General Agreement on Tariffs and Trade

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THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS

Market Access for Goods and Services: Overview of the Results

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TABLE OF CONTENTS

LIST OF TABLES

TEXT TABLES

I. INTRODUCTION AND SUMMARY

The Uruguay Round negotiations were concerned with two aspects of trade in goods and services. *First*, there was the goal of increasing market access by reducing or eliminating trade barriers. This objective was met by reductions in tariffs, reductions in non-tariff support in agriculture, the elimination of bilateral quantitative restrictions, and reductions in barriers to trade in services. *Second*, there was the goal of increasing the legal security of the new levels of market access. The strengthened and expanded rules, procedures and institutions are the Round's contributions to the second goal.

Part II of this study is concerned primarily with increases in market access for goods.[1] Because of their quantitative nature, these results lend themselves to a further examination of the likely impact on the level of world trade in goods and world income. The "binding" of reductions in tariffs and certain other interventions - a key element in the security of market access, and one which can be described in quantitative (tabular) terms - is also covered in Part II.

Part III focuses on the Uruguay Round's market access results in the services area, that is, on the commitments in countries' services schedules under the new General Agreement on Trade in Services (GATS). In some respects, the services schedules are similar to the goods schedules examined in Part II. Both contain elements of increased market access, together with elements of more secure market access in the form of commitments not to increase the level of restrictions covered by the schedules. Though to a much smaller extent than in the goods area, it is also possible to describe the results in the services area in quantitative (tabular) terms. In other respects, however, the respective schedules are very different. In particular, there is no meaningful way to quantify the *size* of the reduction in barriers to trade in services - no parallel, for example, to the 40 per cent reduction in developed countries' tariffs on industrial goods - which is why services could not be included in the estimates of the increase in trade and income from the Uruguay Round.

While the schedules of commitments on goods and services provide legal security for the market access contained in the schedules, their value also depends on rules limiting alternative forms of protection. Part IV is a brief summary of those parts of the Uruguay Round agreement that strengthen and extend the rules, procedures and institutions governing (a) other kinds of measures - such as subsidies, technical barriers and discriminatory internal taxes - that could be used to restrict market access and thus offset part or all of the increased market access contained in the schedules of commitments, and (b) procedures for resolving disputes over the interpretation of countries' obligations, both those in the schedules and those involving rules and procedures. By providing a framework for the monitoring of trade policies, for regularly scheduled ministerial-level meetings and for future negotiations, the strengthened institutional arrangements also help countries anticipate and defuse trade conflicts that might otherwise lead to violations of WTO obligations - that is, to illegal reductions in market access.

The following list of selected highlights from the study begins with the updated estimates of the impact of the liberalization of *trade in goods* on world income and world trade in goods. These estimates are based on a general equilibrium model of the world economy, elaborated and applied by the GATT Secretariat, that links industries together in chains from primary goods, through higher stages of processing, to the final assembly of consumption goods. Sectors are also linked through various economy-wide constraints such as the supply of labour, capital and land, and there are linkages between countries. Three versions of the model have been used, with different assumptions about the nature of competition in domestic markets, economies of scale, the degree of product differentiation and - a dynamic consideration - the extent to which the income gains in turn stimulate savings and investment.

[1]Earlier versions of many of the tables in Part II have appeared in GATT documents and publications over the past year.

Highlights

- Estimates of the increase in world income from the liberalization of trade in goods range from a low of $109 billion to a high of $510 billion in 2005 (the end of the implementation period), depending on which version of the economic model is used (page 34). The view of the GATT Secretariat is that the assumptions underlying the $510 billion figure more closely approximate the real world economy, and therefore that it is a more plausible estimate (pages 37-38).

- The upper range assumptions yield estimated annual income gains of $122 billion for the United States, $164 billion for the European Communities, $27 billion for Japan and $116 billion for developing and transition economies as a group (page 34).

- Estimates of the increase in the volume of world trade in goods range from 9 to 24 per cent once the liberalization has been fully implemented; in terms of actual 1992 trade flows, the gains would range from $244 billion to $668 billion (since trade in 2005 would have been larger than trade in 1992 in any case, the actual value increases due to the Round are very likely to be larger) (page 29).

- All versions of the model estimate that the percentage increase in the exports *and* imports of the developing and transition economies as a group will be 50 per cent above the average increase for the world as a whole (page 32).

- It is likely that the estimated $510 billion increase in annual world income by 2005 substantially *underestimates* the impact of the entire Uruguay Round package for three reasons: *first,* many possible dynamic effects are not considered; *second,* since a distinct worsening of trade relations for a considerable period into the future and a delay in the world's economy recovery would almost certainly have followed a failure of the Round, the avoidance of the associated losses in trade and income would have to be included in a full accounting of the gains from the successful Uruguay Round; *third,* and in many ways most important of all, the estimates reported above ignore other aspects of the Round beyond the liberalization of trade in goods. Because it simply was not feasible, there was no attempt to include the beneficial impact of the market access commitments and rules for services, and of the WTO's strengthened rules, procedures and institutions, on the more than $4.5 trillion in current world trade in goods and services (page 38).

Actions to increase market access and make it more secure include:

- Developed countries have agreed to reduce their tariffs on industrial goods from an average of 6.3 per cent to 3.8 per cent, a 40 per cent reduction (page 12).

- The proportion of industrial products which enter the developed country markets under MFN zero duties will more than double, from 20 to 44 per cent. At the higher end of the tariff structure, the proportion of imports into developed countries from all sources that encounter tariffs above 15 per cent will decline from 7 to 5 per cent, and from 9 to 5 per cent for imports from developing economies (page 11).

- Minimum market access commitments on agricultural products subject to tariffication will create market opportunities for, among other products, 1.8 million tons of course grains, 1.1 million tons of rice, 807,000 tons of wheat and 729,000 tons of dairy products (page 22).

- Other reforms in agriculture include a 36 per cent reduction in export subsidies, from $22.5 billion to $14.5 billion (of which one-half is accounted for by the European Union), and a decline of 18 per cent, from $197 billion to $162 billion in domestic support to agricultural producers (pages 22-24).

- In the case of industrial products, the percentage of *bound* tariff lines has risen from 78 to 99 per cent for developed countries, from 21 to 73 per cent for developing economies, and from 73 to 98 per cent for transition economies - results that provide a substantially higher degree of market security for traders and investors (page 26).

- While the overall level of protection of agricultural products in most developed countries will remain well above the level of protection of industrial products, agricultural trade has been put squarely on the path of liberalization. And for the first time in GATT's history, the level of security for trade in agricultural products will be greater than for trade in industrial products, since (i) virtually 100 per cent of agricultural product tariff lines will be bound, compared to 83 per cent of industrial product tariff lines, and (ii) there will be virtually no non-tariff barriers (page 26).

- Following the first multilateral negotiation of its kind, most developed countries have made market access commitments on the great majority of the most important traded services - the main exceptions being telecommunications and maritime transport, which are both the subject of ongoing negotiations, and the audiovisual sector. On a sectoral basis, the highest level of commitments is found in service activities related to tourism (hotels and restaurants, travel agencies and tour operators, tourist guides), reflecting the numerous developing countries that have inscribed this sector in their schedules, and financial services (the latter is also subject to ongoing negotiations) (pages 41-43).

- An important theme throughout the study is that from the perspective of an individual participant in the Uruguay Round, the increase in access to its own market is as important as the increases in access to the markets of its trading partners. When other countries increase access to their markets and make that access more secure, the country's export industries benefit directly. When the country increases access to its own domestic market and makes that access more secure, the beneficiaries include not only domestic consumers and domestic firms that depend on imported inputs to remain competitive, but also (indirectly) the entire export sector.[2]

[2]Regarding this indirect gain for the export sector, which is in addition to the direct gain from increased access to foreign markets, see Clements and Sjaastad (1985) for a detailed explanation of why a "tax on imports is a tax on exports" even if the export industries do *not* use imported inputs.

II. MARKET ACCESS FOR GOODS

By 15 April 1994, most participants had submitted their Uruguay Round schedules of commitments on *industrial products* and on *agricultural products*. The exceptions were the least-developed countries that are taking advantage of the extension of the deadline for submitting schedules to 15 April 1995. The commitments on trade in goods are described below according to two separate dimensions: further *market-opening* through reductions in barriers to trade (Sections 1, 2 and 3), and increased *security of market access* through bindings (Section 4). The final section reports the Secretariat's estimates of the impact of this trade liberalization on world trade and world income.

1. TARIFF REDUCTIONS ON INDUSTRIAL PRODUCTS

All of the information in this section on tariff reductions and imports comes from GATT's Integrated Data Base (IDB), which covers 55 Uruguay Round participants (counting the 12 members of the European Union individually). On an aggregate basis, the data cover approximately 98 per cent of the merchandise imports (excluding petroleum) of GATT contracting parties and approximately 90 per cent of total world merchandise trade excluding petroleum (see Annex I for additional details on methods and sources of data).[3]

(a) Imports covered by tariff commitments

With 18 per cent of industrial imports from all sources already entering under MFN tariffs bound at zero, the potential trade coverage of the *developed countries'* offers was 82 per cent of imports (Table II.1). Tariffs were reduced on 64 per cent of the value of imports, with the remaining 18 per cent divided between bindings only (3 per cent of imports) and "no offer" (16 per cent).[4] On the basis of the percentage of imports on which no offer was made, the two leading product groups are "transport equipment" (no tariff offer on 54 per cent of imports into developed countries) and "leather, rubber, footwear and travel goods (31 per cent). Imports from developing economies into developed countries fare about the same as imports from all sources, except for products on which the developed countries made no offer, where developing economies did better (only 10 per cent of their exports to developed countries versus 16 per cent of exports from all sources).

The developing economies as a group will reduce (and bind) MFN tariffs on nearly half their tariff lines (46 per cent) covering about one-third of their industrial imports. They made no offer on 29 per cent of their tariff lines covering 42 per cent of their imports. However, the figures on the share of imports subject to tariff reductions, as well as the share of imports on which no offer was made, are heavily influenced by the fact that Hong Kong and Singapore, which together account for

[3]Membership in the IDB includes all developed and transition economies participating in the Uruguay Round, and 27 of 94 developing economy participants. These 27 developing economies, which include China (whose schedule is not yet definitive), account for roughly one-third and three-quarters, respectively, of the tariff lines and the merchandise imports (excluding petroleum) of the 94 developing country participants. On a regional basis, the IDB data cover 100 per cent of non-petroleum imports of North America, Western Europe and GATT members in Central and Eastern Europe; 90 per cent of Asia's imports; 80 per cent of Latin America's imports; and 30 per cent of Africa's imports. The low coverage of Africa is due to a low level of participation in the IDB. Trade between partners in preferential trade agreements, such as between Canada and the United States, or between the European Union and EFTA member states, is excluded.

[4]Some of the tariff lines in the "no offer" category involve chemicals for which the current tariff is below the proposed harmonization level.

Table II.1
Broad pattern of tariff commitments on industrial products[1]
(Percentages)

Country group or region	Already bound duty-free[2]		Currently dutiable and/or unbound[3]					
			Bindings with reductions		Bindings without reductions		No offer	
	Share of lines	Share of imports	Share of lines	Share of imports	Share of lines	Share of imports	Share of lines	Share of imports
By major country group:								
Developed economies								
All sources	17	18	67	64	9	3	7	16
Developing economies		19		67		3		10
Developing economies								
All sources	0	1	46	32	24	26	29	42
Transition economies								
All sources	6	12	83	76	0	1	11	10
Developing economies		22		72		0		6
By selected region:								
North America	18	11	72	64	0	1	10	24
Latin America	0	2	72	71	26	19	2	8
Western Europe	16	24	58	63	1	0	25	13
Central/East Europe	6	11	67	70	17	9	10	10
Africa	4	15	24	32	38	47	35	6
Asia	2	8	43	41	21	19	33	32

[1]Excluding petroleum.
[2]Figures refer to tariff lines which were *fully* bound prior to the Uruguay Round.
[3]Figures include tariff lines with unbound zero duties and partially bound zero duties.

42 per cent of the imports of the 27 developing economies in the IDB, did not make offers on a substantial number of tariff lines on which the *unbound* applied tariff is zero (this also affects the corresponding figures for Asia in the lower half of Table II.1). The proportion of *dutiable* imports into developing economies on which there was no offer is 13 per cent, a figure which is less than the corresponding 16 per cent average for developed countries.

The figures for developing economies and certain regions under the heading "bindings without reductions" call attention to an important aspect of the Uruguay Round tariff negotiations, which is that in a number of instances tariffs were bound at levels *above* the currently applied rates (9 per cent of developed country tariff lines - primarily those of developed countries in Asia - also fall in this category). This is considered in more detail in Section 4 below.

(b) Tariff reductions

Table II.2 provides a tariff profile of the three major country groups before the Uruguay Round and after the negotiated tariff reductions have been fully implemented.[5] Once the Uruguay Round tariff reductions are fully implemented, the proportion of industrial products which enter the developed country markets under MFN zero duties will more than double, from 20 to 44 per cent (from 22 to 44 per cent for imports from developing economies).[6] At the higher end of the tariff structure, the proportion of imports into developed countries from all sources that encounter tariffs above 15 per cent (so-called "peak" tariffs) will decline from 7 to 5 per cent (9 to 5 per cent for imports from developing economies).

