thus, tariff concessions in this sector are not likely to be of significant benefit to developing countries in the short term. However, as the MFA is phased-out, these tariff cuts will become important, i.e., over the longer term.

20/ The price effect of a tariff reduction can be calculated as t'(100+t) where t' is the tariff reduction in percentage points and t is the pre-Uruguay Round tariff rate. Thus, a 5 point reduction from 25 to 20 per cent yields a price effect of 5/125=0.04 (4 per cent) whereas the 4 point reduction yields 4/104=0.0385 (3.85 per cent). Further, a 4 point reduction from 10 to 6 per cent yields a price effect of 3.6 per cent.

will increase. As a result of the Uruguay Round tariff cuts, the quota rents accruing to developing country exporters are likely to increase by about 30 per cent.

Leather and leather goods: This sector includes finished leather and leather goods such as luggage and handbags, leather apparel and footwear. Beginning with leather, the EU and US have pre-Uruguay Round tariffs that average less than 5 per cent; the tariffs cuts negotiated during the Uruguay Round will average less than one point for these importers. In contrast, Japan has much higher pre-Uruguay Round tariffs (average more than 10 per cent) and has granted larger tariff cuts averaging almost 4 points. In the case of leather goods, the story is similar except that the pre-Uruguay Round tariff levels are higher. The tariff reductions coming from the Uruguay Round average 1 point for the EU, 2 points for the US and 1.5 points for Japan (from a much higher base level).[21/] Given that the developing countries currently account for significant shares of world exports in this sector, continued growth will increasingly be constrained by the growth in world consumption. On the other hand, in the short term, these countries can expect to experience historic growth rates, which are only marginally higher than the overall growth in world trade.

Electronics: This sector includes electronic products ranging from data processing and other office products to consumer items, telecommunication products and other items not destined for final consumers such as transistors, switches, power equipment, etc. Most of these products are not import-sensitive and, therefore, the pre-Uruguay Round tariffs were quite low.[22/] Nevertheless, the Uruguay Round tariff cuts were often larger than average for these products and averaged roughly 4 percentage points. As a result, trade volumes should increase by an estimated 10 per cent or 7.5 billion (1991 US$) for the sample products alone.[23/]

Automotive: This sector covers vehicles, including motorcycles and parts. The pre-Uruguay Round tariffs on parts are quite low, averaging less than 5 per cent; the Uruguay Round resulted in formula tariff cuts that were average in percentage terms but rather low in percentage points, between 1 to 2 points. The pre-Uruguay Round tariff rates on vehicles were much higher and the negotiated tariff cuts were much smaller averaging between 1 and 2 percentage points. The tariff reductions negotiated during the Uruguay Round are not likely to bring significant new trading opportunities. However, there is no indication that there will be any reduction in the pre-Uruguay Round growth trend in developing countries exports in this sector.

Iron and steel: The products in this sector identified as of major export interest to developing countries are all basic products: ingots, bars, and plates and sheets. All are intermediate products imported for further processing into steel products or to be used in construction. Pre-Uruguay Round tariff rates were quite low, although these products

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21/ One should also be aware of the social issue regarding the leather industry in Japan. Any tariff reductions that are negotiated are unlikely to result in significant increases in leather imports into Japan.

22/ The EU considers some of these items as import-sensitive, including VCRs.

23/ This estimate is based on a demand elasticity of 2.5 and very high supply elasticities.

are very import sensitive.[24/] These products are usually produced in integrated steel mills and enter world markets having significant excess capacity.[25/] European producers are subsidized by their governments and this has been a bone of contention with US producers. International trade in steel is a source of significant conflict among the developed countries. As a result, the tariff cuts emerging from the Uruguay Round should not be taken as an indication that world markets have been liberalized. If the trade conflicts among the developed countries can be resolved in favour of open markets, then the outlook for continued growth in developing countries' exports of steel products would be bright.

Plastics: This sector includes raw materials (polymers) and articles of plastic. The tariff cuts negotiated for the EU, Japan and the US are quite modest, averaging less than 2 percentage points. The pre-Uruguay Round EU tariffs average almost 9 per cent and the post-Uruguay Round tariffs will remain above 6 per cent on average. The Japanese and US markets were more open prior to the Uruguay Round so little could be expected.[26/] World markets for exports of these products from developing countries should remain open and the pre-Uruguay Round growth rates (19 per cent annually) could reasonably be predicted to continue for the near future.

Other major products of export interest: Ships are currently subject to very low tariffs. Thus, the Uruguay Round tariff reductions will result in little change and the existing trend in growth should continue. Paper and paperboard qualified for GSP treatment under the schemes of the EU, Japan and the US. Thus, the significant tariff reductions negotiated during the Uruguay Round will not improve access to these markets for developing country exporters.[27/]

Tariff escalation: A special problem that has plagued developing country exporters is the fact that the developed countries have escalated tariff schedules thus discouraging countries from further processing indigenous raw materials into higher staged products.[28/] The purpose is to create incentives such that the value added from processing is captured by firms in the importing developed countries. One of the objectives of the developing countries in the Uruguay Round was to reduce the extent

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24/ Japan granted tariff reductions averaging 90 per cent of the pre-Uruguay Round tariffs. However, imports from developing countries qualify for duty-free treatment under the GSP. Thus, access to the Japanese market for developing countries has not improved; in fact, the margins of preference under the GSP have been reduced.

25/ Steel bars are increasingly being produced by minimills in the United States. However, current technology prevents minimills from producing high quality steel sheet and alloys.

26/ The Japanese pre-Uruguay Round tariffs averaged 6 per cent but imports qualified for duty-free access under the GSP.

27/ Conversely, the margins of preference will be reduced.

28/ Escalated tariff schedules specify low tariffs on input commodities and high tariffs on downstream products. If the advanced product is imported, the high tariff rate is applied to the total value of the product, including the value of the input commodity. In order to add value in the country of exportation, the processor must be willing to absorb the high tariff being charged to the share of final value accounted for by the input commodity.

of escalation in the tariff schedules of the developed countries. Products for which this is a significant problem include leather, rubber, wood and paper. The escalation problem has been reduced in the following cases: in the leather industry, from hides and skins to leather, but not from leather to leather products; in the wood industry, from semi-manufactured lumber to finished articles of wood, but not from logs to lumber or wood panels; in the paper industry, from paper to paper articles, but not from pulp to paper.

Erosion of the GSP tariff margins: All of the above tariff issues have dealt with improved access of developing country exporters to developed country markets. There is one area in which developing country exporters access to developed country markets will be hindered. Reductions in MFN tariff rates reduce the margins of preference enjoyed by developing country exports under various preferential tariff programmes including the generalized system of preferences (GSP), the Lomé Convention under which countries in Africa, the Caribbean and the Pacific (ACP) receive preferential access to the markets of the European Union, the Caribbean Basin Initiative under which countries in the Caribbean and Central America receive preferential access to the US market (CBI), etc. As MFN tariff rates are lowered, the margins of preference enjoyed by the developing countries that benefit from these programmes are also eroded. This will reduce the incentives to importers in the preference-giving countries to source imports from the beneficiary developing countries. While this erosion of margins will have an adverse effect on developing country exporters, it is highly likely that the other aspects of MFN tariff reductions will provide a much larger benefit to developing country exports such that, on balance, the developing countries will be net beneficiaries from the tariff reductions negotiated during the Uruguay Round.

