Agricultural Market Access Database--User's Guide

Release 2.0 (Fall/Winter 2001)

The Agricultural Market Access Database (AMAD), is a cooperative effort among: Agriculture and Agri-Food Canada, EU Commission, DG Agriculture, OECD Directorate for Food, Agriculture and Fisheries, UNCTAD, TRAINS Database unit, UNFAO, Commodities and Trade Division, and USDA, Economic Research Service.

Website: www.amad.org
Questions: contact@amad.org

Agricultural Market Access Database--User's Guide

Contents

Agricultural Market Access Database--User's Guide

List of Tables

Appendix

List of Frequently Used Abbreviations and Acronyms

AgCanada	Agriculture and AgriFood Canada
AMAD	Agricultural Market Access Database
EU	European Union
FAO	United Nations Food and Agriculture Organization
HS	Harmonized System
MFN	Most Favoured Nation
OECD	Organization for Economic Cooperation and Development
SUA	Supply and Utilization Account
TRAINS	UNCTAD Trade Restrictions and Information System Database
TRQ	Tariff Rate Quota
UNCTAD	United Nations Conference on Trade and Development
USDA, ERS	U.S. Department of Agriculture, Economic Research Service
WTO	World Trade Organization

Agricultural Market Access Database--User's Guide

Agricultural Market Access Database

Summary

The purpose of this database is to provide a common data set on tariffs, TRQs and imports, as well as the tools for researchers, policymakers, and others to use in analyzing levels of tariff protection in agriculture among WTO Members. The development and use of a common data set can assist in improving international transparency of agricultural trade as covered by multilateral rules and disciplines. The database is also intended to be a public good available to all users. The database includes mainly raw data on market access commitments and trade, as found in WTO members' commitments and in national publications, at the level of detail and disaggregation found in the original sources. However, additional reference data are included in the database to enable the user to calculate derived data such as ad valorem equivalents, or tariff aggregates for product or commodity categories.

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The cooperators agreed to participate in this activity because they all require accurate data on tariffs, tariff rate quotas, and trade data to enable research on market access conditions in the international agriculture and food sectors. Since this endeavour is very time and labour intensive, the cooperators agreed to pull their resources to realise economies of scale and insure timely and accurate data.

The development of the AMAD database began in early 1999. On February 15, 2000, a subset of 9 countries was placed on the Internet for access by a select number of beta-testers. The beta-test phase was concluded on April 15, 2000. Version 1.0 of the database represents the first release of country data by the AMAD Steering Committee. The committee plans to update the database at least once a year. Version 2.0 of the database was released in October 2001.

The countries included in the AMAD database are member economies to the World Trade Organisation that scheduled tariff rate quotas (trq's) and those additional members that listed tariff commitments on a tariff line basis in their Uruguay Round schedules. Presently, there are approximately 50 WTO member economies included in the AMAD database. New entrants to the WTO with schedules meeting the above criteria will be included in the database as the database is updated.

The database includes information on: 1) the base and bound scheduled volume of each trq, 2) the scheduled in-quota tariff rates, 3) the scheduled over-quota tariff rates, 4) scheduled tariffs for non-trq products, 5) for non-global trqs, a list of countries with trq rights, 6) an indication on whether special safeguard measures are applicable and if they have been applied, 7) notified imports under each trq, 8) implementation period, 9) trade volume and value, 10) applied tariffs, 11) supply and utilisation data, 12) world reference prices, 13) exchange rates, and 14) factors for converting products into primary product equivalents. The database is organised so that the scheduled data are separate from the implementation data, but the two sets of data can be easily integrated.

All data in the database are drawn from publicly available sources. The principal sources are 1) for the WTO Bindings and TRQ implementation, a) WTO Secretariat. "Results of the Uruguay Round, " CD-

ROM, b) hard copies of member tariff schedules, c) national sources, d) rectifications and other changes accepted by WTO members, e) MA:2 Notifications, f) MA:5 Notifications (for Special Safeguards), and g) MA:1 Notifications (for quota allocations). 2) Applied tariffs from UNCTAD TRAINS database and national sources. 3) Trade data from UN Trade Data System and official national sources. 4) Supply and Utilisation data from FAO SUA database.

The data in AMAD is presented in one Microsoft Access database for each country. Within each country's database file, each type of data (bound tariffs, applied tariffs, TRQ schedules, etc.) is stored in a separate table. The tables are designed so that each table may be read individually in Access or copied and pasted into a spreadsheet. In addition, many tables share common fields that allow 2 or more tables to be joined together in a database query.

This document contains descriptive information about each of the table in AMAD. A companion document containing a series of self-study exercises is also available from the AMAD website. The self-study guide presents step-by-step examples of several common data retrieval and aggregation exercises that may be performed on the data.

Inquires about the database may be directed to: contact@amad.org

Agricultural Market Access Database--User's Guide

1.0 Data Coverage

This database contains data on tariffs, tariff rate quotas (TRQs), applied tariffs, imports, production, and consumption for selected members of the World Trade Organization (WTO). The data is drawn from a wide variety of national and international data sources, and is contained in the database tables defined below.

1.1 Product Coverage

Commodities included in the database follow the definition of the product coverage of agriculture contained in Annex 1 of the WTO Agreement on Agriculture. A copy of this list in HS96 nomenclature is provided in the appendix.

1.2 Country Coverage

Countries included in Release 2.0 of the database are listed in Table 1. These countries were selected with the following criteria: WTO members who submitted Uruguay Round tariff schedules containing detailed breakouts of tariff rates by line item at the Marrakesh Ministerial. With a few exceptions, this list does not include countries that scheduled ceiling bindings in their Marakesh schedules. A few countries with ceiling bindings are listed in Table 1 (and in the AMAD database) to provide market access data for the entire Cairns Group.

Table 1   Countries in the Agricultural Market Access Database

Antigua and Barbuda	Korea	United States
Argentina	Latvia	Uruguay
Australia	Malaysia	Venezuela
Barbados	Malta	
Brazil	Mexico	
Brunei	Morocco	
Bulgaria	Namibia	
Canada	New Zealand	
Chile	Nicaragua	
Colombia	Norway	
Costa Rica	Pakistan	
Cyprus	Panama	
Czech Republic	Paraguay	
Ecuador	Philippines	
Egypt	Poland	
El Salvador	Romania	
European Union	Singapore	
Fiji	Slovakia	
Guatemala	Slovenia	
Hungary	South Africa	
Iceland	Swaziland	
India	Switzerland	
Indonesia	Thailand	
Israel	Tunisia	
Japan	Turkey	

1.3   Data Sources

The data in AMAD comes from a variety of public sources. The sources of each of the AMAD tables are described in table 2.