The industrial tariff profile of developing countries is "bipolar", with 42 per cent of imports entering duty free and 38 per cent bound at duties above 15 per cent, once the Uruguay Round tariff reductions are in place. The percentage of duty-free imports is explained primarily by the large amount of duty-free imports into Hong Kong and Singapore. The percentage of imports at duties above 15 per cent reflects primarily the level of ceiling bindings offered, for example, by Latin American countries. In the transition economies, there will be a modest increase in the proportion of imports entering free of duty (a larger increase for imports from developing economies) and a decline by half or more in the proportion encountering tariffs in excess of 15 per cent.

(c) Additional details on reductions in industrial tariffs by developed countries

Figures for the eleven categories of industrial products in Table II.3 reveal that the developed countries will (i) reduce tariffs by less than the 40 per cent overall cut in four categories - fish and fish products; textiles and clothing; leather, rubber, footwear; and transport equipment;[7] and (ii) cut tariffs by 60 per cent or more in three categories - wood, pulp, paper and furniture; metals; and non-electric machinery. For the four top categories of imports from developing countries (in value terms), the percentage tariff reduction is greater (only marginally greater for two of the four) for the mix of products imported from developing economies than for the mix imported from all sources. Despite this, however, the average reduction on *all* industrial products is smaller for the mix imported from developing economies (37 per cent) than for products from all sources (40).

Regarding the distribution of developed country tariffs by industrial product category (Appendix Table 4), tariffs above 15 per cent will continue to apply to 27 per cent of imports of "textiles and clothing", and 11 per cent of imports of "leather, rubber, footwear and travel goods".

When considering tariff reductions, it should be kept in mind that *what matters as far as the stimulus to exports is concerned is not the percentage cut in tariff per se, but rather the decline in the tariff-inclusive price in the importing country*. This means that the absolute size of the tariff cut is important. For example, a 50 per cent reduction in a 3 per cent tariff will, in principle, cause the tariff-inclusive price to decline by 1.5 per cent, whereas a 25 per cent cut in a 36 per cent tariff would result in a 6.6 per cent reduction in the tariff-inclusive price. In terms of the figures in Table II.3, the 69 per cent cut in the tariff on imports of wood, pulp, paper and furniture from all sources will cause, in principle, prices for this product group to decline by 2.3 per cent, while the 22 per cent cut in the average tariff on textiles and clothing will cause prices to decline by 2.9 per cent. The point is that a smaller proportional reduction a high tariff can stimulate exports as much as or more than a bigger reduction in a low tariff.

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[5]Note that in Table II.2 the post-Uruguay Round duties include offers at ceiling rates.

[6]More correctly, the proportion would increase from 20 to 44 per cent *if* the product composition of industrial imports remained the same as it was in 1988 (the principal base period for the negotiations). The tariff and trade profile by region in Appendix Table 3 indicates that the increase in duty-free treatment has been particularly substantial in North America (from 11 to 39 per cent).

[7]The below average reduction for transportation equipment is largely explained by the smaller tariff reductions in the major markets on motor vehicles (which account for the bulk of this product category).

Table II.2
Pre- and Post-Uruguay Round tariff profiles for industrial products[1]: the three major country groups
(Billions of US dollars and percentages)

	Imports from[2]		Percentage distribution[2]					
			Tariff lines		Imports from all sources		Imports from developing economies	
	All sources	Developing economies	Pre-UR	Post UR	Pre-UR	Post UR	Pre-UR	Post UR
Developed Economies								
Total	736.8	169.7	100	100	100	100	100	100
Duty-free[3]	144.3	37.3	21	31	20	44	22	44
0.1 - 5.0%	304.3	57.4	24	25	41	32	34	25
5.1 - 10.0%	176.8	38.2	22	20	24	15	23	16
10.1 - 15.0%	51.5	21.6	10	9	7	5	13	9
15.1 - 35.0%	45.1	13.7	16	13	6	4	8	5
Over 35%	9.8	1.5	7	2	1	1	1	0
Developing Economies								
Total	350.9	-	100	100	100	100	-	-
Duty-free[3]	137.3	-	11	10	39	42	-	-
0.1 - 5.0%	20.5	-	6	5	6	5	-	-
5.1 - 10.0%	28.1	-	7	5	8	10	-	-
10.1 - 15.0%	14.4	-	5	5	4	5	-	-
15.1 - 35.0%	96.6	-	30	55	28	30	-	-
Over 35%	53.0	-	42	20	15	8	-	-
Transition Economies								
Total	34.7	2.2	100	100	100	100	100	100
Duty-free[3]	4.1	0.5	7	10	13	16	22	31
0.1 - 5.0%	9.3	0.7	23	32	27	37	30	30
5.1 - 10.0%	9.5	0.5	33	46	27	35	22	26
10.1 - 15.0%	7.6	0.2	27	8	22	7	12	6
15.1 - 35.0%	3.4	0.3	10	4	10	4	14	7
Over 35%	0.2	0.0	0	0	0	0	0	0

[1]Excluding petroleum.
[2]The import value and total number of lines exclude tariff lines for which duties are not available in *ad valorem* terms since these lines cannot be distributed by duty ranges.
[3]Figures refer to tariff lines which were duty-free prior to the Uruguay Round, including those that were fully bound, partially bound or unbound.

Table II.3
Developed country tariff reductions by major industrial product group[1]
(Billion US dollars and percentages)

Product category	Import value		Tariff averages weighted by:					
	All sources	Developing economies	Imports from all sources			Imports from developing economies		
			Pre-UR	Post UR	% Red.	Pre-UR	Post UR	% Red.
All industrial products	736.9	169.7	6.3	3.8	40	6.8	4.3	37
Fish & fish products	18.5	10.6	6.1	4.5	26	6.6	4.8	27
Wood, pulp, paper & furniture	40.6	11.5	3.5	1.1	69	4.6	1.7	63
Textiles and clothing	66.4	33.2	15.5	12.1	22	14.6	11.3	23
Leather, rubber, footwear	31.7	12.2	8.9	7.3	18	8.1	6.6	19
Metals	69.4	24.4	3.7	1.4	62	2.7	0.9	67
Chemicals & photographic supplies	61.0	8.2	6.7	3.7	45	7.2	3.8	47
Transport equipment	96.3	7.6	7.5	5.8	23	3.8	3.1	18
Non-electric machinery	118.1	9.8	4.8	1.9	60	4.7	1.6	66
Electric machinery	86.0	19.2	6.6	3.5	47	6.3	3.3	48
Mineral products & precious stones	73.0	22.2	2.3	1.1	52	2.6	0.8	69
Manufactured articles n.e.s.	76.1	10.9	5.5	2.4	56	6.5	3.1	52
Industrial tropical products	32.8	14.4	4.2	2.0	52	4.2	1.9	55
Natural resource-based products[1]	80.2	33.4	3.2	2.1	34	4.0	2.7	33

[1]Excluding petroleum products.

It has already been noted that the developed countries cut their average tariff on imports of industrial products from *all sources* by 40 per cent, from 6.3 to 3.8 per cent. If the developed country tariff reductions are weighted instead by their imports from developing countries (excluding the least developed) and from the least developed countries, it is apparent that the tariff reductions involve smaller percentage cuts and higher average post-Uruguay Round tariffs on the mix of products currently imported from the two groups of developing countries (upper half of Table II.4). These results are explained entirely by the results for "textiles and clothing" and "fish and fish products", as is evident from the figures in the lower half of the table which exclude those products. Important in the exports of developing economies, and especially the least-developed countries (almost one-half of their exports to developed countries), they are also products on which developed country tariff reductions are below the average for industrial products as a whole, and for which post-Uruguay Round tariffs are above the average (Table II.3).

Table II.4
Tariff reductions on industrial products by developed countries from selected groups of countries
(Billions of US dollars and percentages)

Imports from:	Import value	Trade-weighted tariff average		
		Pre-UR	Post-UR	Percentage reduction
All industrial products[1]				
All sources	736.9	6.3	3.8	40
Developing economies (other than least developed economies)	165.8	6.8	4.3	37
Least developed economies	3.9	6.8	5.1	25
Excluding textiles and clothing, fish and fish products				
All sources	652.1	5.4	2.9	46
Developing economies (other than least developed economies)	123.7	4.8	2.4	50
Least developed economies	2.1	1.8	0.7	61

[1]Excluding petroleum.

In those instances in which a quantitative restriction is the binding restraint (rather than the tariff), and the quantitative restriction is being removed, the extent of the increase in market access is larger than is indicated by the cut in the tariff alone. In the case of "textiles and clothing", therefore, it is necessary to consider the phase out of restraints applied under the Multi-Fibre Arrangement (MFA). Where an MFA quota is the binding restraint, the tariff-equivalent of the quota obviously will exceed the ordinary tariff, often by a sizeable amount. In such cases, the percentage reductions in import barriers calculated on the basis of ordinary tariffs will understate the true increase in the opening to imports resulting from a successful Uruguay Round (more on this below).

(d) Tariff reductions by individual participants

Among the developed countries, the largest percentage reductions in tariffs on industrial products are those by Japan and New Zealand, at 56 and 53 per cent respectively (see Appendix Table 5). Recalling the earlier point about the importance of the absolute size of the tariff reductions, it is evident that the declines in tariff-inclusive prices will be much greater for the New Zealand market (a reduction of 12.6 percentage points in the average tariff, versus 2.2 percentage points for the Japanese market). In the four largest developed country markets in terms of imports from MFN sources - the European Union, the United States, Japan and Canada - the average post-Uruguay Round tariff on industrial products will range from 1.7 per cent (Japan) to 4.8 per cent (Canada).

The tariff changes among the 27 developing economy participants for which detailed calculations are possible (IDB members) vary considerably (see Appendix 6). Eleven economies have offered tariff reductions and no ceiling bindings. Among them, India, Korea and Singapore will reduce their average tariffs on industrial goods by more than half, from 71.4 to 32.4 per cent in the case of India, from 18 to 8.3 in Korea's case, and from 12.4 to 5.1 in the case of Singapore. Recalling the point about the importance of the absolute size of the tariff reductions, it should be noted that India's reduction is very much larger than the reductions of the developed countries. Two economies, Hong Kong and Macau, have pre- and post-Uruguay Round tariffs of zero. The remaining 14 countries have offered a mixture of tariff reductions and ceiling bindings. For seven of them tariff reductions more than offset

the ceiling bindings resulting in an overall tariff reduction while for the remaining seven countries, the overall result for industrial products shows an increase in the post-Uruguay Round tariff reflecting their offers of ceiling bindings. In Zimbabwe, which has the lowest pre-and post-Uruguay Round tariffs among the developing economies (except for Hong Kong and Macau), 73 per cent of industrial imports will be duty free.

Of the four economies in transition, Poland will have both the largest tariff reduction on industrial products (38 per cent) and the highest post-Uruguay Round tariff (9.9 per cent). The post-Uruguay Round average industrial tariffs in each of the four transition economies are quite similar to those for the developed countries (see Appendix Table 7).

(e) Changes in tariff escalation

A major concern of developing countries has been tariff escalation in the developed countries. This occurs when the tariff applied on a product "chain" rises as the level of processing increases. The result is that high rates of effective protection are provided to a country's processing sector. The increase in domestic production of the processed good, and the consequent reduction in its imports, is thus likely to be greater than it would be if the nominal tariff on processed goods was the same but tariffs were not subject to escalation. A consequence of tariff escalation is that the development of processing industries in developing countries, and thus their efforts to industrialize, may be inhibited.

In the following table, the change in tariff escalation as a result of the Uruguay Round is measured by the change in the tariff wedge, that is by the change in the *absolute* difference between the tariffs at the higher and lower stages of processing.[8] According to this definition, tariff escalation is reduced when the tariff wedge declines, that is, when the absolute decline in the tariff on the more processed version exceeds the absolute decline in the tariff on the less processed version. As shown in Annex II, a reduction in (or unchanged) tariff escalation, as measured by the tariff wedge, is a sufficient condition for a decline in the effective rate of protection when tariffs are reduced.

Table II.5 presents a summary picture of the situation facing developing country exports of selected industrial products to the developed countries.[9] Two features are evident at this level of aggregation: first, developed country tariffs, averaged over all industrial products, were subject to escalation before the Uruguay Round tariff cuts, and in most (but not all) instances will remain so after the cuts; second, there have been greater absolute reductions in average tariffs at more advanced stages of production than at earlier stages of production, both for all industrial products and for the two sub-groups shown in the Table, which suggests that the overall degree of escalation has been reduced or eliminated. For natural resource-based products, for example, the average tariff applied to semi-manufactures has been reduced to the same level as raw materials (2 per cent), and while the new average tariff applied to finished natural resource-based products remains above that on semi-manufactures (5.9 compared with 2.0 per cent), the tariff wedge is smaller (3.9 per cent compared to 4.4 per cent).

The figures in Table II.5 are useful, up to a point, as broad indicators of the general direction of change in tariff escalation. But it is necessary to be cautious in drawing conclusions since the concept of tariff escalation refers to precisely defined manufacturing "chains" involving particular products, and not to whole economic sectors.

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[8]See Annex II for an explanation of why a change in the tariff wedge generally is a good indicator of the direction of change in tariff escalation.

[9]The stages of processing used in this analysis are those defined by GATT's member countries in connection with the tariff negotiations in the Tokyo Round and the Uruguay Round. Details on the precise product composition are available on request from the GATT Secretariat.