Tariff concessions granted by developing countries: The last issue deals with the tariff undertakings of the developing countries themselves. It should not be forgotten that one third of developing country exports of manufactured products are destined to other developing countries. Trade among the developing countries is important. Two outcomes of the Uruguay Round are important. First, tariff cuts offered by developing countries and, second, the binding commitments.[29/] The more important trading countries among the developing countries offered to cut their average tariffs by roughly 20 per cent, from 25 per cent to 20 per cent.[30/] But even more important, the major offers by developing countries were to subject their tariffs to binding.[31/]

29/ The following analysis excludes data for Hong Kong. Hong Kong currently admits all imports free of duty. At the same time, Hong Kong has not committed to bind tariffs covering more than 25 per cent of imports. Finally, the volume of Hong Kong imports is very large (4 times that of the Republic of Korea and 5 times that of Singapore) owing to very significant entrepôt trade.

30/ The second average is somewhat distorted. In many instances, the tariff offering of a developing country consisted of binding the tariff at a rate above the rate currently being charged. The reported average of post-Uruguay Round tariff rates is the average of bound rates, where binding applies, and current rates in other cases. In practice, post-Uruguay Round tariffs will average less than 20 per cent for developing countries.

31/ A tariff binding is an agreement not to raise tariffs above the bound rate.

The Uruguay Round will result in an increase in developing country imports in products subject to bound tariffs from roughly 25 to 75 per cent of total imports. This represents very significant undertakings and will provide assured access to their markets for exports from developing as well as developed countries. At this time, the sectors most likely to benefits from these bindings have not been identified and thus it is not possible to project the likely benefits to other developing countries.

To summarize, the short term effects of the Uruguay Round agreements regarding TRIMS, TRIPS, agriculture and the phase-out of the MFA are likely to be minimal. On the other hand, the tariff cuts negotiated during the Uruguay Round should be mostly phased-in over the short term. There are likely to be significant benefits to developing country exporters in the electronics sector. For most of the other sectors identified as of export interest to developing countries, the Uruguay Round tariff cuts are not likely to provide significant new benefits. In those cases in which the tariff cuts are somewhat larger, the products were currently entering the major developed country markets under GSP treatment; thus, there is no reduction in the effective tariffs facing developing country exports. Nevertheless, tariff rates have been reduced on these products and market access is improved. Moreover, there is every reason to predict that the recent history of high rates of growth in developing countries' exports of these products should be maintained. An exception might be the iron and steel sector, which is the subject of a significant trade conflict among the developed countries. The resolution of this conflict is necessary before the developing countries can expect a dependable improvement in access to these markets for their exports.

The benefits accruing to developing countries from tariff reductions are not evenly distributed but are heavily concentrated in favour of those developing countries best able to export manufactured products. As the Annex shows, it is the developing countries in Asia that account for the lion's share of developing country exports of manufactured products at this time. Nevertheless, the tariff cuts are introduced on a most-favoured-nation basis and are available to all developing countries exporters. As more countries develop their capacities to export manufactured products, the benefits from Uruguay Round tariff reductions will be spread more widely among the developing countries. The growth rates reported in Table 3 above demonstrate that developing countries in all regions of the world are participating in the growth of world exports. Thus, we can anticipate that over time the distribution of exports of manufactures will become more evenly spread across the developing countries.

While the figures presented above may seem to belittle the importance of the Uruguay Round tariff cuts for developing countries today, it must be borne in mind that tariffs are coming down on a wide range of industrial products. Since these tariff cuts initially go directly into the profits of importers, even small cuts in tariffs can provide significant incentives to expand international trade. It should also be noted that the above analysis is limited to products of proven export interest to developing countries. There are likely to be cases in which tariffs are lowered sufficiently to permit trade that previously was not profitable. Moreover, emerging suppliers of many industrial products will find more open markets in the higher income countries. Thus, products for which current trade levels are low might become visible products of export interest in the future.

c. Longer term consequences

As summarized above, the near term effects of the Uruguay Round agreements regarding TRIMS, TRIPS, agriculture and the phase-out of the MFA are likely to be minimal. Only over the longer term will the agreements in these areas bear fruit for developing countries. These issues will be discussed in the following order: agriculture, textiles and apparel, TRIMs and TRIPS.

Agriculture: The agriculture agreement will have minimal implications for industrialization. In the main, the agreements will affect international trade in agricultural commodities rather than processed agricultural products, with important exceptions such as cheese and wine. It is also important to recognize that the commitments undertaken pursuant to the uruguay round have much more to do with export supplies than access to import markets.

The first major undertaking involves commitment to limit production and export subsidies. As a result, net private product costs will rise and incentives to export will fall. The result should be an increase in world prices of farm commodities. This will affect developing countries in very different ways depending upon their individual circumstances. Those developing countries that are net exporters of agricultural commodities should benefit from high world prices. However, those that are net importers of agricultural commodities will be losers owing to the higher prices paid for imported food commodities. The implications for the allocation of scarce foreign exchange are clear. The gainers will have more available with which to purchase capital goods for investment products which, in turn, will accelerate their rates of economic growth. The losers must divert foreign exchange from capital/investment projects to pay for food imports which, in turn, will slow their rates of economic growth.

The second major undertaking in the Uruguay Round relating to agriculture is the tariffication of border measures. In the first step, border measures will be removed and tariffs increased to provide equivalent protection to domestic industry. At the end of this step, access to markets will not have changed.[32/] In the second step, tariffs will be reduced by at least 15 per cent on each product (10 per cent for developing countries) and by an unweighted average of 36 per cent over a six-year period. The prediction is that the 15 per cent reduction rule will be applied to the products of interest, with much larger duty reductions on products which are subject to minimal protection today. Truly improved market access in the agricultural sector must await future rounds of negotiation. However, the steps taken during the Uruguay Round have set the stage for meaningful future tariff reductions in the agriculture sector.

Textiles and apparel: Without doubt this is the sector in which the developing countries at all stages of development have the most significant export interest. It is also the most heavily protected. As a consequence one would anticipate that the phase-out of the

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32/ It is anticipated that, in some cases, the tariffs will be prohibitive. In such cases there are minimum import targets to assure *di minimus* access to all markets. This will not constitute a meaningful improvement in market assess.

MFA arrangement and the discontinuation of bilateral export quotas, as negotiated during the Uruguay Round, will provide the most significant gains for developing country exporters in general. This may not be the case for two reasons.