Table 2 Principal Sources of Data Used in AMAD

AMAD Table Name	Principal Data Sources
Bindings	WTO Uruguay Round schedules on goods, electronic and hard-copy versions, rectifications, and national versions of tariff schedules
TRQSchedule TRQRates TRQQuantities	WTO Uruguay Round schedules on goods, electronic and hard-copy versions, rectifications, and national versions of tariff schedules
TRQAllocate	WTO Uruguay Round schedules on goods, electronic and hard-copy versions, rectifications, and national versions of tariff schedules
TRQNotify	MA:2 Notifications submitted to the WTO
TRQHSNumbers	MA:2 Notifications submitted to the WTO
FAO	FAOSTAT Supply and Utilization Accounts Database, United Nations Food and Agriculture Organization
Imports	United Nations Trade Data System, UNCTAD TRAINS, and national sources
Applied Tariffs	UNCTAD TRAINS and national sources

2.0 Database Tables

The data in the AMAD is organised into component databases by country. Where data is available, each country database contains a set of tables based on the list in table 3. Each country database is stored in its own Microsoft Access97 database, named with the following format: COUNTRYNAME.MDB. For a mapping of the type of data available in each country database, see Table 4.

Table 4.0 Availability of Data in the AMAD Database, by Country and Table Name

WTO Member	Bindings	TRQSchedule	TRQQuantities	TRQRates	TRQNotify	TRQHSNumbers	TRQAllocate	Applied Tariffs	FAO Supply and Utilization Accounts Data	Imports	Verify Notification	InOver Tariffs	TRQSource
Antigua and Barbud	X								X				
Argentina	X							1997-1998	X	1995-1997			
Australia	X	X	X	X	X	X		1996-2000	X	1995-1999		X	X
Barbados	X	X						1996,1998-1999	X	1997-1998		X	X
Brazil	X	X	X	X	X	X		1995-1999	X	1995-1996	X	X	X
Brunei Darussalam	X								X				
Bulgaria	X	X	X	X	X	X	X		X	1996-1997		X	
Canada	X	X	X	X	X	X	X	1995-1998	X	1995-1999	X	X	X
Chile	X								X	1995-1997			
Colombia	X	X	X	X	X	X		1995-1999	X	1995-1998	X	X	X
Costa Rica	X	X	X	X	X	X		1995, 1999	X	1995-1998	X	X	X
Cyprus	X								X				
Czech Republic	X	X	X	X	X	X		1996-1999	X	1995-1999		X	X
Ecuador	X	X	X	X	X			1995, 1997-1999	X	1995-1998		X	X
Egypt	X								X				
El Salvador	X	X	X	X				1995, 1997-1998	X	1995-1998		X	X
European Communi	X	X	X	X	X	X	X		X	1995-2000		X	X
Fiji	X								X				
Guatemala	X	X	X	X	X	X		1995, 1998	X	1995-1998	X	X	X
Hungary	X	X	X	X	X	X	X	1996-1997	X	1995-1999		X	X
Iceland	X	X	X	X	X	X		1996	X	95, 1997-1999		X	X
India	X							1997	X	1995-1996			
Indonesia	X	X	X	X	X	X		1995-1996,1999-2000	X	1995-1998	X	X	X
Israel	X	X	X	X	X	X			X	1995-1998	X	X	X
Japan	X	X	X	X	X	X		1995-2000	X	95-1997, 1999		X	X
Korea	X	X	X	X	X	X		1995-1996	X	1995-1998		X	X
Latvia	X	X	X	X	X	X		1996-1997	X	1995-1999		X	X
Malaysia	X	X	X	X	X	X		1996-1997	X	1995-1998		X	X
Malta	X								X				
Mexico	X	X	X	X	X	X	X	1995,1997-2000	X	1995-1999		X	X
Morocco	X	X	X	X	X	X		1997	X	1995-1997	X	X	X
Namibia	X								X				
New Zealand	X	X	X	X	X	X		1996-2000	X	1995-1999		X	X
Nicaragua	X	X	X	X	X			1995, 1998	X	1995-1998		X	X
Norway	X	X	X	X	X	X	X	95-1996, 1998, 2000	X	1995-1999		X	X
Pakistan	X							1998	X				
Panama	X	X	X	X	X	X		1998	X		X	X	X
Paraguay	X							1997-1998	X				
Philippines	X	X	X	X	X	X		1995, 1998-2000	X	1996-1998		X	X
Poland	X	X	X	X	X	X		1995-1996, 2000	X	1995-1999			
Romania	X	X	X	X	X	X				1995-1998		X	X
Singapore	X												

Country													
Slovak Republic	X	X	X	X	X	X	X		X	**1995-1998**		X	X
Slovenia	X	X	X	X	X	X			X	**1995-1998**		X	X
South Africa	X	X	X	X	X	X		**1996-1997, 1999**	X	**1995-1998**	X	X	X
Swaziland	X								X				
Switzerland	X	X	X	X	X	X	X	**1996-2000**	X	**1995-1999**		X	X
Thailand	X	X	X	X	X	X		**1995, 2000**	X	**1995-1999**		X	X
Tunisia	X	X	X	X	X	X		**1995, 1998**	X	**1995-1998**	X	X	X
Turkey	X								X	**1995-1997**			
United States	X	X	X	X	X	X	X	**1997-2001**	X	**1995-2000**		X	X
Uruguay	X							**1997-1998**	X				
Venezuela	X	X	X	X	X	X		**1995, 1997-1998**	X	**1995-1998**		X	X