Table II.5
Changes in tariff escalation on industrial products imported by developed countries from developing economies
(Billions of US dollars and percentages)

	Imports	Share of each stage	Tariff		
			Pre-U.R.	Post U.R.	Absolute reduction
All industrial products[1]					
Raw materials	36.7	22	2.1	0.8	1.3
Semi-manufactures	36.5	21	5.4	2.8	2.6
Finished products	96.5	57	9.1	6.2	2.9
All tropical industrial products					
Raw materials	5.1	35	0.1	0.0	0.1
Semi-manufactures	4.3	30	6.3	3.4	2.9
Finished products	4.9	34	6.6	2.4	4.2
Natural resource-based products[1]					
Raw materials	14.6	44	3.1	2.0	1.1
Semi-manufactures	13.3	40	3.5	2.0	1.5
Finished products	5.5	17	7.9	5.9	2.0

[1] Excluding petroleum.

Appendix Tables 8 to 11 present data at a more disaggregated level on the tariffs imposed on imports of selected products into Canada, the European Union, Japan and the United States. This evidence confirms that, in general, there has been a decline in tariff escalation. However, in the case of a few products, the decline in intermediate good tariffs has been larger than the decline in final good tariffs, implying an increase in tariff escalation at the final stage. These include: rubber in the EU, Japan and the United States; jute in Canada, the EU and the United States; lead in Japan and the United States, zinc in Canada; and hides, skins and leather in Japan.

2. REMOVAL OF QUANTITATIVE RESTRICTIONS ON INDUSTRIAL PRODUCTS

Two provisions of the Final Act involve the phase-out of quantitative restrictions on industrial products: the Agreement on Textiles and Clothing and the Safeguards Agreement. The latter covers measures taken pursuant to Article XIX of the General Agreement, as well as the implementation of the roll-back commitment made at Punta del Este for certain measures taken outside the framework of the General Agreement (the so-called "grey-area" measures).

(a) MFA restrictions

For industrial products, the most important quantitative measures scheduled for elimination are the restraints on textiles and clothing applied in the context of the Multifibre Arrangement (MFA), in place since early 1974, but with roots going back to the beginning of the 1960s. As of 1 November 1994, the MFA grouped 39 participants, eight of which are described as "importers"; of these, Austria, Canada, the European Community, Finland, Norway and the United States apply explicit restrictions under the MFA, while Japan and Switzerland do not. Other participants, described as "exporters", are subject to bilateral restraint agreements on their exports to one or more of the "importers" (Table II.6).

Estimates based on 1990 data indicate that, in terms of upper limits, approximately 11 per cent of world trade in textiles, and 35 per cent of world trade in clothing, were subject to restraint under MFA agreements (if intra-EU trade in textiles and clothing is excluded, the figures become 15 and 44 per cent, respectively). These figures understate the impact of the MFA on the exports of the MFA "exporters", individually and as a group. They also understate the impact on world trade, since the trade shares of restrained imports are depressed by the regime of bilateral restrictions.

Table II.6
Number of bilateral restraint agreements applied under the MFA: October 1994

Exporter \ Importer	United States	Canada	European Union	Norway	Finland	Austria
Developing economies of which:	28	21	15	13	7	6
Least-developed economies	2	2	0	0	0	0
Transition economies	4	4	0	4	0	0

Note: Based on information available to the Textiles Surveillance Body (TSB) as of 14 October 1994.

The Agreement on Textiles and Clothing provides for the phase-out of MFA restraints in four steps, starting 1 January 1995 and ending 1 January 2005 (assuming that the WTO enters into effect on 1 January 1995). The Agreement also provides for the notification of all non-MFA restraints on imports of textiles and clothing - 29 non-MFA agreements or sets of unilateral measures had been notified to the TSB as of mid-October 1994, with the United States and Canada accounting for all but three - regardless of whether they are based on GATT provisions and requires that they be brought into conformity with the GATT within one year following the entry into force of the Agreement, or phased out progressively during a period not exceeding the duration of the Agreement (that is, by 2005).

An indication of the restrictive effect of MFA quotas on world trade in textiles and clothing is provided by estimates of MFA quota price wedges - that is, of the tariff-equivalent of the bilateral quotas. These generally are based on prices of export licenses, by product and destination, in the markets of certain exporting countries, particularly Hong Kong. The available data indicate that MFA quotas have increased the tariff-inclusive prices of restricted products imported from Hong Kong into the United States by 27 per cent (1982-83), by 14 per cent in the European Community (1980-85), by 4 per cent in Austria (1982-83), and by 6 per cent in Finland (1982-83).[10] More recently, the United States International Trade Commission (1993) estimated the average quota price wedge on clothing products entering the United States from all sources at 16.8 per cent. Other recent estimates have been reported by Yang (1992, 1994) and Whalley (1992). On a bilateral basis, estimates of the quota price wedge for clothing entering the United States range above 40 per cent.

[10]Hamilton (1986). Estimates of quota price wedges have also been made for other MFA exporters where data on implicit or explicit prices of export licenses are unavailable. To obtain estimates for all MFA exporters, Trela and Whalley (1990) adjust Hong Kong tariff equivalents of quotas for differences in supply costs as a result of wages, labour productivity, and product quality of exports. An exporter with lower supply costs than Hong Kong has a higher per-unit quota price wedge. It is to be noted that estimates vary greatly from year to year. For example, between January 1982 and December 1983, the quota price wedges on exports of Hong Kong to the United States varied from about 10 per cent to over 130 per cent (Hamilton, 1986b). The sharp variations over time in the quota price wedges suggest a sensitivity to changes in exchange rates, expectations of available quota volumes and demand conditions in the importer, and changes in the supply prices of the exporters. Critics of the method include Laird and Yeats (1988), Silberston (1984) and Anderson (1988).

A particular feature of the bilateral MFA quotas is that the restrictions are administered by the exporting countries - in other words, they are "voluntary export restraints" (VERs). This arrangement generally allows the exporting country to charge higher prices, and thereby to capture part of the difference between the normal export price and the domestic wholesale price in the importing country. When estimating the impact of the phase-out of MFA quotas on the foreign exchange earnings of developing economies, it is necessary to allow for the elimination of this economic rent. Export volume (and employment and investment) increases, but the price per unit received by the exporter may decline. If export prices do decline, the impact on the foreign exchange earnings from textiles and clothing by MFA quota-restrained exporters depends on the elasticity of import demand for the products in question. Provided that the demand is elastic, as is likely to be the case in most instances, foreign exchange earnings from the products in question will increase.[11]

All studies of the costs of protecting textiles and clothing report substantial gains to consumers in the importing countries from the lifting of restraints. The available research also supports the view that the revenues of developing economies as a group from exports of textiles and clothing are likely to rise when the MFA is phased out, despite the loss of the "quota rents" that accrue to exporting countries under the MFA. One estimate for the United States market suggests that the value of exports of currently constrained suppliers to the United States would rise by 20½ per cent for textiles and 36½ per cent for clothing, or an average of 35 per cent in both product groups. Another study estimates that developing country exports to the major OECD countries could increase by 82 per cent for textiles and 93 per cent for clothing, while the removal of both tariffs and quotas could increase developing economy exports of clothing by 135 per cent and those of textiles by 78 per cent. Yet another study of the effects of removing MFA quotas and reducing tariffs on textiles and clothing products reports increases in the value of imports of textiles and clothing combined of 244 per cent in the United States, 214 per cent in Canada, and 264 per cent in the European Community.[12] The likely impact on the pattern of world trade in textiles and clothing of the elimination of MFA quotas is considered in more detail in Section 5 below.

(b) Other quantitative restrictions

The Uruguay Round Agreement on Safeguards provides for the termination of measures taken pursuant to Article XIX of the General Agreement not later than eight years after the date on which they were first applied or five years after the date of entry into force of the Agreement establishing the WTO, whichever comes later. It also sets out commitments on the phase-out of measures not in conformity with the provisions of Article XIX (the Punta del Este rollback commitment). The Agreement covers voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side. These measures are to be brought into conformity with the Agreement or phased out within four years after the entry into force of the agreement establishing the WTO.[13]

Not surprisingly, transparency is a particularly serious problem in the case of so-called "grey area" measures. Some progress in identifying such measures is evident in recent years, however, as a result of GATT's Trade Policy Review Mechanism. On the basis of TPRM reports that had been completed by early 1993, a total of 75 bilateral or unilateral restraints were identified covering travel goods (14), electrical equipment and appliances (11), footwear (8), television or television tubes (5),

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[11]Import demand is likely to be elastic not only because it is an "excess" demand elasticity, and therefore a multiple of the domestic demand elasticity, but also because it is an excess demand elasticity facing a sub-set of exporters rather than all exporters. See Blackhurst (1973).

[12]See, respectively, USITC (1989), Kirmani *et al.* (1984), UNCTAD (1986) and Trela and Whalley (1990). Other evidence is provided in Hamilton (1990).

[13]Each WTO member is allowed to keep one specific measure in force until the end of 1999, subject to the agreement of the exporting country in question.

machine tools (4) and other products (33).[14] This list does not include non-MFA quantitative restrictions on textiles and clothing. More generally, 75 clearly is an underestimate of the number of grey area measures in force since an unknown number of measures have escaped notice.

3. REDUCTIONS IN IMPORT BARRIERS AND OTHER INTERVENTIONS AFFECTING TRADE IN AGRICULTURAL PRODUCTS

Government interventions affecting trade in agricultural products are more varied and extensive than those affecting trade in industrial products, particularly in the developed countries. This is reflected in the Agreement on Agriculture in the Uruguay Round Final Act, which includes not only new rules and commitments on border measures, but also rules and commitments on domestic subsidies and subsidized exports. The more quantitative elements of the Agreement on Agriculture and the negotiating procedures that lead to specific country schedules, including "tariffication", are summarized in Box 1.

(a) Imports covered by tariff commitments

A comparison of Tables II.7 with Table II.1 reveals that a much larger proportion of agricultural imports than industrial imports already benefits from bound duty-free treatment.For the developed countries and transition economies, the proportions are generally double, while bound duty-free entry into developing economy markets applies to more than one-quarter of agricultural imports versus essentially no industrial imports.

In the case of tariff lines that were not bound duty free going into the Round, virtually all of them were reduced and bound by the developed countries and the transition economies. Developing economies - primarily ones in Latin America and Africa - have agreed to bind at ceiling levels, but not reduce, a number of their agricultural tariffs. Since essentially 100 per cent binding was required in the case of agricultural tariffs, Table II.7 (in contrast to Table II.1 on industrial products), does not include a "no offer" column.

(b) Tariff reductions

The new tariffs resulting from "tariffication" (see Box 1), together with the tariffs not affected by tariffication, are to be reduced by an average of 36 per cent by developed countries and 24 per cent by developing economies (other than the least developed); with minimum cuts on each tariff line of 15 and 10 per cent, respectively.[15] The description of the results of that process for agriculture differs in two important ways from the description in Section 1 of the tariff reductions on industrial products. *First,* the use of simple averages in the case of reductions in agricultural tariffs (the negotiating targets were specified in terms of simple averages). *Second,* because the tariffication process has produced a large number of new specific duties for which official and detailed ad valorem tariff equivalents are not yet available, there is no mention of actual pre- and post-Uruguay Round tariffs.

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[14]GATT (1993). See also Haaland and Tollefson (1994) and UNCTAD (1994).

[15]Since these are minimum obligations, no figures are provided for individual countries in Appendix Tables (as was due done for commitments on industrial products).

Table II.7
Broad pattern of tariff commitments on agricultural products
(Percentages)

Country group or region	Already bound duty-free[1]		Currently dutiable and/or unbound[2]			
			Bindings with reductions		Bindings without reductions	
	Share of lines	Share of imports	Share of lines	Share of imports	Share of lines	Share of imports
By major country group:						
Developed economies						
All sources	21	42	79	58	0	0
Developing economies		42		57		1
Developing economies						
All sources	9	27	76	66	15	7
Transition economies						
All sources	16	34	84	65	0	1
Developing economies		43		57		0
By selected region:						
North America	28	33	72	65	0	2
Latin America	2	4	72	84	26	12
Western Europe	13	44	87	56	0	0
Central/East Europe	13	29	87	70	0	1
Africa	13	2	55	66	31	32
Asia	20	39	76	58	4	3

[1]Figures refer to tariff lines which were *fully* bound prior to the Uruguay Round.
[2]Figures include tariff lines with unbound zero duties and partially bound zero duties.

Developed countries account for about two-thirds of world imports of agricultural products. The across-the-board reductions in their agricultural tariffs by the developed countries are summarized in Table II.8 for two (overlapping) product groups. Among the twelve agricultural product categories in the first group, reductions to be undertaken by the developed economies as a group range from a low of a 26 per cent simple average cut for "dairy products" to a high of 48 per cent cut for "cut flowers, plants and vegetable materials" and the miscellaneous group "other agricultural products". The overall average reduction of 37 per cent meets, collectively, the goal set by participants.

The reduction on dutiable tropical products (lower part of Table II.8) as a whole is 43 per cent, ranging from a low of 37 per cent for "tropical nuts and fruits" to a high of 52 per cent for "spices, flowers and plants". The principal cause of the difference between the 35 per cent and 46 per cent figures, respectively for "coffee, tea, cocoa, maté" in the first group of products and "tropical beverages" in the second group, is the inclusion in the former of chocolate and other food preparations containing cocoa, for which offers have been much lower than for other products in those product categories.