First, the process of liberalization is backloaded. That is to say, during the first three stages of a four stage process roughly one-half of the trade in textiles and apparel will be liberalized and these will be the products that are least import sensitive. This means that at year ten, the remaining one-half of the trade in textiles and apparel, involving the most import sensitive products, will have to be liberalized in one fell swoop. It was extremely difficult for the politicians of today in the developed countries to agree to liberalize trade in textiles and apparel; they did so under conditions that would not hold them answerable until after they depart from office. It is questionable whether the politicians of tomorrow, those in office when the final stage of liberalization is to take place, will be able to withstand the political pressures brought to bear at that time. The pressures for those politicians to renege on the Uruguay Round process or to delay the full implementation of the agreements will be great. Only time will tell whether this fear is warranted. It can be hoped that the experiences gained during the early stages of liberalization will prove that the industries in the developed countries can adjust to the dictates of competition without undue costs and that the benefits to consumers are compelling. But even under the worst of circumstances, it should be expected that whatever liberalization is achieved during the early stages of the process will not be reversed and, therefore, trade in textiles and apparel will, in fact, be less protected than at the present time.

Second, if trade in textiles and apparel is fully liberalized and the export quotas of the MFA arrangement are fully terminated, the conditions of competition will be very different. The current export quotas provide a protected share of the market for exporters from individual developing countries. In the absence of export quotas, all exports will have to compete on an equal basis. Some developing country exporters are more competitive than other developing country exporters. The more efficient will gain and the less efficient will lose. Clearly, there will be a dramatic change in the market shares of various developing country suppliers. To the extent that sewing garments (apparel) is labour intensive and, therefore, low wage dependent, it can be anticipated that low wage developing countries will gain market share at the expense of higher wage developing countries. China and India should gain at the expense of the Republic of Korea, Taiwan Province of China, Hong Kong, and other high wage countries such as those in Latin America. It is likely that far more developing countries will be net losers from the termination of the MFA programme than will be net gainers. Those higher wage developing countries that have invested in productive capacity in the textiles and apparel industry as a logical step in their process of economic development might have to rethink their strategy. Such countries might have to emphasize products in which labour accounts for a smaller share of total costs.[33/]

33/ Given the very large populations of China and India, these countries should dominate industries in which competitiveness is dictated by low wages.

TRIMS: The TRIMs agreement is likely to have rather modest implications for developing countries for two reasons. First, the disciplines imposed on member countries are quite limited (i.e., domestic content rules, export performance requirements, and trade balancing requirements). The agreement provides no limitations on the repatriation of profits, technology transfer and rights of establishment. Thus, any developing country that so desires could establish policies that discourage or prevent foreign multinational enterprises from engaging in investment projects in their country.

But the more important reason why the TRIMs agreement is not likely to have much of an impact on developing countries is that developing countries have dramatically changed their views about multinationals. Those developing countries in the process of transformation toward more market-oriented policies also tend to look favourably on opportunities to participate in the globalization of manufacturing. They realize that cooperation with foreign multinational enterprises is one way of doing so. Thus, whatever policies were needed to facilitate cooperation with these enterprises would have been implemented even without any agreement on TRIMS.

At the same time, it must be recognized that TRIMs do limit governments' policy options. Multinational corporations can no longer be used as a mechanism to spread industrialization to the domestic economy by coercing them to increasingly source inputs locally. On the other hand, other policies might be introduced to accomplish the same objective such as subsidizing cooperative arrangements between multinationals and potential local producers of inputs.[34/]

TRIPS: The protection of intellectual property provides benefits and costs to society. Protection of ownership rights provides incentives for investment in research and development for the discovery and application of new knowledge. On the other hand, ownership conveys monopoly to the owner to the disadvantage of consumers. This also reduces the number of competitors who would be investing in research and development for product improvements.

While there is nothing in the TRIPs agreement that is biased against the developing countries (firms in all countries are eligible for equal protection in all countries), it is true that currently the preponderance of marketable intellectual property is owned by firms in the developed countries. Once the provisions of the TRIPs agreement have been implemented in all member countries, it will be the owners of existing intellectual property who will be the major beneficiaries. At this point the benefits of the TRIPs agreement will be skewed decidedly in favour of the firms in developed countries.

The developing countries will be disadvantaged in a number of ways. Firms in developing countries that wish to produce and sell products covered by patents will be forced into a licensing agreement which, in all likelihood, will involve royalty payments to the owners of the patent. Higher prices will be charged consumers. In some cases,

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34/ If the output of the multinational affiliate is destined for the local market, there are no international disciplines; if the output is destined for export markets, anti-subsidy rules might apply provided the exports account for more than the 3 per cent *di minimus* level required for the subsidized exports to be actionable under countervailing duty laws.

the foreign owner of the patent will choose to serve the markets of developing countries through exports rather than local production; employment opportunities will be lost and the foreign exchange cost of imports will rise. Similar consequences would apply in the case of local firms producing counterfeit goods in violation of trademark or geographic indicators provisions. Finally, the developing countries will also be burdened with the costs of legislating laws for the protection of intellectual property and the administrative costs of enforcing those laws.

The United States was the prime instigator for the inclusion of TRIPs in the Uruguay Round. The seriousness with which the United States takes this issues is revealed by controversies that have arisen subsequently. An example is the vigour with which the US is pursuing enforcement of a China-US bilateral trade agreement which includes intellectual property protections. Of particular concern is the issue of production, sale and exportation of pirated goods including CDs, audio and video cassettes, and computer software products. US officials acknowledge that China's efforts to curtail retail sales of pirated goods have been appropriate based on results to date. However, they have done little to curtail the production of pirated goods which have traditionally been exported throughout Asia. More recently, large volumes of these goods have appeared in US markets. Current US pressures on the government of China emphasize illegal production and inadequate customs controls to prevent the export of such goods.[35/]

Another issue of concern is the incentives for the creation and maintenance of research and development capabilities in developing countries. In the absence of TRIPS, firms in developing countries have incentives to copy (reverse engineer) products patented in developed countries in order to produce them locally for sale on the domestic market. The developing country benefits from the provision of jobs, local production provides competition with imports that might otherwise be sold at very high monopoly prices, and it reduces the volume of imports thereby saving foreign exchange. But in addition it creates a research and development capability and mentality. In the early stages this activity may be limited to rather unsophisticated reverse engineering. But over time, these capabilities may become more sophisticated and result in product innovations and improvements aimed to develop products more suitable to the demands of local consumers. In some case, the end result may be research and development capabilities that are truly competitive worldwide. It is the concern of many that an effective TRIPs will undermine efforts toward the creation and improvement of research and development facilities in developing countries.

What can the developing countries do, in light of TRIPS, to minimize the damage caused to their economies and to their capabilities to conduct research and development? A simple first step is to take advantage of the "compulsory licensing" provisions of the agreement to ensure that patented products are locally produced. The local firms, of necessity, will be knowledgeable of the technical details of the patent and of the technology necessary to apply the patent. Thus, a knowledge base will be created. A second strategy is to establish a narrow scope for patents. This would provide a wider scope for improvements which are patentable in their own right. Thus, local firms would

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35/ *Inside U.S. Trade*, 1995.

have an incentive to license foreign patents and then engage in research and development leading to patentable improvements. Such a strategy would require governments in developing countries to become very familiar with the international norms for administering patent and other intellectual property laws. A third complementary strategy is to take advantage of the exception for the non-commercial use of intellectual property and provide for the experimental use of patents by universities and other research laboratories. This would also allow local firms to engage in reverse engineering for purposes of discovery and improvement prior to production for sale. This strategy would be particularly well suited to a goal of establishing a capability to produce computer software.[36/] In the case of local firms established for the purpose of producing counterfeit goods in violation of trademarks or geographic indicators, government strategies to assist such firms in developing their own niche marketing strategies might prove successful.

