Chapter 13

Import tariffs on merchandise trade

Ulrich Reincke

This report provides a summary of the tariff liberalization agreed at the Uruguay Round negotiations of the General Agreement on Tariffs and Trade (GATT). The tariff matrices that follow provide averages of most-favored-nation (MFN) customs tariff rates in terms of the GTAP product and country groups. They do not provide tariff equivalents of non-tariff barriers (NTBs), nor do they gauge margins of tariff preferences or how the Uruguay Round concessions will affect those margins.

13.1 Data description and data sources

Calculation of the GTAP tariff matrices is based on the GATT Integrated Data Base (IDB), which contains the basic records of the outcome of the Uruguay Round tariff negotiations. The GATT Secretariat, as authorized by GATT's member countries, provided access to the Integrated Data Base (IDB), which contains the basic records of the outcome of the Uruguay Round tariff negotiations.

The countries included in the IDB are those GATT/WTO members that submitted requisite information to the Secretariat. According to GATT, the IDB covers all industrial and transition economies who participated in the Uruguay Round, plus 26 of 94 developing economy participants. The IDB data cover 100 percent of non-petroleum imports of North America, Western Europe and GATT members in Central and Eastern Europe; 90 percent of Asia's non-petroleum imports; 80 percent of Latin America's non-petroleum imports; and 30 percent of Africa's non-petroleum imports. The level of coverage is low for Africa because few African countries participate in the IDB.

The import data, customs duties, and final concessions contained in the IDB were assembled by the GATT Secretariat from information that is publicly available in each GATT/WTO member country. The GATT Secretariat converted these data into a uniform format and performed several simplifications and adjustments that will be described below.

Practically all tariff data came from the IDB. In the following the content of the IDB will be described. The other source of information on tariff rates was the TRAINS database developed by the United Nations Conference on Trade and Development (UNCTAD). Table 13.1 provides summary information on the data sources and variables. The various files provide for each reporter country the following trade and MFN tariff information:

- *Trade*: Value of imports, by tariff line by country of origin, for the year stated in table 13.1
- *MFN02:* MFN statutory rate, for the year stated in table 13.1
- *MFN03*: MFN effectively applied (temporary) duty, for the year stated in table 13.1
- *MFN09B*: Uruguay Round MFN base rate, for the year stated in table 13.1
- *MFN09F*: Uruguay Round MFN final offer rate, for the year stated in table 13.1

The countries that participated in the IDB calculated ad valorem equivalents for most specific, compound and mixed duties on manufactures, based on import value and quantity data for the years indicated in table 13.1. A few duties took complex forms such as “2.95 cents per meter, not to exceed 11.3 percent.” For these, we used the appropriate ad valorem part — in the example 11.3 percent. We used these IDB ad valorem equivalents to calculate tariff changes and tariff averages for all product categories. For categories with relatively few available *ad valorem* equivalents (AVEs), namely agriculture[1] and petroleum oils,[2] one should use caution when interpreting the tariff averages. They might be based for some countries on few tariff lines with relatively small trade weights. Table 13.1 lists in the last column the coverage of imports in manufactures (All product categories except Agriculture and Petroleum oils) with AVE tariff rates. The coverage of all 40 IDB markets with AVE tariffs in industrial products is 99.7%.

---

1 Coverage of imports in *Agriculture (HS 01-24)* with AVEs for countries with less than 100% coverage: SWITZERLAND: 38.7%, AUSTRIA: 42.3%, SWEDEN: 63.9%, SRI LANKA: 70.1%, EUROPEAN UNION: 71.7%, MALAYSIA: 76.5%, SINGAPORE: 85.5%, CANADA: 84.7%, THAILAND: 90.3%, FINLAND: 91.7%, JAPAN: 91.9%, ZIMBABWE: 95.3%, UNITED STATES: 96.6%, NORWAY: 97.5%, AUSTRALIA: 98.8%, PERU: 98.8%, INDIA: 99.1%, BRAZIL: 99.8%, NEW ZEALAND: 99.9%, WORLD (all 40 IDB importers together): 84.8%.

2 Coverage of imports in *Petroleum Oils* (HS 2709-2710) with AVEs for countries with less than 100% coverage: TURKEY: 0%, BRAZIL: 0.8%, JAPAN: 1.2%, AUSTRIA: 2.4%, ZIMBABWE: 2.6%, MALAYSIA: 21.3%, INDIA: 24.4%, THAILAND: 64.6%, NEW ZEALAND:87.8%, SINGAPORE: 92.6%, FINLAND: 99.9%, WORLD (all 40 IDB importers together): 72.2%.