Box 1: The quantitative elements in the Uruguay Round Agreement on Agriculture

"Tariffication"

At the beginning of the Uruguay Round, border measures in support of domestic agricultural producers were limited to unbound or bound tariffs for approximately two-thirds of all agricultural tariff lines of the participating countries. For the remaining one-third of the tariff lines, the intervention extended to non-tariff measures. It is this latter one-third of the tariff lines that was subject to "tariffication", in which for each tariff line the package of protective measures (including the existing tariff) is replaced by a single new tariff that is estimated to provide substantially the same level of protection as the existing package of measures.

The new tariff can be either an ad valorem tariff or a specific duty. In nearly all instances, the new tariffs are specific duties, for which reliable ad valorem equivalents are not currently available - a fact which complicates both the presentation of the results and the task of estimating the trade and income effects for the agricultural results. The tariffication package also includes current and minimum access commitments (see below) and the right to use the special safeguard provisions of the Agreement. The special safeguard provisions allow additional duties (to the bound rates) to be applied if conditions relating to import surges or declines in import prices are met.

Tariff reductions

The new tariffs resulting from the "tariffication" process, together with the other tariffs on agricultural products, are to be reduced by a simple average of 36 per cent in six years in the case of developed countries and 24 per cent in ten years in the case of developing countries, with minimum reductions of 15 per cent and 10 per cent, respectively. No reduction is required in the case of least developed countries.

As with industrial products, some developing countries (particularly in Latin America and Africa) will introduce ceiling bindings for one or more tariff lines without reducing the tariff in question over the implementation period (see Table II.7).

Current and minimum access commitments

For products covered by the tariffication process, the negotiating modalities provided for the maintenance of current market access opportunities and the establishment of minimum access tariff quotas (at reduced-tariff rates) where the current access is less than 5 per cent of domestic consumption. These minimum access tariff quotas, which are generally at the 4-digit HS level, are to be expanded from 3 per cent to 5 per cent of domestic consumption over the implementation period.

Reductions in export subsidies and subsidized exports

Developed countries are required to reduce the value of direct export subsidies to a level 36 per cent below the 1986-90 base period level over the six-year implementation period, and the quantity of subsidised exports by 21 per cent over the same period. In the case of developing economies, the reductions are two-thirds those of developed countries over a ten-year period (with no reductions required of least-developed economies). In certain circumstances, where subsidised exports have increased since the 1986-90 base period, 1991-92 may be used as the beginning point of reductions although the end-point remains that based on the 1986-90 base period level.

Reduction in domestic support

The Total Aggregate Measure of Support (Total AMS) reduction commitments, which cover all domestic support provided on either a product-specific or non-product-specific basis that does not qualify for exemption, call for reductions of 20 per cent in six years (13.3 per cent in ten years for developing economies, with no reduction required of least-developed economies).

So-called "green box" policies are excluded from the reduction commitments. These include general government services (such as research, disease control, infrastructure and food security stockholding), certain forms of "decoupled" (from production) income support, structural adjustment assistance, direct payments under environmental programmes and under regional assistance programmes. In addition to the green box policies, other policies that need not be included in the Total AMS reduction commitments include direct payments under production-limiting programmes, certain government assistance measures to encourage agricultural and rural development in developing countries and other support which makes up only a low proportion (5 per cent in the case of developed countries and 10 per cent in the case of developing countries) of the value of production of individual products or, in the case of non-product-specific support, the value of total agricultural production.

Table II.8
Developed country imports and tariff reductions on agricultural products
(Millions of US dollars and percentages)

Product categories	Value of imports		Percentage reduction in tariffs
	All sources	Developing economies	
All agricultural products	**84,240**	**38,030**	37
Coffee,tea,cocoa,mate	9,136	8,116	35
Fruits and vegetables	14,575	8,887	36
Oilseeds, fats and oils	12,584	6,833	40
Other agricultural products	15,585	4,233	48
Animals and products	9,596	2,690	32
Beverages and spirits	6,608	2,012	38
Flowers, plants, vegetable materials	1,945	1,187	48
Tobacco	3,086	1,135	36
Spices and cereal preparations	2,767	1,134	35
Sugar	1,730	1,030	30
Grains	5,310	725	39
Dairy products	1,317	48	26
Tropical products	**24,022**	**18,744**	**43**
Tropical beverages	8,655	8,041	46
Tropical nuts and fruits	4,340	3,672	37
Certain oilseeds, oils	3,443	2,546	40
Roots, rice, tobacco	4,591	2,497	40
Spices, flowers and plants	2,992	1,987	52

(c) Market access commitments

It was agreed that for products subject to tariffication, current access opportunities - in quantitative and other terms - would be maintained on terms at least equivalent to those existing prior to the tariffication process. In addition, in the case of those products for which little or no imports took place because of the highly restrictive nature of the pre-existing regime, minimum market access opportunity commitments were required, representing not less than 3 per cent of domestic consumption in the base period 1986-88, rising to 5 per cent of that base figure by the end of the implementation period in 2000 for developed countries or (2004 for developing countries). The results of negotiations on the basis of these modalities are incorporated in the individual country schedules.

Figures on the increase in market access for exporters resulting from these new minimum access opportunity commitments, between the base period of 1986-88 and the end of the implementation period, are provided in Table II.9. In terms of tonnage, the most substantial increase is in coarse grains (1,757,000 tons), followed by rice (1,076,000 tons). These minimum access opportunity commitments will be allocated on a most-favoured-nation basis in accordance with the provisions of Article XIII of the GATT (with in-quota imports being subject to duties as specified in the schedules of commitments).

Table II.9
Increases in market access under minimum access opportunity commitments: selected products
(Thousands of metric tons)

Product	Increase in access opportunities between period base and end of implementation period	
	Total	Selected sub-categories
Coarse grains	1,757	Maize (1,065); barley (552)
Rice	1,076	
Wheat	807	
Dairy products	729	Milk and cream (305); milk powder (147); cheese (132); whey powder (83)
Meat	421	Bovine meat (186); pigmeat (133); poultry (94)
Vegetables	355	Potatoes (197); onions, garlic (39); cabbages (32)
Sugar	292	
Eggs	252	
Fruits	130	Citrus (64); apples, pears, peaches, plums, cherries (28); bananas (13)
Oilcakes and oilseeds	126	
Vegetable oils	110	
Cotton	61	
Coffee	21	
Chocolate	19	

Notes: 1.Selected from schedules of commitments, which contain also commitments on additional products. Figures adjusted for base period imports.
2. Countries having provided for increases in quota levels from base levels include Austria, Canada, Colombia, Costa Rica, Czech Rep., El Salvador, European Communities, Finland, Guatemala, Hungary, Japan, Republic of Korea, Mexico, Morocco, New Zealand, Nicaragua, Philippines, Poland, Romania, Slovak Rep., South Africa, Switzerland-Liechtenstein, Thailand, United States and Venezuela.
3. As products are expressed at different stages of processing in the schedules, the totals given above are only indicative.

In addition to the new access shown in the table, other increased access opportunities will, of course, be evident during and following the implementation of commitments. For example, some of the current access commitments reinstate access levels which have declined since the 1986-88 base period. In addition, the general tariff reductions will allow more trade to occur in both the case of products subject to tariffication and the vastly more numerous products subject only to tariffs in the past.

(d) Commitments on export competition

Each WTO member is required to reduce both outlays for export subsidies and the quantities of subsidized exports for specified products by 36 and 21 per cent, respectively (by developing countries, two-thirds of these figures), between the base (1986-90) and the end of the implementation period. The Agreement on Agriculture also specifies that for products not subject to export subsidy reduction commitments, no such subsidies can be used in the future.

These reductions are of particular significance for heavily subsidized products on world food markets such as wheat, beef, coarse grains, dairy products and sugar (Table II.10).[16] Total outlays on subsidized quantities will decline by the end of the implementation period by 36 per cent, from $22.5 billion to $14.5 billion, of which one-half is accounted for by the European Union (Appendix Table 10). The

[16]The subsidy figures tend to understate the effect of export subsidies, as well as the benefits of their reduction, in instances where they are concentrated on certain more detailed product categories. In such situations the reduction commitments are likely to have a much greater impact on export opportunities for other countries than the aggregate data suggest.

prohibition of export subsidies on all products not subject to reduction commitments will also play an important role in improving competition on world markets.

As noted in Box 1, participants in the negotiations had the option of starting reductions from 1991-92 levels rather than 1986-90 levels, although the end-point is to be the same. The shaded columns in the following table entitled "higher of base or 1991-92" and the reductions associated with these columns indicate the impact of this provision. For example the reductions in quantity from this higher base for wheat are 34 per cent rather than 19 per cent, and for rice and vegetable oils around 40 per cent instead of 17 per cent. Nevertheless, the actual reductions required to meet commitment levels will depend on current export levels, that is, on 1994 levels.

Table II.10
Subsidized export reduction commitments by product

Product	Export subsidies ($US millions)					Subsidized quantities (thousand metric tons)				
	Base 1986-90	1991-92 if above base	Final	Change	Change from higher base	Base 1986-90	1991-92 if above base	Final	Change	Change from higher base
Wheat	3483	5069	2235	-36	-56	49612	61452	40360	-19	-34
Beef	2802	2978	1796	-36	-40	1583	1753	1270	-20	-28
Coarse grains	2258	2579	1445	-36	-44	20581	21236	16260	-21	-23
Butter and butteroil	1996	2023	1278	-36	-37	618	644	490	-21	-24
Other milk products	1877	1895	1201	-36	-37	3326	3396	2744	-17	-19
Sugar	1731	nc	1175	-32	nc	6304	nc	5070	-20	nc
Cheese	819	997	524	-36	-47	543	602	430	-21	-29
Fruits and vegetables	800	804	519	-35	-35	9268	9435	7582	-18	-20
Skim milk powder	746	750	477	-36	-36	578	609	457	-21	-25
Live animals	623	nc	394	-36	nc	-	-	-	-	-
Pigmeat	505	544	323	-36	-41	612	617	484	-21	-21
Poultry meat	323	327	207	-36	-36	726	828	583	-20	-30
Rice	230	244	165	-28	-32	604	874	503	-17	-42
Vegetable oils	199	238	130	-35	-45	1585	2138	1370	-17	-39
Oilseeds	130	nc	83	-36	nc	2508	nc	1982	-21	nc
Eggs	125	131	80	-36	-39	166	191	131	-21	-31
Wine	107	nc	69	-36	nc	-	-	-	-	-
Tobacco	96	150	66	-32	-56	228	291	185	-19	-37
Cotton	85	nc	64	-24	nc	95	nc	82	-14	nc
Sheepmeat	32	nc	21	-34	nc	30	nc	25	-17	nc
Oilcakes	7	nc	4	-34	nc	30	nc	25	-17	nc

nc: no change: the "front-loading" provisions were not used for these products.
Note: Commitments converted to U.S. dollars using 1990-91 average exchange rates. Reduction commitments for export subsidies and for subsidized quantities apply to individual product categories as defined in this table.
As products are expressed at different stages of processing in the Schedules, the totals given above can only be considered indicative.

(e) Commitments on domestic support

All forms of domestic support to agricultural producers, with the exception of the policies designated as exempt (Box 1), are subject to reduction commitments. For each participant with non-exempt support, the total Aggregate Measurement of Support (AMS) is to be reduced in equal instalments and bound by the end of the transition period, at a level 20 per cent below the base period (1986-88) level for developed countries, 13 per cent for developing economies, with no reduction required for least developed countries. As a result of these reduction commitments, the total level of support to agricultural producers subject to commitments in the base period will decline by 18 per cent by the end of the transition period, from $197 billion to $162 billion (see Appendix Table 11).[17]

[17]Most of the commitments are expressed in domestic currencies (the dollar figures in the text reflect current exchange rates).

4. SECURING MARKET ACCESS THROUGH BINDINGS

If a tariff lowered during a GATT round could be unilaterally raised again a few months later, that tariff concession would have little or no value to foreign and domestic producers. An exporting firm would be reluctant to pursue new markets if the treatment afforded its products in foreign markets is uncertain. This is especially true if taking advantage of the lower tariff requires investment in plant, equipment and distribution networks - investments that would become unprofitable if the tariff were raised back to its old level (or even higher). For domestic producers, the fact that their own government might subsequently raise a tariff also creates uncertainty, not only for firms that rely on imported inputs, but also more generally for export-oriented firms that compete with import-competing firms for scarce labour and capital.

This is where "tariff bindings" come in. When a country agrees to bind a tariff on a product at a certain level - say 15 per cent - it commits itself not to increase the tariff above that level (except by negotiation with affected trading partners). Binding is considered to be so important that countries which agree to bind previously unbound tariffs are given "negotiating credit" for the decision even if the tariff is bound at a level *above* the currently applied level (this is the case for many Latin American and African participants in the Uruguay Round). Bindings have also played a key role in establishing the domestic and international credibility of domestic reform programs in many countries. Although an integral part of the tariff negotiations, bindings clearly are more akin to rules - in terms of their contribution to the predictability of future market access - than to direct *increases* in market access.

For industrial products, these bindings generally take the form of maximum or ceiling rates for the tariffs applied to the products listed in the schedule. However, tariff levels are not the only commitments that can be bound. For agricultural products, commitments include not only bindings on duties applied to imported products, but also the previously described commitments on current and minimum market access opportunities, on the value of export subsidies and on volumes exported with the aid of subsidies, and on domestic support to agricultural producers.