Pharmaceuticals: One of the most significant industries of concern to TRIPs is the pharmaceuticals industry. At the beginning of the Uruguay Round almost 50 countries did not have product patents provisions governing pharmaceuticals. The lack of such provisions probably had more to do with a lack of need rather than an intent to allow domestic firms to produce pharmaceutical products in violation of a foreign patent. Most developing countries satisfied domestic consumption by importing, primarily from developed countries. More than 80 per cent of world production of pharmaceutical products occurs in developed countries; and almost 75 per cent of the production that does occur in developing countries occurs in only six countries.[37/] And in most developing countries with domestic production, a significant share of the local product is by foreign owned firms; in some cases domestic and foreign owned firms share the domestic market.[38/]

Enforcement of TRIPs will seriously affect those few developing countries with significant production by domestic firms (excluding foreign owned firms). Those domestic firms producing frontier products subject to patent protections will be required to negotiate licensing agreements, and pay royalties, or withdraw from the production of frontier products and shift their efforts to the production of generic pharmaceuticals. In total their costs for these products will increase in terms of both consumer prices (owing to monopoly pricing) and foreign exchange costs of imports. Monopoly pricing can be

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36/ The protection of computer software is a nightmare for producers. It is very easy to copy programmes and to distribute them to others without payment to the software company. It is literally impossible to monitor such copying when the copies are given to friends rather than sold, i.e., the unauthorized non-commercial distribution of software. On the other hand, when such distribution is for commercial sales, normal procedures to enforce regulations against counterfeit goods would be effective.

37/ As a result, there are only a few developing countries that have a big stake in the application of TRIPs to pharmaceutical products currently. The real importance lies in the future and the implications for research and development in this area.

38/ Watal and Mathai, 1995.

minimized by the inclusion of "compulsory licensing" provisions in national intellectual property legislation.[39]

This issue is the source of an ongoing conflict between the United States and Argentina. Argentina is currently in the process of codifying the TRIPs agreement into national law. The United States is concerned that the phase-in period is too long, that the legislation contains "onerous" compulsory licensing provisions with appropriate royalties to be determined by an independent organization in Argentina, and it does not provide so-called "pipeline" protection for products in development. The US pharmaceuticals industry is pressuring the US government to take Special 301 actions against Argentina, including the withdrawal of certain GSP benefits.[40]

d. The special case of least developed countries (LDCs)

It was clear during the Uruguay Round that the least developed countries could not be expected to comply immediately with all aspects of the agreements. Yet, the WTO was to be a complete undertaking. Thus, the Final Draft included "Measures in Favour of Least Developed Countries." In particular, LDCs would be expected to undertake commitments and concessions consistent with their capabilities and the agreements would be applied in a flexible manner. For example, in many areas, the LDCs are given significantly longer phase-in periods. Notwithstanding, there are three areas of particular concern to the LDCS.

The LDCs are not significant exporters of manufactured products. Consequently, the tariff reductions will not assist them much. On the other hand, MFN tariff cuts will erode the benefits that developing countries receive under the GSP and other preferential tariff programmes. Given that the LDCs are not currently exporting much in the way of manufactured products, they will not lose much today from this erosion of preferential tariff margins. The preferential tariff programmes are designed to assist developing countries expand exports through a trade policy rather than aid. The more advanced developing countries were able to take advantage of the GSP during a period in which the preference margins were significant. However, following the Tokyo Round and Uruguay Round, MFN tariff reductions have produced a situation in which future preferential tariff margins will be small. As the LDCs develop their capacities to export manufactured products, the potential for preferential tariff programmes to assist them will be small -unless these programmes are revised and improved dramatically.

The second area of significance to the LDCs is the agreements for agriculture. Whereas the Uruguay Round agreements will increase the role of market forces in agricultural markets, the expected outcome will be a reduction in surpluses and a commensurate increase in world prices of agricultural commodities. Many LDCs are net food importing

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39/ In those developing countries that do not have domestic production, current consumer prices and foreign exchange costs may be excessive. TRIPs will not make these matters worst. However, TRIPs might discourage new domestic firms from forming.

40/ *Inside U.S. Trade*, 1995.

countries. Consequently the main outcome of the Uruguay Round for them will be an increase in their foreign exchange costs for food imports.

The third area involves textiles and apparel. The Uruguay Round provides for a complete phase-out of the MFA over a ten year period. As mentioned earlier, the phase out is backloaded such that little of significance is expected to occur during the first couple of stages, say seven years. During this period, the Uruguay Round should not have negative consequences for the LDCS. Thus, the quotas currently reserved for the LDCs will remain and the LDCs will continue to have small shares of developed country markets reserved for their exports.

However, the final stages of the phase out of the MFA will dramatically change world markets for textiles and apparel. When world markets are only protected by MFN tariffs, all export suppliers will be competing on the same basis. The export performances of the LDCs will depend on their ability to compete with the world's most competitive suppliers in east Asia, including China. They will not have market shares reserved for their exports. Those LDCs that are participating in current world markets are likely to experience a decline in their exports of textiles and apparel. And those LDCs that are not currently exporting textiles and apparel will find it much more difficult to break into this trade.

This last point is very important. Being LDCs means these countries are far behind the others in economic development. As all countries develop, they go through the stages of development, beginning with the more basic industries and, over time, graduating to more sophisticated industries. Historically, the labour-intensive industries have been the industries that developing countries entered first during their process of development, and textiles and apparel is one of the most important labour-intensive industries. If market pressures result in extremely competitive markets for textiles and apparel, what other industries are available to the LDCS? One policy option is first to recognize that the MFN tariff rates in these industries are relatively high. Thus, preferential tariff reductions in favour of the LDCs could provide significant margins of preference in favour of their exports of textiles and apparel.

4. SCOPE FOR INDUSTRIAL POLICIES

While the Uruguay Round agreements clearly provide opportunities for developing countries to increase exports of certain products, there will be pressures for them to adjust to the dictates of a new world economy. Governments will be able to assist in these adjustments by the adoption of appropriate complementary economic policies. In so doing, governments must also recognize that the Uruguay Round is an international agreement that imposes obligations on all member governments, some of which limit the range of national trade policies available to governments. WTO disciplines in the following areas might be of particular importance to developing countries:

- Subsidies to promote exports of particular products,

- Export performance requirements for foreign owned investments,

- Tariff bindings, and

- Limitations on the resort to grey areas.