Table 13.1 Years of the available trade and tariff information in the IDB

Import Market	Trade	MFN 01	MFN 02	MFN[3] 03	MFN 09b	MFN 09f	Customs Nomencl.	% AVEs in indstr goods[4]
ARGENTINA	86	86	86	-	86	99	CCCN10	100.0
AUSTRALIA	88	88	88	-	86	99	HS-6+2	100.0
AUSTRIA	88	88	88	-	88	99	HS-6+7	97.3
BRAZIL	89	89	89	-	86	99	HS-6+4	98.8
CANADA	88	88	88	-	88	99	HS-6+2	100.0
CHILE	86	86	86	-	86	99	CCCN-8	100.0
COLOMBIA	91	91	92	-	91	99	HS-4+6	100.0
CZECH REPUBLIC	90	93	92	-	93	99	HS-6	100.0
EL SALVADOR	89	91	91	-	91	99	CCCN-8	97.1
EUROPEAN UNION	88	88	88	88	88	99	HS-6+2	100.0
FINLAND	88	88	88	-	88	99	HS-6+2	99.9
HONG KONG	92	92	92	-	86	99	HS-6+2	100.0
HUNGARY	91	93	92	-	93	99	HS_6+3	100.0
INDONESIA	89	89	89	-	89	99	HS_6+3	100.0
INDIA	88	94	90	-	86	99	HS-6	90.5
ICELAND	88	88	88	-	86	99	HS_6+2	99.9
JAMAICA	91	-	91	-	91	99	HS-4+3	100.0
JAPAN	88	88	88	89	88	99	HS-6+3	100.0
KOREA REP.	88	88	88	88	86	99	HS-6+4	99.9
SRI LANKA	91	91	90	-	91	99	HS-6+2	100.0
MACAU	91	-	91	-	91	99	HS-6+2	98.0
MEXICO	88	88	88	91 T	86	99	HS-4+4	100.0
MALAYSIA	88	88	88	-	86	99	HS-6+3	98.9
NORWAY	88	88	88	-	88	99	HS-6+2	99.5
NEW ZEALAND	91	91	92	-	86	99	HS-6+2	99.4
PERU	86	83	86	93 T	86	99	CCCN-8	100.0
PHILIPPINES	91	91	91	-	86	99	HS-6+2	100.0
POLAND	89	-	89	-	86	99	HS-6	100.0
ROMANIA	91	92	92	-	92	99	HS-6+1	89.0
SENEGAL	89	86	86	-	86	99	CCCN-6	100.0
SINGAPORE	89	89	89	-	89	99	HS-6+3	99.1
SWEDEN	88	88	88	-	88	99	HS-6+2	99.9
SWITZERLAND	88	88	88	-	88	99	HS-6+2	99.9
THAILAND	88	88	88	-	88	99	HS-6+4	94.9
TUNISIA	89	-	90	90	90	99	HS-6+1	100.0
TURKEY	89	89	89	-	89	99	HS-6+2	100.0
URUGUAY	87	87	88	92 T	86	99	CCCN-8	100.0
UNITED STATES	89	89	89	-	89	99	HS-6+2	100.0
VENEZUELA	90	90	91	92 T	90	99	HS-4+6	99.2
ZIMBABWE	87	87	82	-	86		CCCN-8	4.2

3 For entries that are marked with “T” the tariff data is based on four digit averages from UNCTAD’S Trade Analysis and Simulation System (TRAINS 2.0 A 1994)

4 This column lists the coverage of imports in industrial goods with ad valorem equivalent (AVE) tariff rates. In the following tabulations all industrial tariff averags and reductions are based on these available AVEs.

13.2 Tariff rates before and after the Uruguay Round

To measure tariff changes agreed at the Round, it was necessary to convert from the categories of data available in the IDB into categories that could reasonably be interpreted as measures of rates "before" and "after" the Round. In doing so I followed conventions employed by the GATT Secretariat in preparing reports on the outcome of the Round.[5]

There is no "official" measure of the tariff reductions exchanged at the Round. Strictly speaking, the exchange that was made was that each country would bind its tariff rates at the levels notified — the levels reported in series MFN09F, the final offer rates. These bound levels are "official" — each country's commitment is to maintain its rates at or below the bound levels it notified.