Table 3   Types of Data in AMAD, by table name

Database Table Name	Description of Data
Bindings	Scheduled tariff bindings (commitments) in Agriculture. The table lists, by HS tariff number, base and bound tariff rates, implementation schedule, special safeguard, and other duties and charges scheduled in the Uruguay Round.
TRQSchedule	Scheduled tariff-rate quotas (TRQs) by country. This table lists, by TRQ, the base and final bound quantity levels and the base and final bound in-quota tariff rates, HS line items, and implementation schedule.
TRQRates	Schedule in-quota tariff rates by country. This table lists, by TRQ, the base and final bound in-quota tariff rates, HS line items, and implementation schedule.
TRQQuantities	Schedule in-quota tariff quantities by country. This table lists, by TRQ, the base and final bound in-quota tariff quantity levels and implementation schedule.
TRQAllocate	Scheduled country allocations for in-quota TRQ quantities. In their TRQ schedules, some countries established specific quantity allocations for in-quota imports from certain countries. This table lists the country, quantity, and year associated with each allocation, by TRQ.
TRQNotify	Data notified on TRQ implementation. Each WTO member that established TRQs in its Uruguay Round schedule was required to provide annual notifications that report on implementation of the TRQs. The data in this table contains information, where available, from the MA:2 notifications submitted by WTO members. This table lists two sets of data by year, for each TRQ: the quantity available for import within the quota, and the actual level of in-quota imports.
TRQHSNumbers	Data notified on the definition of each TRQ. In their MA:2 notifications, WTO members also notified the HS numbers that correspond to each TRQ, by year. These numbers define which individual tariff lines of the WTO member's tariff schedule constitute the TRQ in each year.
TRQSource	WTO document number for MA:2 notifications on TRQ implementation.
FAO	Data on agricultural supply and utilisation. This table contains data, by country, from the FAO Supply and Utilisation Accounts Database on Production, consumption, trade, change in stock plus input conversion factors for agricultural commodities as defined by the FAO.
Imports	Data in imports by HS number. Available data for any year 1995-and on is provided.
AppliedTariffs	Data on applied tariffs, by HS number. Available data for any year 1995-and on is provided.
InOverTariffs	In and over quota tariff rates. This table lists, by HS line, the in and over tariff rates for each TRQ.
VerifyNotification	Comparison of reported trade data and notified TRQ import levels. This table lists, by TRQ, the import levels reported in MA:2 notifications and the import data from UN Trade Data System or national trade data sources. Not available for all countries. This table is available only where a country's HS digit level of trade data matches the HS digit level of the TRQ notification.

Agricultural Market Access Database--User's Guide

2.1   Tariff Bindings

For all of the countries in the database, data is presented on tariff commitments established in the Uruguay Round. The Bindings table lists the MFN and over-quota tariff bindings as scheduled by WTO members at the end of the Uruguay Round. If the WTO member specified TRQs in their Uruguay Round schedule, the Bindings table will contain both the member's MFN tariffs and over-quota tariff rates. This data is presented in each country database in a table named "Bindings." For some countries, specific rates (non-ad valorem tariffs) are distributed across several columns such as BaseOther 1, BaseOther2, etc.   The structure of the Bindings table, and an explanation of each field in the table, is described in Table 5.

Table 5: Tariff commitments: Structure of the "Bindings" Table

Field Name	Description of Field
ID	Sequential line number for this table.
HSItem	Tariff number of commodity in the member's national nomenclature. Most WTO commitments were made at disaggregated levels of tariff nomenclature (i.e., 8 or 9 HS digits).
HSNo	Database version of the HSItem field: HS numbers with periods removed.
TRQID	TRQ's ID number: Unique list for each country, based on AIE/S1 for list of TRQ numbers (recorded there as MEM and MEMNO, with modifications as necessary. Sequential country name and ID number for each TRQ.
TariffDBChar	Characters removed from the Tariff item field in creating TariffDB field. This field is useful for joining related AMAD tables by HS number.
Description	Description of tariff line item. Descriptions that are listed without tariff data on the same row are generally commodity headings (4-digit) or subheadings (6-digit) at higher levels of aggregation than the scheduled tariff.
BaseAdVal	Base tariff rate established or used in the Uruguay Round. Tariff reductions, which generally began on 1/1/95, are made against this rate and, if scheduled, the any rate listed in the "Base Other" column.
BaseOther	Base specific or other non-ad valorem tariff, if any, applied to the line item as the base tariff. A specific tariff may be indicated instead of, in addition to, or in comparison with, the base ad valorem rate.
BaseOtherUnit	Unit of tariff listed in the BaseOther column.
BaseOperator	Mathematical operator that is part of complex base tariffs.
BBC	Where used, indicates that the base rate was either an unbound, bound or ceiling tariff.
BoundAdVal	Final ad valorem bound tariff rate after all phased reductions.
BoundOther	Final bound specific or other non-ad valorem tariff, if any, applied to the line item as the bound tariff. A specific tariff may be indicated instead of, in addition to, or in comparison with, the bound ad valorem rate.
BoundOtherUnit	Unit of tariff listed in the BoundOther column.
BoundOperator	Mathematical operator that is part of complex bound tariffs.
Implementation	Period of implementation of tariff reduction from the base rate to the bound rate. Base tariffs are to be reduced in equal annual increments to bound levels. In general, developed country reductions are to take place 1995-2000, and developing country reductions from 1995-2004. See also the annexes to specific tariff schedules for variations in phasing that a member may have negotiated for particular items.
SSG	Article 5 of the Agreement on Agriculture permits a WTO member to impose a special safeguard (additional duties) on a product that the member has subject to tariffication. The safeguard may only be imposed if the member has designated in this column that

	the product is eligible for the safeguard. Such a designation in the SSG column is generally indicated as SSG, SGE, or SGS, depending on the language used by the country.
INR	Name of the WTO member(s) with Initial Negotiating Rights for this tariff line. INRs belong to the member(s) that negotiate a tariff cut for a good in a certain market.
ODC	Space for listing other duties or charges on this tariff line as reported by the member country.
Notes	Notes listed by the WTO member
Numbering	Reference field linking to original copy of dataset
Revision	Revisions made in verification process.
FAO	FAO category corresponding to tariff lines
Country	Name of WTO member scheduling commitment
AgLink	Database flag to identify aggregate category for certain commodity groups. See section 5.0 of this document for a definition of the AgLink commodity groups.

2.2   Tariff-Rate Quotas

A subset of WTO members scheduled TRQs in the Uruguay Round. The AMAD database contains information on scheduled TRQs and their implementation.   The contents of the tables containing TRQ information is described in this section. A list of countries with TRQ information in the AMAD database is provided in Table 6.

Table 6: WTO Members in the AMAD Database with Information on Scheduled TRQs

Australia
Barbados
Brazil
Bulgaria
Canada
Costa Rica
Czech Republic
Ecuador
El Salvador
European Union
Guatemala
Hungary
Iceland
Indonesia
Japan
Korea
Latvia
Malaysia
Mexico
Morocco
New Zealand
Nicaragua
Panama
Philippines
Poland
Slovak Republic
South Africa
Switzerland
Thailand
Tunisia
United States
Venezuela

2.2   TRQ Commitments
2.21   TRQ Schedule
The TRQ Schedule table lists the data about tariff-rate quotas that WTO member countries scheduled at the end of the Uruguay Round. This data is presented in each country database in a table named "TRQSchedule" The structure of the table, and an explanation of each field in the table, is described in Table 7.