Beginning with the Tokyo Round, there have been significant pressures to establish rules to 'imit the use of subsidies to stimulate exports of particular products. But the inability of governments to agree resulted in a separate code which was binding only on those countries that agreed to sign it. These pressures were successful in incorporating anti-subsidy disciplines in the Uruguay Round agreements, which are binding on all member countries. As a result, governments will be severely constrained in their policy options regarding subsidies. Governments are free to institute any subsidy programme that does not have a depressing effect on export prices. Clearly, subsidies to firms that produce for domestic sales are permitted. Government sponsored projects to construct infrastructure are permitted; government sponsored preproduction research and development are permitted; government sponsored education and worker training programmes are permitted; government sponsored international marketing assistance is permitted; explicit export subsidies or specific cost reducing production subsidies to firms that export are not permitted.[41/]

The TRIMs agreement prohibits governments from imposing requirements on foreign-owned affiliates including domestic content requirements, export requirements, and trade balancing requirements. As discussed above, these impositions are not likely to be a significant burden to governments. If foreign investments are not desired, there are several effective policy options available to keep them out. However, once a foreign investment is accepted and production begins, government policy options are limited.

It is important to recognize that Uruguay Round disciplines not withstanding, governments still have scope for economic policies in support of "infant industries." Subsidies are not prohibited *a priori*. Governments have complete freedom to subsidize domestic production so long as the output is not exported. Thus, support for infant industries is clearly possible, provided the output is destined for the domestic market. If a government is concerned about the budgetary costs of infant industry subsidies, and wishes to use import substitution protection instead, tariff bindings negotiated during the Uruguay Round might present a problem.

If the domestic market is too small to justify efficient scales of production, governments must consider Uruguay Round disciplines. Direct subsidies might be subject to anti-subsidy remedies in the importing countries (i.e., countervailing duties). However, if the infant is truly an infant industry, the volume of exports to any particular market is likely to fall below the 3 per cent *di minimus* limit which would exempt the developing country exports from countervailing duty actions.[42/] If the volume of exports from the infant

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41/ Product subsidies are prohibited only if the subsidy is directed to specific firms or specific industries, i.e., the subsidy must be "specific".

42/ There is a second criterion for this *di minimus* exemption from countervailing duty actions, namely that all countries qualifying for the *di minimus* exemption combined do not account for more than 9 per cent of total imports into the market.

industry is too large to qualify for this exemption, the scope for subsidization is limited - but scope still exists. The government subsidy policies are limited to so-called green or permitted subsidies. As pointed out above, such subsidies include infrastructure, preproduction research and development, education and worker training programmes, and export marketing assistance. The subsidies that are prohibited include direct grants to producers, input subsidies, and export subsidies.[43/]

A final point on infant industries, subject to a phase-out period, TRIMs can no longer be used to coerce foreign owned affiliates to support local producers of input materials by imposing domestic content requirements.

This is the first GATT round in which the developing countries, in large numbers, participated actively in the negotiations. One outcome was a substantial commitment on the part of developing countries to bind tariffs. In terms of trade volumes (excluding Hong Kong), the trade weighted share of developing country imports subject to binding will increase from 24 to 74 per cent.[44/] Binding of tariffs is a commitment not to raise the tariff above the bound rate, except during periods in which safeguard action is in force (and subject to other WTO disciplines). In many instances, developing countries have bound their tariffs at rates higher than those currently being charged. Thus, they have reserved some margin to raise tariffs if the current level of protection is inadequate. However, they cannot go above the bound rate.[45/]

The Uruguay Round agreement includes a safeguard clause that *inter alia* includes a prohibition on grey-area measures. Grey-area measures are violations of GATT rules that are not enforced because the adversely affected country does not formally object to the measures. Grey-area measures have typically taken the form of "voluntary export restraint" agreements bilaterally negotiated when political pressure in the importing country gets so severe that legislative action threatens to result in explicit violations of GATT obligations. In such cases, the exporting country prefers to accept limitations on exports that are negotiated behind closed doors and introduced using administrative discretion rather than accept the consequences of legislated actions in the importing country.[46/] Since the exporting country prefers the negotiated settlement, no complaint is brought before the GATT. Given that developing countries will accept the disciplines of the WTO, and given that developing countries are agreeing to bind tariffs on more

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43/ These subsidies are subject to countervailing duty actions whenever they are directed to specific firms or industries. If subsidies are generally available to all firms in all industries, they would not distort resources and would not be subject to countervailing actions under the "specificity" rule.

44/ These figures are based on GATT trade data for 25 major trading developing countries. The trade shares could change dramatically over time as the trade weights of other developing countries change (OECD 1994).

45/ The latitudes taken in binding have not been too great, since the average current tariff rate is 25 per cent whereas the post-Uruguay Round average of bound rates is a lower 20 per cent (excluding Hong Kong, OECD 1994).

46/ The advantage of an administrative decision is that it can be reversed by another administrative decision. A legislated decision can only be reversed by legislative action.

and more products, their options for protecting domestic industry on an *ad hoc* basis are limited.

5. OUTLOOK FOR MANUFACTURING IN DEVELOPING COUNTRIES: 2005 AND BEYOND

Forecasting the shape of the global economy in ten years' time is a very risky venture. Nevertheless, it might be interesting to draw a picture of a potential world assuming that all aspects of the Uruguay Round are introduced by the member governments and that the WTO is a fully functioning international organization as envisaged, abstracting from all of the other events that might impact on world markets between then and now, including regional integration and technological progress.

The Uruguay Round has produced two very important results. The first is a reaffirmation of the process of liberalization that has been ongoing for several decades. Importantly, the world's governments did not yield to protectionist pressures that have been intense of late. Although free trade has certainly not yet arrived, substantial progress towards freer trade has been made.[47/] The second important outcome of the Uruguay Round is embodied in a number of very significant breaks with the past. These discontinuities will propel the future world economy along a different path.[48/] Both of these outcomes have important implications for developing countries and these will be discussed in turn.

The process of liberalization has been accompanied by several other important factors that influence the volume and direction of international trade. Very significant technological progress has been made in communications, in transportation, and production. Improvements in communication and transportation have shrunk the world. The geographical location of production facilities is no longer tied to the sources of natural resources and other indigenous inputs nor is it tied to the consuming markets. Buyers and sellers can reach each other much more easily today by telephone, fax, computer communications, etc. Air travel is more convenient with more frequent flights to many more places. International shipping of goods is much cheaper and quicker. High valued goods are increasingly shipped by air transport which dramatically reduces time in shipment, time in warehouses and interest charges. Improvements in production technology have facilitated a subdivision of the production process so that contiguous stages of processing can often be separated in time and location. Vertical integration of production in a single location is less frequently an important consideration in the location of production facilities, though there will be significant differences between industries.

47/ These Uruguay Round outcomes include tariff reduction, continuing progress on government procurement, the trade policy review mechanism, and strengthened disciplines in the areas of safeguards, anti-dumping and countervailing duties and revisions in the dispute settlements mechanisms.