A number of countries, particularly in Latin America,[6] introduced substantial unilateral reductions of their tariff rates before or during the years of the Uruguay Round. These unilateral changes were reflected in the MFN applied rate (MFN03). In those cases the MFN applied rate were updated with more recent four digit simple averages from the TRAINS database. The objective in defining "before" and "after" as we did was to include in the measured tariff change all reductions that were agreed at the Uruguay Round, but to exclude the unilateral reductions that were not conditioned on reciprocal reductions by trading partners and that were, by accident of timing, introduced between the beginning and the end of the Round. By the same token I did not account for any regional integration such as Mercosur or Austria, Finland and Sweden Turkey joining the European Union Common External Tariff in 1995.

We have thus defined "before" and "after" tariff rates as to measure the change of *applied* tariff rates attributable to commitments undertaken at the Uruguay Round. Because many countries,' particularly developing countries' post-Uruguay Round applied rates are below their bound rates and because developing countries' commitments at the Round were in large part to bind rates that were not bound before, we concluded that changes of applied rates would be the only correct approach for CGE analysis.

The basic source for tariff rates "before" the Uruguay Round concessions was the MFN applied rate (MFN03). If a country did not report MFN03, but reported the MFN statutory rate

---

5 GATT, *Market Access for Goods and Services: Overview of the Results*, GATT, Geneva, November 1994; and GATT, *An Analysis of the Proposed Uruguay Round Agreement, with Particular Emphasis on Aspects of Interest to Developing Economies*, GATT Secretariat, Geneva, 29 November 1993.

6 Mexico, Peru, Uruguay and Venezuela.

(MFN02) or the Uruguay Round base rate (MFN09b) we interpreted the lower of these two as the "before" rate.[7]

Developing a series for "after" entailed a similar complication. Many developing countries agreed at the Round to tariff bindings that are above the tariff rates they actually apply, thus it would be inappropriate to interpret their post Uruguay Round bound rates as the "after-UR" applied rates. Instead, we adopted the following convention: our "after" rate presumes that when a Uruguay Round bound rate is below the pre-UR applied rate, the country's "after" Uruguay Round rate will be that bound rate (figure 1.a). If however the "before" applied rate is below the post-UR bound rate, we assume the "before" applied rate to be the "after" applied rate (figure 1.b). In short, we measure the "after" rate as the minimum of the "before" rate (as defined above) and the Uruguay Round MFN final offer rate (MFN09F).

The Uruguay Round agreement allows for year-by-year staged introduction of tariff reductions. Generally, the MFN final offer rates will be effective no later than January 1, 1999, but some countries have, for some commodities, negotiated later deadlines. The MFN09F rates are the final rates — after all stages are completed.

While the IDB reports information on the importer exporter relation on the global level, this so called relation code is not broken down to the tariff line level. The adjustment of the tariff matrices for free trade partner countries was left to the assembly center of the GTAP consortium. The current aggregation presumes that applied MFN tariff rates are charged on all trade flows.

13.3 Calculation of the tariff matrices

For each import market I generated two tariff matrices, that list the pre- and post-Uruguay Round tariff averages faced by the 30 supplying regions (columns) in the 32 product categories (rows). The column and row order follow the region and product numbering of table 4 and 5. The tariff rates "before" and "after" have already been discussed in section 2. For each importing region, the pre-Uruguay Round tariff matrix lists in its header "xxxy" and the post-Uruguay Round tariff matrix with "xxxz", where "xxx" stands for the three letter region name listed in table 3., e.g. Argentina's pre-Uruguay Round header reads