In the case of industrial products, the percentage of tariff lines bound (fourth and fifth columns of Table II.11) has risen from 78 to 99 per cent for developed countries, from 21 to 73 per cent for developing economies and from 73 to 98 per cent for transition economies.[18] The new level of bindings is lower in developing economies than in developed or transition economies, but the increase in the coverage of bindings was much greater for this group, where the initial level of bindings was low. Virtually all imports of industrial products into the developed economies ($737 billion) and of the transition economies ($35 billion) will enter under bound tariffs after the Uruguay Round, as well as more than three-fifths of the $352 billion in imports into developing economies. In Latin America, the percentage of tariff lines bound nearly triples, from 38 to 100 per cent. Offers of individual Asian developing countries are less homogeneous than for Latin America, with the result that the scope of bindings is 68 per cent of tariff lines and 70 per cent of imports. Clearly, one of the major results of the Uruguay Round is therefore an improvement in the security of market access for industrial products through increased bindings.

Among individual developing economies (Appendix Table 12), Chile was the only developing economy offering to bind 100 per cent of its tariff lines in the context of the Tokyo Round, while Costa Rica, El Salvador, Mexico and Venezuela bound 100 per cent of tariff lines (and of imports) upon accession to GATT during the period 1986-91. Argentina, Brazil, Colombia, Jamaica, Peru and Uruguay have committed to bind 100 per cent of tariff lines. Indonesia has bound more than 90 per cent of tariff

[18]Figures are affected by the fact that comparable data are available only for 27 of 93 developing economy participants. This could have a substantial effect on figures for the percentage of tariff lines bound by developing economies and by developing regions since the 27 participants for which data are available account for less than one-third of the total tariff lines of developing economies. This has, however, much less of an effect on figures for the coverage of bindings based on import values rather than tariff lines, since the 27 participants account for roughly 80 per cent of the total merchandise imports of developing economy participants in the Uruguay Round.

lines; India, the Republic of Korea, Malaysia, Philippines, Singapore and Thailand have bound between 60 and 89 per cent; and Hong Kong, Macau and Sri Lanka have bound between 10 and 25 per cent of tariff lines.

Prior to the Uruguay Round, only one-third of agricultural product tariff lines were subject to bindings. Although the increase in the coverage of bindings is particularly great in developing economies (from 17 to virtually 100 per cent of tariff lines), the coverage of bindings has almost doubled in the developed and transition economies.

Table II.11
Tariff bindings on industrial and agricultural products
(Percentages)

	Industrial products				Agricultural products			
Country group	Percentage of tariff lines bound		Percentage of imports under bound rates		Percentage of tariff lines bound		Percentage of imports under bound rates	
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-
Total	**43**	**83**	**68**	**87**	**35**	**100**	**63**	**100**
By major country group:								
Developed countries	78	99	94	99	58	100	81	100
Developing economies	21	73	13	61	17	100	22	100
Transition economies	73	98	74	96	57	100	59	100
By region:								
North America	99	100	99	100	92	100	94	100
Latin America	38	100	57	100	36	100	74	100
Western Europe	79	82	98	98	45	100	87	100
Central Europe	63	98	68	97	49	100	54	100
Africa	13	69	26	90	12	100	8	100
Asia	16	68	32	70	15	100	36	100

At the end of the Uruguay Round implementation period, the overall level of protection of agricultural products in most developed countries will remain well above the level of protection of industrial products. But agricultural trade will have been put squarely on a future liberalization track. And for the first time in GATT's history, the level of security for trade in agricultural products will be greater than for trade in industrial products, since (i) virtually 100 per cent of agricultural product tariff lines will be bound, compared to 83 per cent of industrial product tariff lines, and (ii) there will be virtually no non-tariff barriers.[19]

[19]Under the provisions of Annex 5 to the Agreement on Agriculture, Japan, Korea and the Philippines have not yet bound their tariffs on rice, and Israel has not bound its tariffs on sheepmeat, whole milk powder and certain cheeses. Non-tariff measures can remain on these products as well.

5. TRADE AND INCOME EFFECTS OF LIBERALIZING TRADE IN GOODS

The tariff reductions and other liberalizing actions outlined above, together with the security provided by the binding of those actions, will stimulate world trade, investment and production. Resources will be used more efficiently world-wide. As a result, by 2005, when all the results of the Uruguay Round will be in place, not only world trade but also world income will be larger than they would have been had the liberalization not taken place.[20] This section summarizes the GATT Secretariat's efforts to estimate the size of each of those gains, both overall and for a sub-set of countries and groups of countries.

The estimates are derived from a computable general equilibrium (CGE) model which explicitly links industries together in value-added chains from primary goods, through higher stages of processing, to the final assembly of consumption goods for households and governments. The link between sectors may be direct, such as the input of steel into the production of transport equipment, or indirect, as with the link between steel and agriculture through the production of steel-intensive agricultural equipment such as tractors and ploughs. Sectors are also linked through various economy-wide constraints. For instance, because firms in different sectors compete for a limited supply of labour, capital and land, an expansion of one sector will be accompanied by a contraction of another sector, except when the expansion is the result of resource accumulation or technological improvements that economize on the use of scarce resources.[21]

In addition to the linkages within each economy, the model also allows for linkages between economies. While a change in one part of the world economy will, in principle, have repercussions throughout the world economy, the effect normally will be greatest in the sector and country where the policy change is initiated. It will then spread through linkages to adjacent sectors at home and into the markets of trading partners.

A different kind of linkage is taken into account by introducing one important "dynamic" effect into the model. The initial increase in income from trade liberalization is assumed to increase savings (a fixed share of the additional income is saved) and investment, with the increased investment (larger capital stock) in turn causing a further increase in income.

Three versions of the model are used, which means that there are three estimates of each of the principal effects of the liberalization of trade in goods. The goal is to indicate the separate contribution of different assumptions about certain key features of the world economy, and to permit readers to select those estimates which they believe are most plausible in light of the underlying assumptions.

Models such as the one used in this exercise could, in principle, solve for the net result of all direct and indirect effects that follow a major trade liberalization of the magnitude of the Uruguay Round agreement. In practice, however, the amount of detail that can be built into the model is limited, and only relatively broad-based effects can be estimated with any degree of confidence. *More importantly, it must be emphasized that estimated increases in trade and income are not forecasts.* Not only do they ignore important parts of the Uruguay Round package (more on this below), but by 2005 the

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[20]Discussions of the effects of a major trade liberalization do not always distinguish sharply between the trade effects and the income effects. It is important to be clear that a $1 billion increase in exports is *not* equivalent to a $1 billion increase in income. To produce additional exports, resources must be used which could otherwise have been used to produce goods and services for domestic residents. If those resources would have produced $900 million in such domestic goods and services, the true net income gain is the $100 million difference between the value of those "foregone" domestic goods and services and the $1 billion in goods and services that can be purchased in the world market with the additional foreign exchange earnings.

[21]The estimates are based on the assumption that unemployment rates remain constant.

structure of the world economy is likely to have changed considerably from the structure of the 1990 "benchmark" economy on which the estimates for 2005 are based. They are intended, rather, to indicate the rough order of magnitude of the trade and income gains that can be expected from the reduction or elimination of measures affecting trade in goods negotiated in the Uruguay Round.

(a) Estimated trade effects

The estimated trade effects are given in Table II.12, for total merchandise trade and for 13 product categories (see Box 2 regarding the data used in the model). Depending on which version of the model is used, the simulations indicate a level of world merchandise trade in the range of 9 to 24 per cent above the level that would have occurred in the absence of the Uruguay Round. This is broadly consistent with the results obtained by other researchers (see Annex III). Since the estimated percentage increases in exports do not, by themselves, give a full picture (because the sizes of the respective trade flows vary enormously), Table II.12 also includes the actual value of exports in each product category in 1992. Keeping in mind that the percentage increases will apply to the level of exports in 2005 (in the absence of the Uruguay Round liberalization), it should be noted that between 1980 and 1992, world trade grew at an average annual rate of roughly 4 per cent.

The wide range of the estimates illustrates the sensitivity of the results to the underlying assumptions in each of the three versions. The smallest estimates come from the first version of the model. Under the perfectly competitive, constant returns to scale specification, total merchandise trade is projected to increase by roughly 9 per cent over the benchmark (status quo), level. If "external" scale economies, are introduced in the industrial sectors, trade is projected to increase by roughly 10 per cent.[22] Finally, when the perfect competition assumption is replaced by monopolistic competition in the industrial sectors, and the scale economies are specified as "internal" rather than "external" to each firm, merchandise trade is estimated to increase by nearly a quarter.

[22]The scale economy sectors in the second and third versions of the model are mining, textiles, clothing, chemicals, steel, non-ferrous metals, fabricated metal products, transport equipment and other manufactures. The other sectors (including grains, other agriculture, forestry and fishery) are assumed to operate with constant returns to scale technologies.

Table II.12
Estimated increase in merchandise exports due to the implementation of the liberalization of trade in goods: main product groups
(Percentage change in volume)

	Version of the model			
	Version 1	**Version 2**	**Version 3**	**Actual value of exports in 1992 (billions of dollars)**
All merchandise[1]	**8.6**	**9.6**	**23.5**	**2,843**
Grains	4.1	4.4	4.6	24.2
Other agricultural products[2]	21.1	21.0	22.1	73.8
Fishery products[2]	13.0	12.9	13.5	26.5
Forestry products	3.7	4.1	5.6	7.7
Mining	1.6	1.8	3.1	328.4
Primary steel	8.3	8.4	25.5	76.7
Primary non-ferrous metals	3.6	3.9	14.2	52.4
Fabricated metal products	5.3	5.4	16.0	57.2
Chemicals and rubber	5.2	5.4	21.4	251.3
Transport equipment	11.7	13.6	30.1	320.2
Textiles	17.5	18.6	72.5	93.9
Clothing	69.4	87.1	191.6	105.6
Other manufactures	4.7	4.7	12.7	1,425.1

[1]Excluding intra-European Union trade, and including trade in petroleum.
[2]The marginally smaller gains under the second version of the model, relative to the first version, are the result of resources shifting into production of those product groups whose production was stimulated by the introduction of increasing returns to scale.

Version 1: assumes constant returns to scale (no economies of scale), and perfect competition.
Version 2: assumes increasing returns to scale in industrial sectors, and perfect competition.
Version 3: assumes increasing returns to scale and monopolistic competition in industrial sectors.

Box 2 - The economic and policy data used in the model

Three basic steps are involved in making the trade estimates. First, data on actual trade, production and consumption in 1990 are used to establish a dataset for the reference period. Second, this dataset is used to "benchmark" the model, so that it reflects the pre-Uruguay Round reference period. Third, the model is then re-estimated, taking into account the Uruguay Round liberalization of trade in goods. The trade effects are given by the difference between the pre-Uruguay Round and the estimated post-Uruguay Round datasets. To provide income estimates for 2005, an additional step is required, which involves applying estimated percentage changes in income to OECD and World Bank projections of regional incomes for 2005 (projections which do not allow for a successful Uruguay Round).

Social accounting data: The benchmark 1990 dataset is a social accounting matrix (SAM) of the world economy. It provides a reconciliation of national income statistics, including input-output data and data on trade, production, and consumption. These data are taken from the Global Trade Analysis Project (GTAP) 1990 dataset (Hertel and Tsigas (1993)), augmented with data for EFTA, which is not included as a separate region in the GTAP data. The dataset does not have sufficient developing country detail to allow for a full geographic breakdown of countries by the Secretariat's usual seven regions. The selection of the product sectors (13) and countries or country groups (8) which appear in the tables in this section was determined by a number of factors, including the availability of social accounting data, related national income account data, and the need to limit the size of the model for computational reasons (the results for two services-related sectors are not included in the tables because there was no attempt to allow for increases in market access for services).

Elasticities: As with other key parameters of the model, values for the elasticities - such as the trade substitution elasticities, capital-labour substitution elasticities, and scale elasticities - are drawn from available empirical estimates.

Policy data: The tariff cuts for industrial products are derived directly from the submitted schedules. Using the applied MFN tariff rates as reported in the Integrated Data Base (IDB), the base rate for each sector and region was calculated by averaging over the tariff lines in the sector, and over the countries in the region, using import shares as weights. The base years for tariff and import data are centred around 1988. The new rate is calculated by the same type of averaging using the offered rates for each tariff line, except where a country has offered to bind the tariff above the applied base rate, in which case it is assumed that no actual cut has been made.

For industrial non-tariff barriers (NTBs), data on textiles and clothing protection are based on the MFA quota price-wedges reported by Yang (1992, 1994), Whalley (1992), and the USITC (1991, 1993). Data on the protective effect of VERs on Japanese cars in the EU market are drawn from Flam and Nordström (1994). Other industrial NTBs were not included in the model (the principal reason was the absence of credible estimates of tariff equivalents for other NTBs).

Data on agricultural protection are drawn from OECD (1990) and USDA (1990) estimates of Producer Subsidy Equivalents (PSEs). These data were used for measures of both domestic support and border protection because, for analytical purposes, the data must include total estimated support by sector, and the AMS is not all-inclusive (green-box measures are excluded, for example), nor is it sector specific. Moreover, the submitted tariff schedules have not been processed for use in this exercise. This is because in the tariffication process a significant number of NTBs were converted to specific rather than ad valorem tariffs. Export subsidy data are drawn directly from the submitted schedules. Against the estimated base levels of protection and support, we apply formula cuts drawn directly from commitments reported elsewhere in this study: (i) 36 (24)% cuts in border measures (including the converted NTBs), (ii) 36 (24)% cuts in budget outlays on export subsidies, and (iii) 20 (13.3)% cuts in domestic support (the figures within parenthesis refer to reductions by developing countries). Analytically, the model treats NTBs and subsidies in ad valorem terms. As such, we have modelled the price or value, rather than the quantity, aspect of agricultural commitments. The trade and income estimates do not take into account the minimum access commitments on products subject to tariffication.