48/ These Uruguay Round Agreements include agriculture, the phase-out of the multi-fibre arrangement, TRIMs and TRIPs.

All of these changes have important implications for the location of production facilities. Production stages can often be separated with contiguous stages located in different countries; each stage might be located in the country with the lower costs. Computer chips are produced in one country with computers being assembled in another. Auto parts are produced in countries that do not assemble finished automobiles. Each country participates in the international division of labour by specializing in what it can do best or at least cost. Thus, labour-intensive processes such as sewing garments, seaming footwear and assembly are commonly sited in low wage developing countries. More sophisticated stages of design and manufacture are performed in countries with the appropriate skills. Thus, we have the rationalization of production which is also referred to as the globalization of manufacturing.

An examination of the product sectors that account for almost two-thirds of developing countries' total exports of manufactured products (see Annex) are consistent with this explanation. Textiles, apparel, leather articles, and toys are very prominent; all are labour-intensive and logically sited in developing countries.[49/] At the same time, particular elements of these industries require specialized talents such as new product development, high fashion design, new production technologies often incorporating new materials, etc. These specialized talents are typically found in the developed and newly industrializing countries. Thus, we have industrial cooperation. The second major group of products is electronics including office products, TVs, radios, recorders, telephones and related equipment, and household appliances. The assembly processes are essentially labour-intensive. Some of the more advanced developing countries are investing in capacity to produce the mature, commodity-like, electronic components such as transistors and switches. These processes are not labour-intensive but they do constitute a normal evolution from pure assembly to the production of input components. In the automotive sector, developing countries are participating in the assembly of automobile parts with three important exceptions: Mexico and the Republic of Korea export assembled automobiles and Taiwan Province of China exports motorcycles.[50/] The plastics industry is another example of initial production of plastic articles owing to low wages that evolves into the production of input materials. Iron and steel and shipbuilding are heavily concentrated in a few developing countries: the Republic of Korea for both industries (and the only major shipbuilder) and Brazil and Turkey being the other two major steel exporters. All of the steel products being exported in volume by developing countries involve very low technology products, i.e., mature, commodity - like products.

As a general statement, this trend should continue. This should also result in the movement of some processing from higher wage developing countries to lower wage developing countries. Labour-intensive products such as textiles, apparel, leather articles, toys, and assembled electronics are likely to be moved out of the high wage more advanced developing countries and into lower wage countries. The high wage developing

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49/ Some elements of the textile industry are capital-intensive and might be located in developed countries. Furthermore, an important segment of the garment industry is style-intensive and occurs in developed countries.

50/ The Mexican export industry is dominated by U.S. multinationals.

countries will increasingly maintain wage levels by moving into more and more sophisticated products. This will require investments in education and research and development.

There is one additional phenomenon that is emerging from the technological advances currently under way. Products are being designed with component modules that facilitate assembly. Thus, for many products the labour-intensity of assembly is being reduced. Automobile assembly is still dominated by the high wage countries. They have maintained their competitiveness by continually reducing the labour content of assembly, e.g., the introduction of robotics. In consumer electronics, input components are combined into complex modules. In such cases, assembly takes the form of plug-and-play; the cost share of labour is significantly reduced.

The implications of such technological innovations are extremely important for those developing countries that are far behind. Historically, economic growth has progressed through stages, beginning with simple labour-intensive goods such as low quality garments and footwear and progressing on to assembly of more sophisticated manufactured goods. The ability of these countries to enter the early stages is built upon low wages. For products with high labour cost shares, the low wages are attractive to foreign designers and distributors of the finished products. However, if the labour cost share is reduced through technological innovation, these countries might have to find alternative routes to economic development such as tourism and other labour-intensive services.

Predictions based on this analysis are not too promising for those developing countries at the very bottom. On the other hand, those developing countries that are currently involved in producing a wide range of manufactured products, even based on low wage labour-intensive assembly, might be able to participate in the rationalization of global manufacturing. Success will require significant efforts to keep abreast of the technological innovations and to adapt.

To summarize, there are three important predictions. First, the globalization of manufacturing will continue and intensify; the location of particular stages of processing will be sited in countries having the requisite combination of factors of production. Thus, each process will be located in a relatively low cost country. Second, there will be an evolution of location with mature labour-intensive processing moving to lower wage countries. The more advanced developing countries which lose such processes will participate in more sophisticated skilled labour-intensive processing. Third, there will be location discontinuities. Technological progress will significantly reduce the labour content of certain processes. Thus, some processing that currently is anticipated to move to lower wage developing countries might jump to high wage developed countries.[51/]

51/ For example, sewing garments is traditionally considered labour-intensive because of the difficulty of machine handling flexible sheet materials such as fabrics. However, research is currently under way to establish "black factories" for the assembly of garments; a "black factory" is without people and, therefore, needs no lights.

These forecasts represent a continuation of the pre-Uruguay Round trends. Their seeds have existed for some time and have germinated in the trading environment of that time. The Uruguay Round agreements will inject certain departures from these trends in a few important areas. Four issues will be discussed: tariff reductions, reducing government involvement in the agricultural sectors, the phase-out of the MFA, and TRIPS. Each will be discussed in turn.

Tariff reductions: The tariff reductions being introduced by the developed countries will have modest benefits for the developing countries. Market access is improved by a general reduction in tariffs, but there will also be a reduction in the preferential tariff margins under the GSP and other preferential tariff programmes favouring exports from developing countries. Unfortunately, the structure of tariffs will be maintained with few significant reductions in effective protection.

On the other hand, the developing countries have agreed to very significant tariff undertakings. In the main, these undertakings involve the binding of tariffs on products that were previously not bound. Whatever market access that has resulted will be more assured that previously. This comes at a time when many developing countries are adopting more market-oriented policies. And for many of these countries, the rate of economic growth is quite high. These events lead to the prediction that the developing countries will become much more significant markets for the exporters of the world, including developing country exporters. To summarize, the relatively open markets of the developed countries will not become significantly more open. However, the relatively closed markets of the developing countries will become significantly more open.

Agriculture: Agricultural production is often a climatic industry in which there is little competition between developed and developing countries. The producers of temperate products do not compete with producers of tropical products. Thus, the opening up of developed country markets and disciplines against subsidized exports of temperate products will have little competitive interest for most of the developing countries.[52/] The more important consequence will be the resulting increase in world prices of temperate agricultural commodities to the disadvantage of food importing developing countries.

There is, however, a side issue. Some developed countries have import policies that favour tropical products imported from selected developing countries to the disadvantage of other developing country exporters (e.g., the banana conflict). If the Uruguay Round agreements include disciplines that extend MFN treatment to all suppliers, there might be some redistribution of trade in tropical products with some developing country suppliers gaining and others losing.