7 A missing value in one of the series was treated as a value higher than the reported values for the other series.

Figure 13.1a Tariff before > tariff after, I.e. cut in applied tariff rate

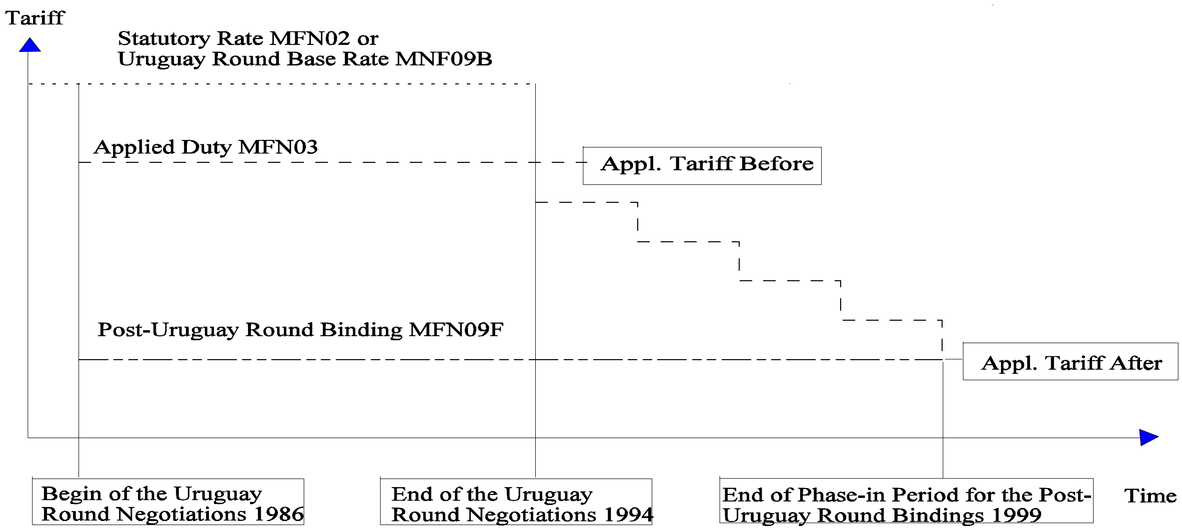
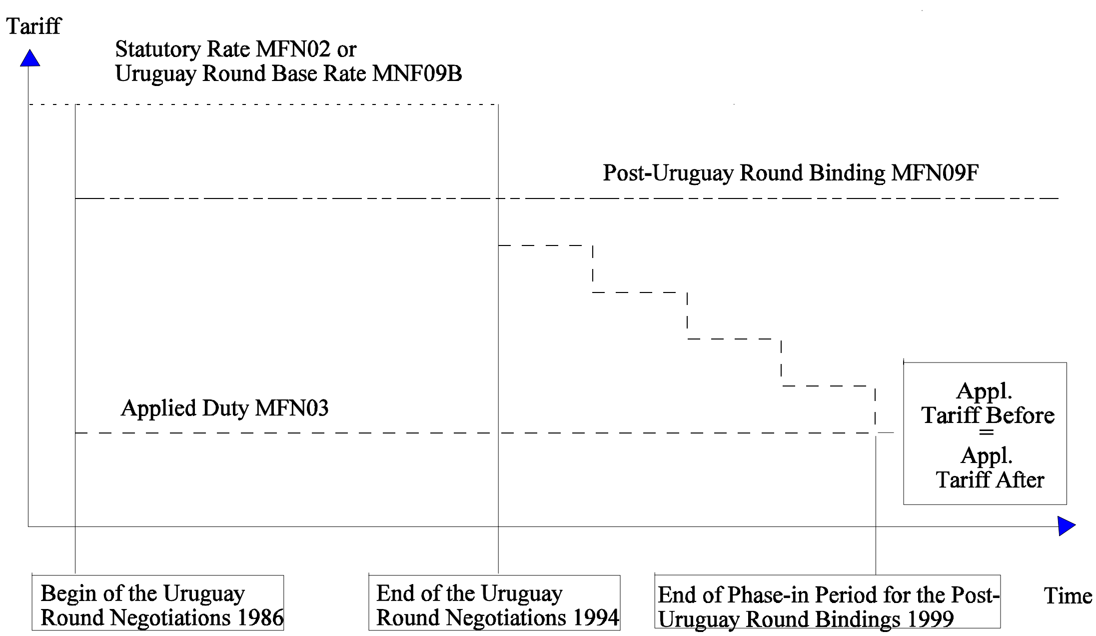


Figure 13.1b Tariff before > tariff after, I.e. cut in applied tariff rate



```
32 24 ROW_ORDER header "ARGy",
```

and its post-Uruguay Round header reads

```
32 24 ROW_ORDER header "ARGz".
```

The 27 pre- and post-Uruguay Round tariff matrices (the IDB does not include information on China, Taiwan and the Former Soviet Union) are listed in table 6.

The entries of the GTAP tariff matrices were generated for both sets of tariff rates according to the following formula:

$$t_{i,j}^{n} = \frac{\sum_{e \varepsilon EXPG_i} \sum_{m \varepsilon IMPG_n} \sum_{j_k \varepsilon PROD_j} T^{m}{}_{j_k} \, w_{j_k}^{m,e}}{\sum_{e \varepsilon EXPG_i} \sum_{m \varepsilon IMPG_n} \sum_{j_k \varepsilon PROD_j} w_{j_k}^{m,e}}$$

where $T_{j_k}^{m}$ is the tariff rate of importer m in tariff line j_k, $w_{j_k}^{m,e}$ is the value of trade between importer m and exporter e, $IMPG_n$ is the importer group n, $EXPG_i$ is the exporter group i and $PROD_j$ is the product group j. In cases in which the total value of trade i.e. the denominator is zero, the tariff matrix contains the average tariff rate weighted with value of trade from the world. If the value of imports from the world is zero, all tariff averages in that product group are set to “-1”. The detailed country and product groups are listed in table 3, 4, 5, 7 and 8.