Table 7: TRQ Commitments: Structure of the TRQSchedule Table

Field Name	Description of Field
ID	Sequential line number for this table.
TRQID	TRQ's ID number: Unique list for each country, based on AIE/S1 for list of TRQ numbers (recorded there as MEM and MEMNO, with modifications as necessary. Sequential country name and ID number for each TRQ.
TRQDescription	Description of the TRQ as recorded on the Schedule.
HSNo	HS number corresponding to the TRQ
QTYBase	Base, in-quota quantity.
BaseUnit	Quantity unit for base quota level
QTYBound	Final bound in-quota quantity.
BoundUnit	Quantity unit for final bound quota level.
TariffSchedBaseAdValorem	The ad valorem base rate for the HS line
TariffSchedBaseOther	The specific or other non-ad valorem base rate for the HS line
BaseUnit	The unit for the TariffSchedBaseOther field.
BaseOperator	Arithmetic operator, if the base other rate is a complex rate (+, whichever is greater, etc.). Operator for combining or calculating based on ad valorem and specific rates "+", "WIG" for whichever is greater, or "WIL" for whichever is less.
TariffSchedBoundAdValorem	The ad valorem final bound rate for the HS line
TariffSchedBoundOther	The specific or other non-ad valorem final bound rate for the HS line.
BoundUnit	The unit for the TariffSchedBoundAdValorem field.
BoundOperator	Arithmetic operator, if the bound other rate is a complex rate (+, whichever is greater, etc.). Operator for combining or calculating based on ad valorem and specific rates "+", "WIG" for whichever is greater, or "WIL" for whichever is less.
Implementation	The implementation period scheduled for phasing the tariff reductions between the Base and the Bound rates for the TRQ.

Agricultural Market Access Database--User's Guide

2.22   TRQ Tariff Rates
TRQ Tariff Rates are shown separately in the TRQRates table. This table shows, by TRQID and HS number, the in-quota tariff rates scheduled for each TRQ. The structure of the table, and an explanation of each field in the table, is described in Table 8 below. The data in this table is a subset of the data in the TRQSchedule table.

Table 8: TRQ Commitments: Structure of the TRQRates Table

Field Name	Description of Field
ID	Sequential line number for this table.
TRQID	TRQ's ID number: Unique list for each country, based on AIE/S1 for list of TRQ numbers (recorded there as MEM and MEMNO, with modifications as necessary. Sequential country name and ID number for each TRQ.
TRQDescription	Description of the TRQ as recorded on the Schedule.
HSNo	HS number corresponding to the TRQ
TariffSchedBaseAdValorem	The ad valorem base rate for the HS line
TariffSchedBaseOther	The specific or other non-ad valorem base rate for the HS line
BaseUnit	The unit for the TariffSchedBaseOther field.
BaseOperator	Arithmetic operator, if the base other rate is a complex rate (+, whichever is greater, etc.). Operator for combining or calculating based on ad valorem and specific rates "+", "WIG" for whichever is greater, or "WIL" for whichever is less.
TariffSchedBoundAdValorem	The ad valorem final bound rate for the HS line
TariffSchedBoundOther	The specific or other non-ad valorem final bound rate for the HS line.
BoundUnit	The unit for the TariffSchedBoundAdValorem field.
BoundOperator	Arithmetic operator, if the bound other rate is a complex rate (+, whichever is greater, etc.). Operator for combining or calculating based on ad valorem and specific rates "+", "WIG" for whichever is greater, or "WIL" for whichever is less.
Implementation	The implementation period scheduled for phasing the tariff reductions between the Base and the Bound rates for the TRQ.

2.23   TRQ Quantities

TRQ tariff quantities are shown separately in the TRQQuantities table. This table shows, by TRQID, the in-quota quantity levels scheduled for each TRQ. The structure of the table, and an explanation of each field in the table, is described in Table 9 below. The data in this table is a subset of the data in the TRQSchedule table.

Table 9: TRQ Commitments: Structure of the TRQQuantities Table

Field Name	Description of Field
ID	Sequential line number for this table.
TRQID	TRQ's ID number: Unique list for each country, based on AIE/S1 for list of TRQ numbers (recorded there as MEM and MEMNO, with modifications as necessary. Sequential country name and ID number for each TRQ.
TRQDescription	Description of the TRQ as recorded on the Schedule.
QTYBase	Base, in-quota quantity.
BaseUnit	Quantity unit for base quota level
QTYBound	Final bound in-quota quantity.
BoundUnit	Quantity unit for final bound quota level.
Implementation	The implementation period scheduled for phasing the tariff reductions between the Base and the Bound rates for the TRQ.

2.3 TRQ Country Allocations

In their TRQ schedules, some WTO members allocated specific quantities of in-quota imports to particular countries. This data is captured in the "TRQAllocate" table. The structure of the table, and an explanation of each field in the table, is described in Table 10.

Table 10: TRQ Commitments: Structure of the TRQAllocate Table

Field Name	Description of Field
ID	Sequential line number for this table.
TRQID	Unique identified for each TRQ, by country.
HSNo	HS numbers corresponding to the country allocation.
Country	Partner country provided a TRQ allocation.
BaseQuantity	Base quantity of allocation to the country.
FinalQuantity	Final bound quantity of allocation to the country.

2.4 TRQ Quantities Notified

WTO members that scheduled TRQs in the Uruguay Round were required to provide annual notifications to the WTO that report on implementation of their TRQ commitments. The data was to be provided in each member's annual MA:2 notifications. Table TRQNotify contains quantity data notified by WTO members. This data covers the in-quota import quantities scheduled for each year as well as the actual levels of imports for the notified TRQ. The structure of the table, and an explanation of each field in the table, is described in Table 11.

Table 11: TRQ Notifications: Structure of the TRQNotify Table

Field Name	Description of Field
ID	Sequential line number for this table
TRQID	Unique identifier for each TRQ, by country
TRQIDSUB	A SUB ID is used when more than one scheduled quantity for the TRQ is listed in either columns 3 or 4 of the MA:2 notifications. This field does not appear for all countries.
QTYNotify	Scheduled quantity for the TRQ as notified by the WTO member in their MA:2 notifications.
ImportNotify	Actual import quantities for the TRQ as notified by the WTO member in their MA:2 notifications.
Year	Year of the notified data.
QuotaUnit	The quantity units of the notified TRQ levels.
ImportUnit	The quantity units of the notified TRQ imports.

2.5 TRQ HS Numbers Notified

Each WTO member's MA:2 notifications also identify the specific HS tariff lines that define each TRQ, by year. The AMAD table "TRQHSNo" contains HS number data notified by WTO members. The structure of this table, and an explanation of each field in the table, is described in Table 12.