Textiles and apparel: The phase-out of the MFA is the most important market opening aspect of the Uruguay Round agreements as far as the developing countries are

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52/ This is definitely not the case for those developing countries that produce temperate agricultural products such as Argentina and Chile.

concerned.[53/] The developing countries currently account for 33 per cent of world exports of textiles and 45 per cent for apparel; the trade values are $25 billion and $40 billion, respectively. A phase-out of the MFA could easily result in a 50 per cent increase in developing country exports, thereby adding some $33 billion to their export earnings (in 1990 values). However, the increased exports will not be evenly divided among the developing countries. In fact, it is very likely that the more competitive exporters among the developing countries will experience much larger increases in exports at the expense of the less competitive exporters among the developing countries. Such a forecast would favour developing countries in Asia and disfavour those in Africa and Latin America. This raises again the question regarding the economic development prospects for the poorer among the developing countries. If they cannot competitively export textiles and apparel, the most labour-intensive products, what can they export other than natural resource based products? These countries will be in need of very significant support from the international community if their development aspirations are to be realized.

TRIPs: Intellectual property protections are coming. There will be grace periods for all developing countries, variances will be granted to the least developed, and there will be leniency in a number of special cases. Nevertheless, in the not too distant future, intellectual property protections will significantly affect world trade. Most of the world's intellectual property is owned by firms in the developed countries, and most of these countries have intellectual property protections. Thus, TRIPs will primarily affect producers in the developing countries that do not have such protections. It is not uncommon for firms in countries without intellectual property protections to produce counterfeit goods for sale in the domestic market and for exportation. The introduction of intellectual property protections in these countries will have one of three effects. Either these firms must cease production, enter into licensing agreements which provide for the payment of royalties, or they must move into the production of products that are not based on protected intellectual property. The first option is certainly not attractive. The second will increase costs and thereby consumer prices; it will also involve income transfers from the producing countries to the countries of the owners of the intellectual property. The third option could be achieved through research and development leading to intellectual property protections. In some cases, TRIPs will stimulate the development of an innovative capability leading to world class firms. Those firms that are successfully producing counterfeit products know the markets and distribution channels.

On the other hand, in some instances, the incentives will be the opposite, namely to reduce the incentives for local firms to engage in research and development. In countries that do not have intellectual property protections, local firms have an incentive to engage in reverse engineering which is an early stage of research and development. In most cases, the end result is local production for local consumption. In some countries this local production is in competition with foreign owned affiliates that are also producing in the country to serve the domestic market. Over time, the reverse

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53/ This assumes that the agreement is fully honoured by the importing countries. Recall that the phase-out is back-loaded, i.e., one-half of the volume of trade to be liberalized will remain subject to restraint until the very last year of the phase-in; this trade will undoubtedly involve the more import-sensitive textile and apparel products.

engineering might grow to become research and development to improve a product. As these capabilities grow, original inventions might follow. However, TRIPs is likely to interrupt this entire process. If local property protections are legalized, the local firms must enter into licensing agreements in order to produce and sell the products. As such, there will be no need for the early stage reverse engineering. And there will be no possibility of reverse engineering activities growing into research and development activities since there will be no reverse engineering.

To forecast the outcome of these competing incentives is quite difficult. However, it is likely that those industries that are the most research and development intensive, e.g., pharmaceuticals, will remain dominated by firms in the developed countries for many years to come. The products of these firms may increasingly be produced by local firms under licence. In such cases, the local firms are likely to remain simply producers. At the other extreme, there are products involving technology that can easily be advanced. It is in these sectors that emerging producers will have opportunities.

6. POLICY RECOMMENDATIONS FOR DEVELOPING COUNTRIES

What is, is! One cannot change that. The Uruguay Round is the outgrowth of economic and political forces that have been building up over a number of years. It does no good for the developing countries to complain about the negative aspects of the agreements. All countries, developed and developing, are dissatisfied with certain aspects of the agreements, each country with its own list of dissatisfactions. But this is the normal outcome of any negotiations. The inherent give-and-take results in an agreement that includes both good and bad aspects for each party. The Uruguay Round is certainly no exception. So what should the developing countries do? The answer is simple. Take advantage of the good aspects and introduce policies to minimize the adverse effects of the bad aspects of the agreements.

The tariff reductions that were negotiated during the Uruguay Round are rather straightforward; there is little need for government policy reaction. In the area of agriculture, little needs to be done regarding access to foreign markets. Governments will have to abide by the agreements, limit export subsidies, limit production subsidies and convert import restrictions into tariffs. Some developing countries might need assistance in order to convert border restrictions into tariffs. But there is really not much latitude for government actions to capture benefits or counter hardships resulting from the Uruguay Round agreements relating to agriculture.

The phase-out of the MFA presents very significant opportunities and threats for developing country exporters. The real problem is for governments of each developing country to judge the competitiveness of domestic producers *vis-à-vis* other developing country exporters. If the domestic industry is weak, government policies to strengthen the industry are needed. The phase-out period of ten years will keep the more competitive developing country exporters at bay during this period. During this period, weak exporters must be strengthened. One recommendation would be to narrow the focus of exporting to particular segments of the textiles and apparel industry in which the country's producers are most competitive. One way of improving one's competitive position is to enter into cooperative agreements with design houses or distributors in developed countries. Such agreements would be helpful in selecting particular niches on which to concentrate. The objective should be to become competitive and not to depend upon preferential treatment on the part of the importing countries.

This recommendation might be a stretch for some of the least developed countries. It may be unreasonable to suggest that all countries become competitive in a textile or apparel niche. In such cases, there is a need for an international policy to assist these countries. A strong recommendation would be to negotiate the creation of a GSP for exports of textiles and apparel from these countries. This recommendation notes that many of the MFN tariffs on textile and apparel products are quite high. Thus, the preferential margins would be substantial and could go a long way to offsetting the competitive disadvantage of the least developed countries.

The TRIMs agreement is narrow in focus and rather specific in what is required. Countries are to eliminate export performance requirements on foreign owned affiliates, i.e., countries are to grant "national treatment" to foreign owned affiliates. There is little latitude regarding what is expected and little that a government can do to offset the effects of TRIMS. As mentioned earlier, TRIMs are not necessary to discourage foreign multinationals from establishing affiliates; other policies can be used to accomplish such an objective. However, once an affiliate of a foreign company exists, it must be permitted to operate without burdens covered by the TRIMs agreement.

Unlike TRIMS, where governments have very little latitude for policies to capture opportunities or counter hardships, TRIPs are a different matter. In the first place, governments are required to legislate intellectual property protections, and to enforce such protections. In general, this will be to the detriment of local firms that are producing products covered by foreign protections. Furthermore, since most intellectual property is owned by firms in developed countries the developing countries have little opportunity to gain from TRIPS. The only way to gain from TRIPs is to own intellectual property. Support of education and scientific research can be recommended. Government policies that stimulate private research and development through government subsidies or incentives for investment in research and development would also pay dividends. However, care must be taken to ensure that the probabilities of success and the expected pay-offs warrant any diversion of national talent and resources from other productive endeavours. Countries with lower levels of technological expertise might pursue product and process innovations rather than original path-breaking discoveries.