Table 13.2 Import Market Aggregation: Version 3 of the GTAP Data Base

1 AUS Australia
2 NZL New Zealand
3 JPN Japan
4 KOR Korea
5 IDN Indonesia
6 MYS Malaysia
7 PHL Philippines
8 SGP Singapore
9 THA Thailand
11 HKG Hong Kong
13 IDI India
14 RAS Rest of South Asia (composite region) (Sri Lanka)
15 CAN Canada
16 USA United States
17 MEX Mexico
18 CAM Central America and the Carribean (composite region) (includes: Jamaica, El Salvador)
19 ARG Argentina
20 BRA Brazil
21 CHL Chile
22 RSM Rest of South America (composite region) (includes: Colombia, Peru, Uruguay, Venezuela)
23 E_U European Union 12 (includes: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, United Kingdom)
24 EU3 Austria, Finland, and Sweden
25 EFT EFTA (composite region) (includes Iceland, Norway, Switzerland)
26 CEA Central European Associates (composite region) (includes: Czech Republic, Hungary Poland, Romania, Slovakia)
28 MEA Middle East and North Africa (composite region) (includes: Tunisia)
29 SSA Sub Saharan Africa (composite region) (includes: Senegal, Zimbabwe)

Table 13.3 Export Market Aggregation: Version 3 of the GTAP Data Base

1 AUS Australia
2 NZL New Zealand
3 JPN Japan
4 KOR Korea
5 IDN Indonesia
6 MYS Malaysia
7 PHL Philippines
8 SGP Singapore
9 THA Thailand
10 CHN China
11 HKG Hong Kong
12 TWN Taiwan
13 IDI India
14 RAS Rest of South Asia (composite region) (includes: Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka)
15 CAN Canada
16 USA United States
17 MEX Mexico
18 CAM Central America and the Carribean (composite region) (includes: Antigua & Barbuda, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, St. Kitts & Nevis, St. Lucia, St. Vincent, Trinidad & Tobago)
19 ARG Argentina
20 BRA Brazil
21 CHL Chile
22 RSM Rest of South America (composite region) (includes: Bolivia, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela)
23 E_U European Union 12 (includes: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, United Kingdom)
24 EU3 Austria, Finland, and Sweden
25 EFT EFTA (composite region) (includes Iceland, Norway, Switzerland)
26 CEA Central European Associates (composite region) (includes: Bulgaria, Czech Republic, Hungary Poland, Romania, Slovakia, Slovenia)
27 FSU Former Soviet Union (includes: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Russian Federation, Tajikistan, Turkmenistan Ukraine, Uzbekistan)

28 MEA Middle East and North Africa (composite region)
(includes: Algeria, Bahrain, Egypt, Iran,
Iraq, Israel, Jordan, Kuwait, Lebanon, Libya,
Morocco, Oman, Qatar, Saudi Arabia, Syrian
Arab Republic, Tunisia, United Arab Emirates,
Yemen Arab Republic)

29 SSA Sub Saharan Africa (composite region) (includes:
Angola, Benin, Botswana, Burkina Faso,
Burundi, Cameroon, Cape Verde, Central
African Republic, Chad, Comoros, Congo,
Cote d'Ivoire, Djibouti, Equatorial Guinea,
Eritrea, Ethiopia, Gabon, Gambia, Ghana,
Guinea, Guinea-Bissau, Kenya, Lesotho,
Liberia, Madagascar, Malawi, Mali,
Mauritania, Mauritius, Mozambique, Namibia,
Niger, Nigeria, Rwanda, Sao Tome & Principe,
Senegal, Seychelles Islands, Sierra Leone,
Somalia, South Africa, Sudan, Swaziland,
Tanzania, Togo, Uganda, Zaire, Zambia,
Zimbabwe)

30 ROW Rest of World (composite region) (includes:
Afghanistan, Albania, Andorra, Bosnia-
Herzegovina, Brunei, Cambodia, Croatia,
Cyprus, Fiji, Kiribati, Laos, Leichtenstein,
Macedonia [former Yugoslav Republic of],
Malta, Monaco, Mongolia, Myanmar, Nauru,
North Korea, Papua New Guinea, San Marino,
Solomon Islands, Tonga, Turkey, Tuvalu,
Vanuatu, Viet Nam, Western Samoa, Yugoslavia
[Serbia and Montenegro])