Table 12: TRQ Notifications: Structure of the TRQHSNo Table

Field Name	Description of Field
ID	Sequential line number for this table
TRQID	Unique identifier for each TRQ, by country.
HSNo	The HS numbers listed in the Notification for this TRQ
Year	Notification year of these HS lines for this TRQ

2.6 Source of TRQ Notifications

As noted elsewhere in this document, TRQ notification ata is taken from annual WTO member country notifications. The AMAD table "TRQSource" provides reference to the WTO document numbers of the MA:2 notifications that were used in building the country's TRQ data. The documents references in the TRQSource table are available from the WTO Document Dissemination Facility, available at www.wto.org. The structure of the TRQSource table, and an explanation of each field in the table, is described in table 13.

Table 13: Source Information for WTO Commitments and Notifications

Field Name	Description of Field
ID	Sequential line number for this table
WTODocumentNo	The WTO document number of notification
Country	The country name
Year	Reporting year of the data contained in the notification.

2.7   Applied Tariffs

Applied tariff data, where available, was incorporated into AMAD. For some countries, a complete set of applied tariff data exists for 1995-97. In most cases, however, applied tariff data in AMAD may not exist, or may cover only one or two years of the period 1995-2000. Unless otherwise noted, the source of applied tariff data is the UNCTAD TRAINS database. For more details on the applied tariff data from the TRAINS database, see the detailed description later in this document. The AMAD table AppliedTariffs contains the applied tariff data. Note that in some cases, missing data in the AppliedTariffs table is represented by the characters "–1". The structure of this table, and an explanation of each field in the AppliedTariffs table is described in table 14.

Table 14: Applied Tariffs

Field Name	Description of Field
ID	Sequential line number for this table.
HSNumber	HS line item number
ProductDescription	Description as provided in original data source
AdValorem	Applied tariff expressed in ad valorem terms
Other	Applied tariff expressed in non-ad valorem terms
Operator	Mathematical operator for complex tariffs
Year	Year of tariff data
Country	Country name

2.8   FAO Supply and Utilization Data

The domestic availability and conversion factor data covers the Uruguay Round base period, 1986-89 as well as the first three years of Uruguay Round implementation, 1995-97. The AMAD table "FAO" contains the data on commodity supply and utilization. See section 5.0 for a discussion of this data. The structure of this table, and an explanation of each field in the FAO table, is described in table 15.

Table 15: FAO Supply and Utilization Data

Field Name	Description of Field
ID	Sequential line number for this table
Year	Year of data, or years of average data, such as 1986-88, or 95, 96
Country	Country name
FAOout	FAO code of output commodity
Product	Name of FAO output commodity
HS96	HS numbers in HS96 nomenclature corresponding to this FAO output code
Conversion_Factor	FAO Conversion Factor Rates for weighting
Conversion_Factor_Unit	Unit of FAO Conversion Factor Rates for weighting
FAOin	FAO code of input commodity
Input	Amount of input commodity
Production	Production data
Stock Changes	Change is stock
Consumption	Consumption data
Unit	Unit
Imports	Export data
Exports	Import data

2.9 Imports

The AMAD table "Imports" contains import data, where available, for the period 1995-1997. In some cases, data for later years is also available. Import data in AMAD is provided at the most disaggregated level available. For many countries, import data at the level of detail greater than the 6-digit HS level was not available. Except as noted in country notes, trade data is derived from UNTCAD TRAINS database, 1998 data. Note that in some cases, missing data in the Imports table is represented by the characters "–1". The structure of this table and an explanation of each field in the Imports table is described in table 16.

Table 16: Import Data

Field Name	Description of Field
ID	Sequential line number for this table
HSNumber	HS line item number
ProductDescription	Description as provided in original data source
ImportQuantity	Quantity level
ImportValue	Value level
QuantityUnit	Unit of quantity
Year	Year of import data
Country	Country name

3.0 Analytical TRQ Tables

Given the level of analytical interest in TRQs and their administration, the AMAD development team has created two additional tables to provide an analytical view of scheduled and notified TRQ data. The purpose of these tables is to provide AMAD users with a consistent comparison of TRQ data across countries. In their TRQ schedules, WTO members did not all specify their TRQ commitments in the same format. Many WTO members specified their in-quota and over-quota tariffs at different levels of HS detail. For example, a country may have scheduled its in-quota tariffs at the 6-digit HS level, its over-quota tariffs at the 8-digit level, and notified its implementation of the TRQ using HS numbers at other levels of detail, such as 4-digit. Other countries may have provided such data at consistent levels of HS detail for their country's data, but that digit level may vary across countries.

The two analytical tables the AMAD team developed are called "InOverTariff" and "VerifyNotification." These tables were designed in an attempt to overcome inconsistencies in TRQ scheduling and notification, such as those mentioned above. These tables appear in the AMAD country databases of WTO members that scheduled TRQs as part of their Uruguay Round market access commitments (see table 6 for a list of the WTO members in the AMAD that scheduled TRQs.

3.1 In-quota and Over-quota Tariff Rates

The InOverTariff table joins data on in-quota tariff rates from a country's TRQ schedule and compares it with the country's MFN tariff bindings. This comparison is made for ech of the HS lines that define the TRQ. The resulting table provides a view of the in-quota and over-quota tariff rates corresponding to each TRQ. The structure of this table, and an explanation of each field in the InOverTariff table, is described in table 17 below.

Table 17   Structure of the InOverTariff Table

Field Name	Description of Field
ID	Sequential line number for this table
TRQID	Unique identifier for each TRQ, by country
TRQDescription	Description of TRQ
IHSNo	In-quota HS numbers corresponding to the TRQ
OHSNo	Over-quota HS numbers corresponding to the TRQ
IbaseAdValorem	In-quota base tariff in ad valorem terms
IbaseOther	In-quota base tariff in non-ad valorem terms
IbaseOtherUnit	Unit of non-ad valorem in-quota base tariff
IbaseOperator	Operator of complex, in-quota base tariffs
ObaseAdValorem	Over-quota base tariff in ad valorem terms
ObaseOther	Over-quota base tariff in non-ad valorem terms
ObaseOtherUnit	Unit of non-ad valorem over-quota base tariff
ObaseOperator	Operator of complex, over-quota base tariffs
IboundAdValorem	In-quota bound tariff in ad valorem terms
IboundOther	In-quota bound tariff in non-ad valorem terms
IboundOtherUnit	Unit of non-ad valorem in-quota bound tariff
IboundOperator	Operator of complex, in-quota bound tariffs
OboundAdValorem	Over-quota bound tariff in ad valorem terms
OboundOther	Over-quota bound tariff in non-ad valorem terms
OboundOtherUnit	Unit of non-ad valorem over-quota bound tariff
OboundOperator	Operator of complex, over-quota bound tariffs

3.2   Comparison of Notified TRQ Imports and Import Data

The AMAD table called "VerifyNotification" compares, by TRQ, notified data on in-quota imports from the TRQNotify table with import data for corresponding HS numbers from the Imports table. This comparison is made using the HS numbers that the WTO member notified as defining the TRQ (see the TRQHSNo table). The resulting table provides a view of the import data as notified for each TRQ compared with the import data fro the TRQ from the country's trade data as reported, in most cases, in the UN Trade Data System. The structure of this table, and an explanation of each field in the VerifyNotification table, is described in table 18 below.