The real concern among the developing countries about TRIPs should be the future prospects of existing domestic firms that are likely to be harmed by their provisions. Firms at greatest risk would be pure counterfeiters who copy and sell products that are protected in other countries, e.g., copying music cassettes, CDs, video movies, etc. Governments that are lax in enforcement will be hounded by governments of firms whose properties are being counterfeited. Alternative policies might include support for firms to move into legitimate products that might benefit from the same marketing and distribution contacts. Firms in developing countries that are producing for local consumption might benefit from TRIPs enforcement that grants "compulsory licensing" to existing firms.

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Exports of Developing Market Economies: Major Products and Major Suppliers (1990-91 in US$ million)

Product: Description	Sector	SITC	Dev'g ME Total US$ mil	Dev'g ME Share of World %	Ann Gr 80-91 Dev'g ME %	Ann Gr 80-91 vs. World %	Major Suppliers: First	Second	Third	Fourth	Fifth	Share of Dev'g ME %
Men's outer garments	Apparel	842	7,713	43	8	–	HK 1,305	Kor 1,077	Thai 732	Taiw 578	Tunis 551	55
Women's outer garmen	Apparel	843	11,014	41	12	–	HK 2,574	Kor 1,256	India 1,028	Thai 924	Taiw 826	60
Under garments	Apparel	844	4,302	58	9	-2	HK 955	Kor 628	India 430	Taiw 325	Thai 232	60
Knitted outer garments	Apparel	845	11,372	43	12	+1	HK 3,064	Kor 1,533	Taiw 1,328	Turk 940	Sing 657	66
Knitted under garments	Apparel	846	6,136	47	13	+1	HK 960	Kor 749	Turk 603	Thai 512	Taiw 496	54
auto. engines	Automotive	713	3,247	9	13	+5	Mex 1,374	Bra 851	Sing 333	Kor 131	Mal 112	86
auto. nonelec parts	Automotive	749	2,750	7	15	+7	Sing 629	Taiw 588	Kor 287	Thai 260	Bra 209	72
Autos	Automotive	781	6,444	4	16	+6	Mex 3,199	Kor 1,986	Bra 378	Yug 363	Omar 116	94
Auto parts	Automotive	784	3,246	4	9	–	Taiw 780	Bra 630	Mex 454	Kor 259	Yug 256	73
Motorcycles & parts	Automotive	785	2,503	24	16	+10	Taiw 1,859	Sing 236	India 130	Kor 74	Thai 53	94
TV	Electronics: consumer	761	5,918	35	21	+9	Kor 1,570	Taiw 1,410	Sing 1,361	Mal 620	Thai 360	90
radio	Electronics: consumer	762	5,242	45	10	+3	Sing 1,642	Kor 1,304	Mal 1,281	Taiw 409	Braz 294	94
recorders	Electronics: consumer	763	4,026	26	20	+11	Kor 1,476	Sing 1,123	Mal 579	Taiw 369	Thai 312	96
TeleCom equip	Electronics: consumer	764	11,515	19	12	-1	Taiw 2,932	Sing 2,466	Kor 2,027	HK 1,553	Mal 1,328	90
Elec Pwr Mach	Electronics: machinery	771	2,559	23	19	+8	Taiw 780	Sing 411	HK 376	Kor 374	Mal 291	87
Switchgear	Electronics: machinery	772	3,792	10	10	+1	Taiw 1,145	Sing 834	HK 438	Mal 404	Kor 336	83
Hoursehold equip	Electronics: machinery	775	3,533	17	10	+2	Kor 935	Taiw 752	HK 423	Sing 354	Thai 309	78
Transistors	Electronics: machinery	776	20,649	33	17	+2	Kor 5,997	Mal 4,530	Sing 4,131	Taiw 2,594	Thai 1,011	88
Elec mach. nes	Electronics: machinery	778	4,372	11	11	+2	Taiw 1,347	Sing 723	Kor 622	HK 383	Mal 220	75
data equip	Electronics: office	752	15,308	22	43	+26	Sing 7,185	Taiw 4,301	Kor 2,030	HK 481	Thai 435	94
office equip	Electronics: office	759	9,625	19	30	+12	Taiw 2,780	Sing 2,178	HK 1,461	Thai 1,241	Mal 879	89
Furniture & parts	Furniture	821	4,010	13	13	+3	Taiw 1,568	Yug 493	Thai 361	Indo 336	Kor 223	74
Ingots, etc	Iron & Steel	672	3,783	21	21	+12	Bra 1,519	Kor 1,010	Turk 341	Taiw 236	Mex 129	86
Bars, shapes, etc.	Iron & Steel	673	2,961	16	9	+8	Turk 736	Bra 562	Kor 370	Yug 165	Qatar 158	67
Plates and sheets	Iron & Steel	674	3,937	11	13	+8	Kor 1,663	Bra 759	Taiw 328	Mex 197	Arg 180	79
Leather	Leather & articles	611	2,998	34	9	–	Arg 487	Kor 404	India 371	Bra 297	Taiw 283	61
Luggage & Handbags	Leather & articles	831	2,792	43	6	-2	Kor 1,066	Taiw 817	Thai 250	India 148	HK 134	86
Leather Apparel	Leather & articles	848	5,403	56	12	+2	Kor 2,086	Turk 635	HK 494	Taiw 474	Mal 375	75
Footwear	Leather & articles	851	10,666	39	10	+2	Kor 3,922	Taiw 2,373	Bra 1,142	Thai 812	Indon 771	85
Toys, sporting goods	Miscellaneous	894	6,945	34	8	–	Taiw 3,288	Kor 1,124	HK 665	Thai 517	Sing 284	85
Paper & paperboard	Paper	641	2,504	5	14	+6	Bra 685	Taiw 373	Kor 307	Sing 219	Yug 173	70
Polymers	Plastics	583	6,019	12	24	+14	Taiw 1,284	Kor 810	SA 795	Sing 757	HK 595	70
Articles of plastic	Plastics	893	5,034	17	14	+2	Taiw 2,500	HK 588	Kor 535	Sing 335	Thai 251	84
Ships	Ships	793	5,946	22	12	+7	Kor 3,465	Bah 444	Mal 438	Sing 352	Taiw 312	84
Yarns	Textiles	651	7,024	30	9	+3	Taiw 1,659	Pak 1,086	Kor 922	Turk 481	India 451	65
Cotton fabric	Textiles	652	4,653	30	8	–	HK 928	Pak 676	India 597	Taiw 488	Kor 365	66
Synthetic fabric	Textiles	653	8,170	36	14	+6	Kor 3,416	Taiw 1,892	Indo 663	Sing 385	Thai 376	82
Knitted fabric	Textiles	655	2,672	41	22	+13	Taiw 1,170	HK 510	Kor 428	Sing 157	Mal 76	88
Textile articles	Textiles	658	2,813	33	8	–	Pak 542	India 336	Kor 333	Turk 284	Taiw 241	62
Plywood and veneer	Wood	634	4,430	47	8	+2	Indo 2,906	Mal 444	Sing 215	Taiw 170	Bra 139	87

Source UNCTAD, ***Handbook of International Trade and Development Statistics***, 1993, Tables 4.3 and 4.4.