A detailed description of the model and the data is available in Francois, McDonald and Nordström (1994), copies of which are available on request from the GATT Secretariat.

Modern trade theory offers insights which are helpful in assessing the differences in the results of each version of the model and thus the "plausibility" of each version. Comparative advantage - associated foremost with the work of Ricardo, and Heckscher and Ohlin - explains trade, and the gains from trade, on the basis of *relative* differences between nations in endowments of technology or factor endowments. By specializing in products that suit local conditions, and trading these for other goods that are produced more efficiently elsewhere, each country will have a higher income than in the absence of trade. This is a basic motivation behind trade and an important explanation for the broad pattern of trade in the world economy. Yet, comparative advantage theory, with its emphasis on differences in factor endowments and technology, has a shortcoming (if not combined with other theories) in that it cannot account for the fact that an important share of world trade is intra-industry trade as opposed to inter-industry trade.

Two-way trade in the "same" product involves both final consumption goods and intermediate and investment goods, and it is particularly prevalent between a small group of similar high income countries. However, even trade between countries at different levels of development may include intra-industry trade, such as the exchange of brand-name jeans for generic jeans. One explanation of two-way trade is that products within the same product-category, but originating in different nations, are imperfect substitutes. German automobiles, hence, are treated as different from French automobiles. As a result, Germany and France trade automobiles with each other. The first and second versions of the model incorporate the assumption that domestic and foreign versions of a good are different (imperfect substitutes) in the eyes of buyers. This has the effect of dampening the response of buyers to changes in the relative prices of competing goods from different countries, compared to models which assume that goods produced in different countries are perfect substitutes for one another.

Another basis for trade is scale economies. If countries specialize in different products and trade with each other, they can exploit economies of scale in production. This is one reason why, for example, countries with small economies generally trade more intensively than countries with large domestic economies - they sell abroad to escape the inefficiencies associated with small markets. The simplest form of scale economies are those external to a firm, in which production costs fall with the activity level of the entire industry rather than the individual firm. Such "external" scale economies may, for instance, be due to the dissemination of production experience (knowledge) among the firms in an industry, or to a larger industry being able to support production of a wider variety of intermediate, specialized inputs that boost productivity (the Silicon Valley conglomeration of the computer industry may be one example of external scale economies). Because firms are small, in that they perceive themselves as having no influence over industry-wide scale economies, external scale economies are consistent with the assumption of perfect competition.

It is this additional, *industry-wide national scale economy* motive for trade that differentiates the second version of the model from the first version, which assumes constant returns to scale. The surprisingly small difference between the trade gains yielded by the first two versions of the model (9 versus 10 per cent increase) is largely due to the common assumption in both that buyers view products from different origins as imperfect substitutes, which provides an incentive for geographically diverse production, despite the incentives for concentration that follow from scale economies.

The third version of the model incorporates imperfect competition and firm-specific scale economies related to individual firm output levels rather than to the aggregate output of the industry. Sectors in which scale economies are deemed important (based on empirical evidence) are treated as sectors with monopolistic competition between firms producing differentiated products. Firms have market power because they can influence the market for their particular varieties of a good. The assumption of firm-specific product differentiation replaces the previous assumption of product differentiation based on the country of origin of products. An important property of the monopolistic competition model is that variety *per se* is valued by consumers and producers, where the latter become more productive the broader the range of specialized inputs they can draw from. These gains are realized by two-way trade in intermediate and final products.

Under firm-based product differentiation, preferences are much less sensitive to the geographic location of production, and therefore demand is more sensitive to changes in relative prices between different producers of the "same" product. Analyses based on firm-level product differentiation generally yield much larger trade effects than under the national product differentiation assumption. In the present exercise, the model estimates an expansion of global trade of nearly 25 per cent, or two and a half times larger than the estimates based on the other two versions of the model.

The range between the smallest and the largest estimated increase in exports of the thirteen individual product groups in Table II.12 is even larger. World trade in grains may expand by 4 or 5 per cent, for example, while world trade in clothing may increase by between 70 and 190 per cent. There are three main factors behind these differences. *First,* it depends on the assumptions in the model.

For instance, in all three versions of the model agriculture is treated as a sector with constant returns to scale and imperfect substitutability between products from different countries. The differences in trade response between the three versions of the model is therefore minimal because the assumption that buyers care about the origin of the product holds back the trade expansion. Had agricultural products produced in different countries been assumed to be perfect substitutes (as in the model used by the World Bank/OECD to make their 1993 estimates), the trade response would have been much higher. *Second,* it depends on the initial trade barriers and the degree of liberalization. Sectors with high initial trade barriers and a substantial liberalization package, such as textiles and clothing, will tend to experience the largest expansion of trade. *Third,* it depends on the price elasticity of demand, which varies between product categories and which empirical analyses generally find to be lower for agricultural and other primary products than for manufactures. The higher the price elasticity, the greater the demand response from a given liberalization-induced price change.

The results for countries and groups of countries are reported in Table II.13, with China and Chinese Taipei shown separately because the Uruguay Round schedules of the former are not definitive and the latter did not participate in the Uruguay Round. As would be expected, the size of the respective figures in the table reflect in part a realignment of regional production and trade patterns in accordance with comparative advantage. Developing and transition countries are estimated to expand production and exports of labour-intensive manufactures, while developed countries are estimated to expand production of capital and technology-intensive industrial products. Moreover, countries that are well-endowed with arable land - the United States, Canada, Australia, New Zealand and many developing countries - are expected to increase their exports of agricultural products.

Table II.13
Estimated increase in merchandise exports due to the implementation of the liberalization of trade in goods: main economies and country groups[1]
(Percentages change in volume)

	Version of the model			
	Version 1	**Version 2**	**Version 3**	**Actual value of exports in 1992 (billions of dollars)**
World	**8.6**	**9.6**	**23.5**	**2,843**
Canada	5.3	6.1	16.6	134.1
United States	7.5	8.2	21.7	448.2
EFTA	3.2	3.3	6.3	226.9
European Union	7.3	7.8	19.4	568.7
Australia and New Zealand	8.4	9.0	24.0	52.3
Japan	7.5	8.0	18.3	339.9
Developing and transition	13.7	15.3	36.7	906.4
China	6.1	8.4	26.5	85.0
Chinese Taipei	4.5	5.7	14.4	81.5

[1]Excluding intra-European Union trade, and including trade in petroleum.

Version 1: assumes constant returns to scale (no economies of scale), and perfect competition.
Version 2: assumes increasing returns to scale in industrial sectors, and perfect competition.
Version 3: assumes increasing returns to scale and monopolistic competition in industrial sectors.

The model assumes the Uruguay Round agreement does not alter net capital flows between countries, which is equivalent to assuming there is no change in the pattern of current account balances among countries. Thus the estimated percentage increases in *exports* in Table II.13 are good indicators of the estimated percentage increases in *imports* into each country or country group. This assumption accords well with experience, which indicates, for example, that dynamic exporters are very likely to be dynamic importers.

Again figures for the value of actual exports in 1992 have been added to the table in order to give a rough idea of the size of the trade flow to which each percentage increase applies to. Since the real (constant dollar) value of the trade flows indicated in Table II.13 are very likely to be larger in 2005 for reasons unrelated to the Uruguay Round, the added gain due to the Uruguay Round liberalization of trade in goods is very likely to be larger - probably considerably larger - than would be indicated by applying the estimated percentage increases to the 1992 export figures.

The small trade impact on the EFTA countries is related to their trade dependence on the European Union. Outside of agriculture and fisheries, the EFTA countries enjoy free trade with the European Union, and about 60 per cent of their exports of other products enter the EU market. The MFN tariff cuts by the European Union imply a reduction in the margin of tariff preference for the EFTA countries, which means that the EFTA countries will export less to the EU market than they would have in the absence of reduced preference margins (this effect does not occur for the individual EU member countries because, for the purpose of this exercise, intra-EU trade is excluded from world trade). In contrast, they will trade more with other parts of the world where they enjoy enhanced market access for their products. The net changes in their overall merchandise trade are relatively small (as will be seen below, this does not mean that their *income* gains from the Round are small).

The most striking comparison among the figures in the Table is the size of the estimated increase in merchandise exports from the developing and transition economy group, relative to the increases for the other countries. It is two to three times larger than most other figures based on the first version of the model, and nearly that much larger in the case of the third version. In terms of the product groups shown in Table II.12, the larger estimate for the overall increase in exports from the developing and transition economy group is the result of strong gains in clothing, other (presumably light) manufactures, other agricultural products, and textiles. This is not surprising, considering that these product groups were subject to considerable policy reform in the Uruguay Round *and* their production tends to be intensive in the use of labour or arable land, two factors of production that are in relatively abundant supply in that group of countries. The increased foreign exchange earnings of the developing and transition economy group will pay for an increase in imports from the rest of the world roughly two to three times larger (in percentage terms) than the increases in imports into the other countries and country groups in the Table.[23]

(b) Estimated income effects

Various terms are used in referring to the gains that follow from trade liberalization. This study refers to them as income gains because world income will be greater than it would have been without the liberalization. Alternatively, those *same* gains may be referred to as production gains - world output will be greater than it would have been - or as increases in world welfare.

As with the trade effects, the model yielded estimates of the *percentage* increases in income relative to the 1990 benchmark level of income. To convert them into dollar gains in 2005 required the additional step of estimating the dollar value of world income, and of income in the countries and country groups shown in the tables, in 2005 (a step which did not seem advisable in the case of trade because trade projections - especially for the individual product groups - are subject to a greater margin of error than national income projections). This was done by applying OECD and World Bank economic growth

[23]The percentage increases in exports and imports will only be identical if the initial current account balance is zero.

projections for 2005 (which ignored the Uruguay Round results) to the 1990 benchmark data. Together with the model's estimates of the percentage increase in world income from the liberalization of trade in goods, this yielded the estimates of income gains expressed in 1990 dollars shown in Table II.14.

Table II.14
Estimated increase in annual income in 2005 due to Uruguay Round liberalization of trade in goods: main economies and country groups
(Billions of 1990 US dollars)

	Versions of the model with static specifications			Versions of the model with the dynamic specification		
	Version 1	**Version 2**	**Version 3**	**Version 1**	**Version 2**	**Version 3**
World	**109**	**146**	**315**	**184**	**218**	**510**
Canada	2.3	3.0	8.0	3.8	5.0	12.4
United States	30.4	35.9	75.6	49.2	59.5	122.4
EFTA	10.1	13.4	23.1	17.5	18.0	33.5
European Union	47.7	58.6	103.3	78.5	87.2	163.5
Australia and New Zealand	1.5	1.9	3.1	2.4	3.6	5.8
Japan	11.9	15.2	17.0	21.2	19.3	26.7
Developing and transition	-1.9	4.1	70.2	-0.7	2.7	116.1
China	4.1	8.9	10.1	6.9	14.3	18.7
Chinese Taipei	2.6	4.7	4.5	5.1	8.4	10.2

Version 1: assumes constant returns to scale (no economies of scale), and perfect competition.
Version 2: assumes increasing returns to scale in selected sectors, and perfect competition.
Version 3: assumes increasing returns to scale and monopolistic competition in selected sectors.

The estimated income effects, like the estimated trade effects, are sensitive to the assumptions used in the model. With static specifications - that is, ignoring the impact of the income increases on the level of savings and investment - the model estimates an *annual* income gain for the world in the range from $110 to $315 billion in 2005 (1990 dollars). Adding the dynamic assumption that a share of the income gain is saved and invested in new capital shifts the range upwards some 60 per cent to between $185 and $510 billion annually. The estimates for the perfect competition versions of the model are roughly similar to previous estimates by the World Bank and the OECD using models with similar properties. The big difference relative to previous studies is the introduction of monopolistic competition and internal scale economies in the industrial sectors. Trade liberalization in this case leads not just to more trade based on comparative advantage, but also to a deeper exploitation of scale economies based on the enhanced variety of specialized intermediate inputs that boost productivity, as well as on a greater variety of consumer goods.

There are a number of factors behind the differences in income gains (for a given specification of the model) between the different countries and country groups in Table II.14. Obviously, one is that some are much larger traders than others. Japan's merchandise exports in 1990, for example, were nearly six times those of Australia and New Zealand combined. Other factors have to do with the details of the liberalization of trade in goods in the Uruguay Round, and how that liberalization interacted with the domestic economy in each participating country. *Here it is helpful to recall that for each participant in the Uruguay Round, the initial increase in national income resulting from the liberalization of trade in goods (that is, before any allowance for increased saving and investment)*

will come from two sources; first, from a more efficient use of domestic resources when domestic distortions, such as trade barriers, are reduced or removed; and second, from increased access to the markets of trading partners. Each of the indicated income gains for the countries or country groups in Table II.14 are therefore a *composite* of gains from the increased openness of its own domestic market and gains from increased access to foreign markets.

As an aid in interpreting the income gains, Table II.15 "decomposes" the income gains into the three principal components of the liberalization of trade in goods - reductions in industrial tariffs, the removal of QRs (mainly MFA QRs in this exercise), and the liberalization of agricultural trade. To keep the table a manageable size, the analysis focuses on the smallest and largest annual income gains shown in the right-hand half of Table II.14 ($184 billion and $510 billion, respectively).