Table 18   Structure of the VerifyNotification Table

Field Name	Description of Field
ID	Sequential line number for this table
TRQID	Unique identifier for each TRQ, by country
Imports	Quantity level of imports from the country's "Imports" table
ImportUnit	Quantity unit of import data from the country's "Imports" table
Notify	Quantity level of imports from the country's "TRQNotify" table
NotifyUnit	Quantity unit of imports from the country's "TRQNotify" table
Year	Year of the data

4.0   Reference Data
Each country database in AMAD contains data, where available, on applied tariffs, imports, and agricultural supply and utilization. This data is provided to enrich the analytical content of the database, and allow comparison of WTO commitments with national data on imports, supply and use, and applied tariffs.

4.1   Country Notes
For each country, descriptive information is provided to assist database users in understanding and interpreting the country's data. In cases where changes in data for purposes of clarity, accuracy, or other purposes were made in preparation of AMAD, these changes are described in the country notes.

4.2   Exchange Rates
Exchange rate data is provided for converting trade values or non-ad valorem tariff rates into a consistent unit of currency, a necessary step to calculate ad valorem equivalents of non-ad valorem tariffs. Exchange rates listed in the table are expressed as period averages, as reported by the IMF. Source: International Monetary Fund, "International Financial Statistics Yearbook," 1997-98. The structure of this table, and an explanation of each field in the Exchange Rates table, is described in table 19.

Table 19   Structure of the Exchange Rates Table

Field Name	Field Description
ID	Sequential line number for this table
Country	Name of country
Unit	Exchange rate unit
Year	Year of exchange rate.

Agricultural Market Access Database--User's Guide

5.0   Supplemental Tables

Also available from the AMAD website is an Access database called SupplementalTables.MDB. This database contains information that may be related to any of the individual country databases in AMAD. In particular, the supplemental tables database contains world import unit values, which can be used to calculate ad valorem equivalents of specific tariffs. The supplemental tables database also contains several look-up tables. The look-up tables are useful for identifying the full descriptions of the codes that appear in the database tables for quantity units, units of specific tariffs, and AgLink commodity aggregates   These supplemental tables are described below.

5.1   World Import Unit Values 1995-1996
5.2   World Import Unit Values 1997-1999

World import unit values are provided for use in converting non-ad valorem tariffs into ad valorem equivalents. The world import unit values were calculated using value and quantity data for total world imports from all sources (minus EU-intra-trade). The import unit value data in AMAD is contained in two tables, World_ImportUnitValues_1995_1996 and WorldImport_Unit_Values_1997_1999. The world import unit values are derived from COMTRADE data of the United Nations Statistical Office. The structure of the two tables, and an explanation of their fields, is described in tables 20 -21 below.

Table 20:   Structure of World Import Unit Values Data, 1995-1996

Field Name	Field Description
ID	Sequential line number for this table
HSNo	6-digit HS Tariff number
Description	Description of Tariff number
1995_USD/KG	1995 import unit value in U.S. dollars/kg
1995_USD/Piece	1995 import unit value in U.S. dollars/piece
1996_USD/KG	1995 import unit value in U.S. dollars/kg
1996_USD/Piece	1995 import unit value in U.S. dollars/piece
1995_ECU/KG	1995 import unit value in ECU/kg
1995_ECU/Piece	1995 import unit value in ECU/piece
1996_ECU/KG	1995 import unit value in ECU/kg
1996_/Piece	1995 import unit value in ECU/piece

Table 21:   Structure of World Import Unit Values Data, 1997-1999

Field Name	Field Description
ID	Sequential line number for this table
HSNo	6-digit HS Tariff number
Description	Description of Tariff number
1997_USD/KG	1997 import unit value in U.S. dollars/kg
1997_USD/Piece	1997 import unit value in U.S. dollars/piece
1998_USD/KG	1998 import unit value in U.S. dollars/kg
1998_USD/Piece	1998 import unit value in U.S. dollars/piece
1999_USD/KG	1999 import unit value in U.S. dollars/kg
1999_USD/Piece	1999 import unit value in U.S. dollars/piece
1997_ECU/KG	1997 import unit value in ECU/kg
1997_ECU/Piece	1997 import unit value in ECU/piece
1998_ECU/KG	1998 import unit value in ECU/kg
1998_/Piece	1998 import unit value in ECU/piece
1999_ECU/KG	1999 import unit value in ECU/kg
1999_/Piece	1999 import unit value in ECU/piece

5.3   Quantity Units

The Quantity Units table is a look-up table for the abbreviations used for quantities listed in individual country database tables. Quantity units typically appear in the several of the AMAD tables including, Imports, Bindings, and several of the TRQ tables.

Table 22: Structure of the Quantity Units table

Field Name	Field Description
ID	**Sequential line number for this table**
QuantityCode	**Numeric ID of quantity unit**
QuantityAlphaCode	**3-letter ID of quantity unit**
ShortName	**2-letter ID of quantity unit**
Description	**Full description of quantity unit**

5.4   Specific Units

The Specific Units table is a look-up table for the abbreviations used for specific or other non ad valorem tariffs in individual country database tables. Specific tariffs typically appear in the Bindings, TRQSchedules or TRQRates tables of individual country databases.

> For example, one type of specific tariff listed in the Bindings table of Thailand is BKG. In the case of HSNo. 100760, grain sorghum, the base tariff rate is listed as 2.75 BKG. Referring to the Specific Units table, the full description of BKG appears as Bhat per kilogram, so the base specific tariff rate for this line item would be 2.75 Bhat per kilogram.

Table 23: Structure of the Specific Units table

Field Name	Field Description
Unit	**Abbreviation of specific unit**
UnitDescription	**Description of specific unit**

5.5   Countries Table

The Countries table is a look-up table for the abbreviations used for countries in individual country database tables. Country abbreviations are mainly used as part of TRQIDs for each country. For example, in Costa Rica's TRQSchedule table, first TRQ is identified as CRI001. The Countries table identifies CRI in the ISO3 column as Costa Rica.   The structure of the Countries table is listed in table 24 below.