According to the simulations, the most important source of income gains from the liberalization of trade in goods - for the world, as well as for Canada, the United States and the European Union (and for EFTA and the developing and transition economies in the right-hand side of the table) - is the elimination of quotas on industrial products, particularly MFA quotas (if it had been possible to include more non-MFA bilateral quotas in the model, this source of gain would have been even larger). The second most important source of income gains depends on the version of the model used. According to the first version it is the agreement on agriculture, while according to the third version it is the reduction in industrial tariffs. The difference between the two is explained by the fact that tariff cuts on industrial goods become more important if there are scale and specialization economies at stake (all versions of the model assume constant returns to scale in agriculture). Additionally, the tariffication process in agriculture appears to have yielded some tariffs that remain high despite the Uruguay Round cuts (here it should be recalled that the model did not take into account the minimum access commitments on goods subject to tariffication).[24]

[24]Another explanation is that the gains are there, but the model fails to capture them. The reason is technical, and relates to the "calibration" of the model to fit the benchmark dataset. Initial prices and quantities are used to deduce what the underlying parameters in the model must be to generate the observed market outcome. If a particular type of agricultural good is not imported (i.e. protection is prohibitive), there is no way to determine demand for the product. Starting from a "corner solution" with effectively prohibitive trade barriers, the national product differentiation specification may hence understates the gains from the agricultural reforms.

Table II.15
Decomposition of estimated increases in annual income in 2005 due to Uruguay Round liberalization of trade in goods: main economies and country groups
(Billions of 1990 US dollars)

	Versions of the model with static specifications				Versions of the model with the dynamic specification			
	Version 1				Version 3			
	Ind. tariffs	Ind. NTBs	Agri-culture	Total	Ind. tariffs	Ind. NTBs	Agri-culture	Total
Canada	-0.5	2.7	1.6	**3.8**	0.7	10.2	1.5	**12.4**
United States	7.0	38.4	3.8	**49.2**	13.7	102.3	6.3	**122.4**
EFTA	5.5	4.2	7.7	**17.5**	9.8	17.7	6.0	**33.5**
European Union	16.8	42.9	18.7	**78.5**	33.8	115.1	14.6	**163.5**
Australia and New Zealand	0.4	0.3	1.7	**2.4**	3.1	0.6	2.1	**5.8**
Japan	10.1	-0.4	11.5	**21.2**	18.1	2.1	6.5	**26.7**
Developing and transition	0.3	-12.2	11.2	**-0.7**	33.4	68.4	14.3	**116.1**
China	9.5	-3.5	0.8	**6.9**	11.6	5.4	1.7	**18.7**
Chinese Taipei	5.9	-1.3	0.5	**5.1**	7.7	2.1	0.4	**10.2**
Total	**55**	**71**	**58**	**184**	**132**	**324**	**53**	**510**
(Per cent of total gain)	**(30.0)**	**(38.7)**	**(31.3)**		**(25.9)**	**(63.6)**	**(10.5)**	

Version 1: assumes constant returns to scale (no economies of scale), and perfect competition.
Version 3: assumes increasing returns to scale and monopolistic competition in selected sectors.

The first version of the model predicts a loss for the developing and transition economies, China and Chinese Taipei from the elimination of industrial NTBs. In each instance, the explanation centres on the model's treatment of MFA "quota rents".[25] MFA quotas result in quota rents or scarcity premiums, which are largely captured by the exporting countries in the form of higher export prices. Given that the quota rents will disappear as the quotas are phased-out, the question is whether increased exports will compensate for lower prices as far as *income* is concerned (recall that the issue here is the impact on the exporters' income, *not* the impact on the level of their exports of textiles and clothing). According to the first version of the model, with its assumption of imperfect substitution between goods from different countries, and therefore low demand responsiveness to lower import prices, the answer is no. However, under the version that de-emphasizes the importance of the geographic origin of a product as a basis for consumption decisions, the answer is yes. As is evident in Table II.1 at the beginning of this section, the third version of the model predicts an export increase for textiles and clothing that is about three times higher than that of the first version. This is more than enough to compensate for the loss of quota rents and turn a potential loss into a sizeable income gain on trade in textiles and clothing. Moreover, it is important to note that the very slight *overall* income loss for developing and transition economies from the liberalization of trade in goods shown significant in Table II.14 holds only for the first version of the model, and hinges on the assumption of perfect

[25]There has been concern that some developing countries might suffer income losses from the liberalization of trade in goods because of (i) the impact on net-food importers of possible increases in world market food prices, and (ii) the impact on least-developed countries in Africa of reduced margins of tariff preferences (especially Lômé preferences granted by the European Union). The model used to generate the estimates for this study allows for the first effect, but the estimated impact on the net food importing countries cannot be shown separately because they are not a separate group in the 1990 GTAP dataset (see Box 2). While the model takes into account reduced margins of preference for members of free trade agreements (for the regions defined in the model), it does not allow for preference erosion related to GSP-type programs. This is because data on the share of exports covered, and the pre- and post-Uruguay Round effective margins of preference, for the aggregate of developing and transition economies were not available. To be meaningful, the analysis of the potential trade and income effects of reduced GSP-type preference margins must be done at a much greater level of country disaggregation than is possible with the dataset used in this exercise.

competition and constant returns to scale in all sectors. The other two versions show significant net income gains for that group of countries.

Finally, the figures for the United States and the European Union in the industrial NTB column of Table II.15 illustrate the point that countries gain not just from others' liberalization but also, and perhaps foremost, from their own liberalization. Producers in these countries are not restricted by MFA quotas in their export markets, so they do not have a direct stake in the elimination of MFA quotas elsewhere. In fact, their exports of textiles and clothing will face greater competition from developing and transitional countries that were previously restricted by MFA quotas. Even so, the model (all versions) estimates a substantial gain to the United States and the European Union from the elimination of MFA quotas. Since there are no direct gains in export markets to expect, the income gain is largely due to the elimination of their own MFA quotas, plus in the case of the European Union, the phase-out of the quota on imports of automobiles from Japan. Those net gains from the elimination of quotas are composed of gains to consumers from lower prices and efficiency gains due to the expansions of employment and output in other, more efficient industries.

(c) Which estimates are most plausible?

This is not the kind of exercise that yields "correct" estimates. No models do because there are too many unknowns and too many limitations in the available methodologies. At the same time, the likely impact of the liberalization of trade in goods on the levels of trade and income is very far from a complete mystery. Widely accepted economic theory and an abundance of empirical research offer important guideposts to what can be expected.

As was noted above, three versions of the model were used, not only to indicate the relative importance of certain assumptions, but also to allow readers to choose whichever estimate (if any) seems most plausible in light of the underlying assumptions. The view of the GATT Secretariat is that the third version of the model more closely approximates the real world than the first two versions, and therefore that the estimates for 2005 based on that version - including an increase in the volume of world trade in goods of nearly one-quarter, and an increase in annual world income of more than $500 billion - offer a better guide to the contribution of the liberalization of trade in goods to the overall impact of the Uruguay Round than do the estimates based on the first two versions.

Modern trade theory emphasizes scale economies, intermediate specialization in production, and firm level product differentiation as important reasons for trade.[26] Recent applied research on trade liberalization has also stressed the importance of scale economies and the pro-competitive effects of trade liberalization.[27] The theoretical and applied research in this area suggests, strongly, that the effect of trade liberalization goes well beyond narrow efficiency gains. The third version of the model highlights these factors, while the first version (and to a large degree, the second) instead stress simple efficiency gains, related to marginal resource reallocation effects.

Integrating markets enhances competition, facilitates more rational specialization of production across broad geographic areas, and enhances the international transmission of innovation and knowledge. Expanded markets can also mean expanded returns to, and hence incentives for, innovation. Trade liberalization can also create a healthier environment for savings and investment (this effect is distinct from the assumption that a fixed share of the income gain is saved and invested). These savings and investment effects can, in turn, have important medium-run and long-run implications for the process

[26]See Brown (1994), de Melo and Tarr (1994), Harris (1984, 1986), and Norman (1990).

[27]For example Roland-Holst, Reinert and Shiells (1994), and Brown, Deardorff and Stern (1994) have explored these issues in the context of NAFTA. Harrison, Rutherford and Tarr (1994) have focused on similar issues in the context of European integration.

of economic development and growth.[28] A comparison of the first version of the model (which ignores these effects), and third version (which allows for only some of them), highlights just how important these effects can be. The first version's focus on simple efficiency gains under assumptions of constant returns to scale and perfect competition greatly underestimates the gains from the liberalization of trade in goods. The third version falls well short of capturing all the gains, but it comes much closer than either of the first two.

(d) Keeping the trade and income estimates in perspective

The modelling exercise shows that the trade and income effects of the Uruguay Round market access package for goods are substantial. Even the smallest of all the annual global income gains to come out of this exercise - the $109 billion in Table II.14 - is a substantial amount of money. And, of course, it is not a one-time windfall of income, but rather an annual gain in income that is available year after year.

More fundamentally, it must be emphasized that the estimated trade and income gains from the increase in market access for goods underestimate - probably very substantially - the full impact of the Uruguay Round on world trade and income. This is because the estimates do not take into account three important considerations. First, there are, as was just noted, many possible dynamic effects mentioned in the economics literature that were not considered. Second, the estimates implicitly assume that the status quo in commercial relations and business confidence would have been maintained if the Uruguay Round had failed. Many observers would argue that a failure of the Round would have meant a distinct worsening of trade relations for a considerable period into the future and a delay in the world's economy recovery. The avoidance of the associated losses in trade and income would have to be included in a full accounting of the gains from a successful Uruguay Round. Third, and in many ways most important of all, the estimates reported above ignore every result of the Round except the liberalization of trade in goods. Because it simply was not feasible, there was no attempt to include the beneficial impact of the strengthened rules, procedures and institutions - including the market access commitments and rules for services in the GATS - on the more than $4.5 trillion in current world trade in goods and services.

The remainder of the paper focuses on those other results of the Uruguay Round. Part III deals with the GATS and the schedules of commitments on services, and includes tabular summaries of key features of those commitments. Part IV - whose short title might be "Bindings are Not Enough" - examines the ways in which the strengthened rules, procedures and institutions are an essential complement to the schedules of commitments on goods and services.

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[28]See Grossman and Helpman (1991) on the improved environment for savings and investment. Annex IV below presents a brief summary of recent findings on the trade/growth relationship. See Francois and Shiells (1993), and Francois, McDonald, and Nordström (1993a) for brief surveys of the theoretical and empirical links between trade and economic growth.

III. COMMITMENTS ON SERVICES

1. INTRODUCTION

The General Agreement on Trade in Services (GATS) is the first multilateral agreement covering trade in all service sectors. By providing for secure access to markets and progressive liberalization it will stimulate the growth of services trade in the same way as the GATT has done since 1947 for trade in goods. The basic principles of the Services Agreement are similar to those of the GATT:

- National treatment: foreign services and service suppliers should be treated no less favourably than nationals;

- Most-favoured-nation treatment: there should be no discrimination between other Members of the Agreement in terms of the treatment accorded to their service suppliers;

- Transparency: relevant policies, including barriers to market access and discriminatory restrictions, must be published;

- Progressive liberalisation: binding commitments on the negotiated levels of market access and national treatment make the process of liberalisation irreversible, and provide the basis for future rounds of negotiation.

Cross-border trade in services alone already accounts for an estimated $1 trillion a year (roughly 20 per cent of global trade) and is growing rapidly. Unlike the GATT however, the Services Agreement covers not just cross-border trade, but every means by which services can be traded: by cross-border supply; by consumption abroad; through commercial presence, meaning the supply of a service in a foreign market through a commercial presence established there; and through the movement of natural persons working abroad to supply a service. The total value of services traded through these four modes is very much greater than that of cross-border trade alone.

The GATS is in two parts: the framework agreement, containing 29 Articles and a number of Annexes, and the national schedules of specific commitments undertaken by each Member government. The Final Act of the Uruguay Round as agreed by Ministers in April 1994 contains 95 certified schedules (the European Union has submitted a common schedule on behalf of its 12 Member States, indicating specific commitments at the national level where applicable) which together contain the results of the market access negotiations for services in the Uruguay Round. The GATS explicitly provides for future rounds of negotiations with a view to achieving a progressively higher level of liberalization; the first such round is to begin within five years of the entry into force of the Agreement.

The principal beneficiaries of the commitments are efficient suppliers of services in developed, developing and transition economies, who will gain from the more open and secure markets that these commitments will produce. Users of services will gain from lower prices and greater variety.[29] This is obvious in the case of services consumed by the public at large, such as banking, health and transportation services. But it also applies to the wide range of service activities which are used as inputs by enterprises, whether engaged in services production themselves or in goods production. More generally, the stability and predictability in national policies which the services commitments will engender, among other things help attract inflows of foreign direct investment. This could be particularly important for developing countries and their increasing participation in world trade.

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[29]For a comprehensive discussion of this issue see UNCTAD/The World Bank (1994), *Liberalizing International Transactions in Services: A Handbook*, United Nations: New York and Geneva.