Table 24: Structure of the Countries table

Field Name	Field Description
ID	**Sequential line number for this table**
CountryCode	**Numeric ID of quantity unit**
ISO3	**3-letter ID of quantity unit**
ISO2	**2-letter ID of quantity unit**
Description	**Country name**

Agricultural Market Access Database--User's Guide

5.6   **Definition of Commodity Aggregates**

The Bindings table for each country database in AMAD contains a field called "AgLink." This field allows database users to aggregate tariffs to higher-level commodity aggregates, such as wheat, soybean oil, etc. For HS lines that correspond to the commodities described below, the AgLink field contains a flag to define the tariff lines that comprise the commodity aggregates. The list below shows the full description of each commodity aggregate, the tariff lines that define each aggregate, and the database flag used in the AgLink field to delineate each commodity. (The full text commodity descriptions and the database flags also appear in the AgLink table of the supplemental tables database, as described in the following section). As shown below, the HS numbers that delineate each AgLink commodity aggregates are defined at the 4-digit or 6-digit HS level. Therefore, all HS numbers that fall under each 4-digit or 6-digit grouping listed below are flagged in the Bindings table as a member of each respective commodity group.

Commodity Description	HS Numbers	AgLink database flag
Cheese	0406	CH
Eggs	0407	EG
Poultry meat	0207	PT
Beef and Veal	0201	BF
	0202	BF
Wheat	1001	WT
Barley	1003	BA
Maize	1005	MA
Oats	1004	OT
Sorghum	1007	SO
Rye	1002	RY
Soybeans	1201	SB
Rapeseed	1205	RP
Sunflower	1206	SF
Soybean meal	2304	SM
Rapeseed meal	230640	RM
Sunflower meal	230630	SFM
Soybean oil	1507	SL
Rapeseed oil	1514	RL
Sunflower oil	151211	SFL
	151219	SFL
Palm oil	151321	OL
	151329	OL
Milk	04012	MK
Butter	0405	BT
Skim milk	04011	SMK
Skim milk powder	04021	SMP
Whole milk powder	040221	WMP
	040229	WMP
Pigmeat	020311	PK
	020312	PK
	020321	PK
	020322	PK
Sheepmeat	020410	SH
	020421	SH
	020422	SH
	020423	SH
	020430	SH
	020441	SH
	020442	SH
	020443	SH

Agricultural Market Access Database--User's Guide

5.7 Aglink Commodity Aggregates

In the Supplemental tables database, the table called AgLink contains the abbreviations used for each commodity aggregate as well as its full description. The structure of the AgLink table is listed in Table 25 below. This table is useful for creating database joins in Access with the Bindings table to replace the AgLink commodity flags with their full text description.

Table 25: Structure of the AgLink table

Field Name	Field Description
AgLink Code	Abbreviation of AgLink commodity
AgLinkDescription	Description of AgLink commodity

Page 27 of 37

Agricultural Market Access Database--User's Guide

6.0   Explanatory Notes Related to the FAO Data Utilized in AMAD

1. FAO has contributed to the construction of AMAD with the following data: Conversion Factors, Quantities Employed of the Input Product, Production Data, Stock changes Data, and Consumption Data.

2. The commodities covered are basic foodstuffs and basic agricultural commodities (cereals, oils, sugar, cotton and livestock products), mainly because those are the commodities modelled in the different projection models of the main international agencies. These commodities can be classified under the following categories:

a. **Primary crops:** Wheat, Rice, Paddy, Barley, Maize, Rye, Oats, Millet, Sorghum, Sugar Cane, Sugar, Beets, Soybeans, Groundnuts in Shell, Coconuts, Olives, Sunflower Seed, Rapeseed, Safflower Seed, Mustard Seed and Seed Cotton.

b. **Crops processed:** Flour of Wheat, Bran of Wheat, Macaroni, Bread, Pastry, Wheat Starch, Wheat Gluten, Rice, Husked, Milled/Husked Rice, Milled Paddy Rice, Rice Broken, Rice Gluten, Rice Starch, Bran of Rice, Rice Flour, Barley Pearled, Bran of Barley, Barley Flour and Grits, Malt of Barley, Malt Extracts, Beer of Barley, Flour of Maize, Bran of Maize, Oil of Maize, Cake of Maize, Maize Gluten, Starch of Maize, Flour of Rye, Bran of Rye, Oats Rolled, Bran of Oats, Cane Sugar, Beet Sugar, Sugar (Centrifugal Raw), Sugar Refined, Sugar Confectionery, Beet Pulp Dry, Bagasse, Glucose and Dextrose, Oil of Soya Beans, Cake of Soya Beans, Groundnuts Shelled, Oil of Groundnuts, Cake of Groundnuts, Prepared Groundnuts, Copra, Oil of Coconuts, Cake of Coconuts, Palm Kernels, Oil of Palm, Oil of Palm Kernels, Cake of Palm Kernels, Oil of Olive, Olives Preserved, Oil of Sunflower Seed, Cake of Sunflower Seed, Oil of Rapeseed, Cake of Rapeseed, Olive Residues, Oil of Olive Residues, Oil of Safflower, Cake of Safflower, Oil of Mustard Seed, Cake of Mustard, Flour of Mustard, Cottonseed, Oil of Cotton Seed, Cake of Cotton Seed, Cotton Lint, Cotton Carded Combed, Cotton Waste and Cotton Linter.

c. **Live animals:** Cattle, Sheep, Goats, Pigs, Chickens, Ducks, Geese and Turkeys

d. **Livestock products raw:** Beef and Veal, Offals of Cattle, Fat of Cattle, Cow Milk Whole Fresh, Cattle Hides Fresh, Mutton and Lamb, Offals of Sheep, Fat of Sheep, Sheep Milk, Wool Greasy, Sheepskins Fresh, Skin With Wool Sheep, Goat Meat, Offals of Goats, Fat of Goats, Goat Milk, Goatskins Fresh, Fine Goat Hair, Pigmeat, Offals of Pigs, Fat of Pigs, Chicken Meat, Offals Liver of Chickens, Hen Eggs, Duck Meat, Goose Meat, Offals Liver Geese, Turkey Meat and Eggs excluding Hen.

e. **Livestock products processed:** Beef and Veal Boneless, Cattle Butcher Fat, Beef Dried Salt Smoked, Beef Preparations, Cream Fresh, Butter of Cow Milk, Skim Milk of Cows, Whole Milk Condensed, Whey Condensed, Dry Whole Cow Milk, Dry Skim Cow Milk, Dry Whey, Cheese (Whole Cow Milk), Whey Fresh, Cheese (Skim Cow Milk), Whey Cheese, Hides Wet-Salted Cattle, Hides Dry-Salted Cattle, Hides nes Cattle, Cheese of Sheep Milk, Wool Scoured, Grease Incl Lanolin Wool, Wool Shoddy, Cheese of Goat Milk, Pork, Bacon-Ham of Pigs, Pig Butcher Fat, Sausages Pig Meat, Meat Preparations Pigs, Lard, Eggs Liquid Hen, Eggs Dry Whole Yolks Hen, Fat of Poultry and Fat of Poultry Rendered

3. A detailed description of the above mentioned commodities can be found at the internet address http://apps.fao.org.

4. The data on production, stock changes and consumption presents some particularities. Thus, the data on consumption adds up the different uses of a given product. These uses do vary in some cases along the different product categories. In the case of primary crops and processed crops, consumption is equal to the addition of food, seed, waste, processed, feed and other utilization; in the case of live animals it equals the number of heads slaughtered plus other utilization; finally, in the case of raw and processed livestock products consumption is equal to the addition of feed, breed, waste, processed, food and other utilization.