2. THE NATURE OF THE COMMITMENTS

In its national schedule each Member government inscribes the service sectors and activities to which it will apply the market access and national treatment obligations of the GATS. In addition, it must indicate any limitations which it intends to maintain on market access and national treatment for those sectors or activities. Every such indication in a schedule is a binding commitment to allow supply of the service in question on the terms and conditions specified, and not to impose any new measures that would restrict entry into the market or the operation of the service. Commitments can only be withdrawn or modified after the agreement of compensatory adjustments with affected countries, and that not until the Agreement has been in force for three years. The schedules thus provide economic operators trading or investing in a foreign market - and domestic customers of foreign service suppliers - with the assurance that conditions of entry and operation in the market will not be changed to their disadvantage.

The national schedules all conform to a standard format which is intended to facilitate comparative analysis (see Box 3). In nearly all schedules commitments are split into two sections: first, "Horizontal" commitments applying to all sectors included in the schedule, such as a restriction on the purchase of land by foreigners; and second, "Sector-specific" commitments applying to particular services or activities. Any evaluation of the access provided for any given service must take into account both horizontal and sector-specific commitments. In assessing commitments undertaken in national schedules, two considerations are of special relevance: the sector coverage (i.e. the sectors, sub-sectors or activities included in the schedule) and the depth of a particular commitment (i.e. whether or not it is subject to limitations).

Although most-favoured-nation treatment is a general obligation which applies to all measures affecting trade in services, it has been agreed that particular measures inconsistent with the MFN obligation can be maintained - in principle for not more than ten years and subject to review after not more than five years. Such measures are specified in national lists of MFN exemptions. The assessment of a country's commitments should therefore also take into account whether or not MFN exemptions exist and their importance. A true assessment of the value of commitments can only be made by reading the national schedules and exemption lists.

3. OVERVIEW OF THE SCHEDULES OF COMMITMENTS

It is not possible to quantify the value or the potential trade effects of commitments in services in the same way of for tariff bindings. In the first place, in services there is no equivalent to customs duties; protection against imports, where it exists, typically takes the form of discriminatory regulations or barriers against the practices of services by foreigners, and the effect of such measures or their removal cannot easily be quantified. Secondly, the comprehensive data needed to estimate imports of particular services under the different modes of supply, or even in aggregate terms, do not exist, nor is there an equivalent in services to the internationally agreed Harmonized System nomenclature for tariffs on goods to categorise commitments. Quantitative presentation of the commitments in GATS schedules is therefore much more difficult than for tariff commitments.

It is possible, nevertheless, to present in tabular form several aspects of the commitments. The tabulations which follow are organized on the basis of the list of 161 service activities which participants have generally used to describe and categorize their commitments.[30] In interpreting the tabulations on services, two points must be kept in mind. First, there is a great deal of variation between the 161 service activities in terms of employment, production and trade; the figures in the services tables are not "trade-weighted". Secondly, the figures showing levels of commitments in particular country groups

[30] "Services Sectoral Classification List", GATT document MTN.GNS/W/120, 10 July 1991.

mask significant variations in the sectoral coverage of commitments as between individual countries in the group.

Although there is great variation in the number of countries offering commitments on different services, there are no sectors which have been excluded from the scope of commitments. The majority of commitments bind the existing level of access while others incorporate and bind liberalization of previously existing restrictions.

4. SECTORAL COVERAGE OF SCHEDULES

Table III.1 - Commitments within sub-sectors
(Number of countries)

	DC	LDC	Transition	Total		DC	LDC	Transition	Total
Maximum	**25**	**76**	**5**	**106**	**Maximum**	**25**	**76**	**5**	**106**
1. Business					**6. Environment**				
A. Professional	25	37	4	66	A. Sewage	23	7	2	32
B. Computer	25	34	4	63	B. Refuse disposal	24	7	3	34
C. R&D	22	15	3	40	C. Sanitation	23	5	3	31
D. Real estate	23	3	0	26	D. Other	24	6	1	31
E. Rental/leasing	25	13	3	41	**7. Financial**				
F. Other	25	38	4	67	A. Insurance	25	47	4	76
2. Communication					B. Banking	25	37	4	66
A. Postal	0	3	0	3	C. Other	0	0	0	0
B. Courier	4	15	3	22	**8. Health**				
C. Telecom	4	18	3	25	A. Hospital	14	14	1	29
- Basic	2	16	3	21	B. Other human health	2	4	0	6
- Value-added	25	22	5	52	C. Social	13	1	0	14
D. Audio-visual	2	11	0	13	**9. Tourism and travel**				
E. Other	6	0	6	12	A. Hotels and restaurants	25	68	4	97
3. Construction					B. Travel agencies, tour operators	25	53	4	82
A. Buildings	24	21	3	48	C. Tourist guides	23	21	2	46
B. Civil engineering	24	20	3	47	D. Other	1	13	0	14
C. Installation and assembly	24	19	3	46	**10. Recreational, cultural, sporting**				
D. Completion and finishing	23	13	3	39	A. Entertainment	17	16	1	34
E. Other	20	15	2	37	B. News agency	22	0	0	22
4. Distribution					C. Libraries, archives, museums	4	3	0	7
A. Commission agents'	22	2	0	24	D. Sporting	21	16	1	38
B. Wholesale trade	25	8	4	37	E. Other	1	1	0	2
C. Retailing	24	7	2	33	**11. Transport**				
D. Franchising	23	5	2	28	A. Maritime transport	5	26	1	32
E. Other	2	0	0	2	B. Internal waterways	2	2	3	7
5. Education					C. Air	23	17	3	43
A. Primary	18	5	4	27	D. Space	2	0	0	2
B. Secondary	19	5	4	28	E. Rail	19	5	3	27
C. Higher	18	4	4	26	F. Road	25	15	3	43
D. Adult	18	1	4	23	G. Pipeline	3	1	1	5
E. Other	3	2	2	7	H. Auxiliary services	21	15	1	37
					I. Other	14	6	0	20

Notes: (1) The three country groups are developed countries (DC), developing economies (LDC) and transition economies.
(2) The figures count the twelve members of the European Union individually.

Table III.1 above shows the number of countries, developed, developing and in transition, which have made commitments in the major sub-sectors. It should be stressed that this provides only a very approximate indication of the scope of commitments. This is because many of the sub-sectors represented in the tabulation cover a very wide range of activities: professional services, for example, covers eleven different activities, ranging from legal to veterinary services. A country which is shown as having made a commitment in professional services may have done so in only one of these eleven activities. A more accurate picture of the scope of commitments is given in Appendix Table 15 which shows the number of countries having made commitments in each service activity.

Although there are important differences in the extent of commitments, it is significant that there are no sectors that have been excluded. The commitments of developed countries cover nearly all sectors although there are a few exceptions such as postal services, basic telecommunications and maritime transport (for both of which there are ongoing negotiations), and audiovisual services. The fact that there are more commitments in tourism than in any other sector reflects the large number of commitments undertaken by developing countries. The relatively limited number of commitments in the health, education and environmental sectors is largely a reflection of the fact that in many countries these services are provided essentially by government, and that competitive or commercial provision is not widespread.

Looking more closely at certain service sectors, 67 countries scheduled commitments in **business services**, which cover professional services (including legal, accounting, architectural, medical services etc.), computer and related services, R&D services, real estate services and advertising, market research, management consulting, investigation and security services as well as a host of other business services. To give just one example at the sub-sectoral level, more than 50 countries, constituting an estimated 90 per cent of the world market for accounting services, have scheduled commitments in the accounting sector; this will assist foreign suppliers to these markets to compete on an fair and equitable basis.

In the **telecommunications** sector 52 countries have made commitments in what are considered "value-added" telecommunications services while only 21 have made commitments in "basic" telecommunications services. This disparity is accounted for by two factors: first, in many countries the supply of basic telecommunications continues to be restricted to a government monopoly, and was for this reason not subject to commitments; secondly, it was agreed that negotiations on basic telecommunications services should be extended for a further two years (until 30 April 1996) at which point the commitments resulting from the negotiations will be added to the relevant schedules.

76 countries have made commitments in the **financial services** sector, which covers international transactions in insurance and banking as well as trading in securities. In this sector, however, participating countries agreed to continue negotiations on the basis of the existing commitments with a view to achieving further liberalization. These negotiations are scheduled to end six months after the entry into force of the WTO, at which point commitments may be extended, modified or withdrawn.

In the area of **tourism and travel**, where the highest number of commitments were made, the main activities covered relate to the "core" tourism services provided by hotels and restaurants, travel agents and tour operators as well as by tourism transport companies. The large number of commitments by developing countries reflects the desire of governments to realize the potential of the tourism sector to generate domestic employment and foreign exchange revenue in developing countries.

In the **air transport sector** commitments will apply to three activities, aircraft repair and maintenance services, selling and marketing of air transport services and computer reservation system services. More than 40 countries have undertaken commitments in one or more of these areas. It was agreed that commitments would not be made in relation to traffic rights and the supply of services directly related to the exercise of traffic rights, matters which are currently regulated through a network of largely bilateral agreements. In the **maritime transport** sector, where 32 countries have made commitments, it was agreed at the end of the Uruguay Round that negotiations should continue until

June 1996 with the aim of achieving further commitments in international shipping, auxiliary services and access to and use of port facilities.

In all sectors, not merely in those where further negotiations are already under way, further liberalization can be expected in the future rounds of negotiation to which Members of the Agreement have already committed themselves. The commitments which have been made in this first round are a major step towards the dismantling of restrictions which distort trade in services, but they are only the first step.

5. LIMITATIONS ON SPECIFIC COMMITMENTS

The level of access provided by a commitment depends on the character of the existing regulatory regime and the nature of the limitations, if any, to which the commitment is subject. Such limitations may be either horizontal (covering all sectors) or sector-specific. In the schedules the inscription "None" against a particular mode of supply indicates the absence of limitations and "Unbound" indicates that no commitment is given for that mode. Box 3 below shows the standard format used in schedules, with hypothetical but typical entries against the four modes of supply.

Box 3 - Illustrative schedule of commitments

	Mode of supply	Conditions on market access (examples of entries)	Conditions on national treatment (examples of entries)	Additional commitments
I. Horizontal commitments (applicable to all sectors included in the schedule)	1. (Cross-border supply) 2. (Consumption abroad) 3. (Commercial presence) 4. (Presence of natural persons)	None None Incorporation required Bound only for intra-corporate transferees	None None Restrictions on purchase of real estate Unbound except as indicated under market access	
II. Sectoral commitments (limitations applicable to specific service activities)	1. (Cross-border supply) 2. (Consumption abroad) 3. (Commercial presence) 4. (Presence of natural persons)	None None None Unbound, except as provided in the horizontal section	None None None Unbound, except as provided in the horizontal section	

(a) Horizontal limitations

Most schedules do not contain horizontal limitations applying to modes of supply 1 and 2 - that is, to cross-border supply of services or consumption abroad. In contrast, most schedules do contain horizontal limitations on the supply of services through commercial presence and on the temporary presence of natural persons.

As shown in table III.2, 87 governments have entered horizontal commitments in their schedules with respect to **commercial presence**. Of these, 31 entered no horizontal limitations on market access through commercial presence. 55 have entered such limitations, of which 10 authorize foreign investment on the basis of an "economic needs test", 25 impose ceilings on equity participation by foreign investors, and the remaining 20 require establishment to take the form of a specified legal entity, for example by requiring the establishment of a subsidiary. One country has offered no binding regarding market access through commercial presence. Regarding national treatment of foreign service suppliers established in their territories, 68 of the 87 governments making horizontal commitments have placed limitations

on national treatment. Most of these concern the purchase of real estate and eligibility for subsidies (mainly for research and development).

Table III.2 - Horizontal commitments on commercial presence

Market access	Number of schedules	National treatment	Number of schedules
Total	**87**	**Total**	**87**
Unbound	**1**	**Unbound**	**1**
No limitations	**31**	**No limitations**	**18**
With limitations	**55**	**With limitations**	**68**
Authorization subject to an economic needs test*	10	Taxation	11
Legal entity	25	Eligibility for subsidies	28
Ceilings on foreign equity participation	20	Purchase of real estate	41
		Nationality requirements for directors	8
		Access to local finance	6

*Subject to conditions ranging from national interest, job creation, technology transfer or training for nationals.

With respect to the supply of services through the **presence of natural persons**, most countries have specified their commitments on market access and national treatment for this mode of supply in the horizontal section of their schedule.[36] The entries differ considerably in detail and terminology but fall into three categories:

- Quantitative market access limitations stipulate limitations on the total number of foreign natural persons who can supply services, expressed either in the form of a quota on the percentage of foreign personnel employed or the requirement of an economic needs (or labour market) test.

- Bound commitments for certain types of personnel whereby countries have scheduled measures affecting the entry and temporary stay of some categories of natural person supplying services while leaving other categories unbound. The main categories are business visitors, intra-corporate transferees and professionals who are employed on a contact basis.

- There are also horizontal commitments where the relevant national authorities, either the immigration or labour ministries, are given broad discretionary authority in granting permission for the temporary entry and stay of foreign natural persons supplying services.

Table III.3 shows that in 70 cases governments offer bindings only for the entry of intra-corporate transferees, often stipulating that these should be senior personnel such as executives, managers or specialists. In 25 of these cases the admission of intra-corporate transferees is nevertheless subject to a quota or an economic needs test. 50 schedules contain no limitations on national treatment of natural persons, but in 35 cases there is differential treatment, such as exclusion from access to government subsidies or from purchase of real estate.

[36]At the sector-specific level (Part II of the schedules), most countries have followed the convention of indicating that the supply of services by the presence of natural persons is "Unbound, except as provided for in the horizontal section".