5. The data on production presents a particularity for the category of live animals. In this case there is no variable defining annual production in the same sense as for crops and livestock products. The number of born animals does not provide either an exact approximation of the productive capacity of a country, since a part of those animals might not available for slaughter in the year of their birth. Therefore, for live animals the variable that identifies production is the total stock of animals in any given year. Obviously, in this case, it does not have too much sense to talk about stock variation figures as a differently defined variable. Therefore, the stock changes column is left blank for the category of live animals.

6. The data on production, consumption and stock variation is measured using the same units of measurement for any given product. However, the units of measurement do differ between live animals and the other categories of products. Indeed, live animals are measured in heads and, in some cases, in 1000 heads, while crops primary and processed products and raw and processed livestock products are all measured in metric tons. Thus, a column has been included in the template to indicate the unit of measurement of the production, stock variation and consumption of each product.

7. The column labelled as "input" is only meaningful for those commodities with some degree of processing. This variable is equal to the quantities of the input product employed in the food processing chain. For example, the value for flour refers to the quantity of wheat that has been diverted towards flour production; similarly, the values for bread refers to the quantity of flour that has been diverted towards bread production (assuming that those values are available in the national statistics of each country and that, therefore, are reflected in FAOSTAT). Obviously, for primary crops and live animals there are no input products utilized in their production. Therefore, for those categories of products the variable is defined as "not relevant".

8. The column labelled as "Conversion Factor Rates for Weighting" refers to the yield in terms of the input product. For example, in the case of flour it refers to the flour yield of one ton of wheat, and in the case of bread to the bread yield of one ton of flour. Its inverse can be used to convert any given quantity of a product into the product in the previous stage in the food processing chain. Of course, for primary crops and for live animals the value of this column is labelled as "not relevant". For products subjected only to one processing stage the division by the conversion factor will give the primary product equivalent. For products in the second or above processing stage it is necessary to divide consecutively by two or more conversion factors in order to get the primary product equivalent (e.g. if we divide any given quantity of bread by its conversion factor we will get the flour equivalent; in order to obtain the wheat equivalent, the resulting quantity must be divided by the flour conversion factor). Similarly, if we multiply the quantities of a given product A by the conversion factor of a product in the next stage of processing B we will get the equivalent of product A in terms of the product in that next stage of processing, that is in terms of product B.

9. The unit of measurement of the conversion factor does also differ among commodities. For processed crop products and processed livestock products the unit of measurement is Hg/Metric Ton; however, for raw livestock product the conversion factor is expressed usually as Hg/Animal, although in some cases is expressed as 0.1 gr/Animal. Therefore, one column is included to reflect the units of measurement of the

conversion factors of the different commodities. It is worth noting that denominator of this column also reflects the unit of measurement of the input product.

10. All the countries are presented under the same template. Obviously, the values of the columns reflecting the data on conversion factors, input utilization, production, stock changes and consumption do vary among countries. However, there are some variables whose values do not change among countries. This refers to the columns reflecting the FAO output code, the HS96 output code and the FAO input code. The column which contains the FAO output code is important because the data is sorted first by year and then by the FAO output code. As a consequence of this sorting, the different commodities are ordered by product lines. The HS96 column is used to reflect the concordance between the FAO codes and the HS96 codification system. Finally, the column reflecting the FAO input code helps to identify the commodities that are used as inputs in the production of crops processed products and livestock raw and processed products. This column is also important to aggregate tariffs along product lines.

11. The data provided by FAO cover all the countries of the AMAD database except Singapore. There is, besides, a particularity in the data for the Czech Republic and Slovakia: for these two countries there is no data available for 1986; therefore, the data for the base period refers to the 1987-88 average.

12. The method used by FAO to get tariff aggregates is outlined here. It is, by no means, the only method available. However, the FAO method has the advantages of its simplicity and that it is fully applicable with the data available at AMAD. In particular, tariffs are aggregated at homogeneous primary commodity levels using available supply (that is production plus imports minus stock variation) as a weight, although the users of AMAD might want to use other weights such as consumption, trade, production etc. In any case, it is recognized that any of these aggregation methods might incorporate a bias, due to the fact that the commodities facing the highest tariffs might enter the calculation with relatively low weight, or if the duty is prohibitive, even with zero weights. Ideally, in such cases, the aggregation should be based on weights which reflect the potential free trade of the commodity rather than that which occurs in the presence of restrictions. Indeed various authors have proposed alternative tariff aggregation methods. These methods are mainly based on the work of Anderson (1995, 1996) and have strong theoretical foundations. However, these theoretically founded aggregators are not easily applicable in practice since data on trade elasticities is needed and these data are not available at AMAD.

13. In order to aggregate tariffs along a given product line following the FAO methodology, the first thing that must be done is to identify the different uses of a commodity along the product line. Each of these uses can be identified by means of a resulting main product and, perhaps, of two or more by-products. Thus, for example if we look at the different uses of wheat we will notice that it can be supplied directly as wheat, or well as flour, as macaroni, as bread, as pastry and as wheat starch, which are the resulting main products of the six uses of wheat documented at the FAOSTAT database. Continuing with the example of wheat, apart from the six resulting main products corresponding to the six uses of wheat, there are two by-products: bran of wheat and wheat gluten. Those are the by- products of wheat flour and wheat starch respectively. The question that could arise then is: if we are not familiar with the processing chain of a given product line how can be identify those commodities that can be classified as by-products? The answer to this question can be found by looking at the values of the input column and of the input code column. As stated elsewhere, the input column reflects the quantities of the input product utilized in the production of any given product, and the input column code serves to identify the input product. When any two given products have exactly the same values both in the input column and in the input code column then one of them is a by-product. For example, the base period data for the EU reflects that in the case of flour of wheat and bran of wheat both have exactly the same input code (15) and an input value of 39,638,720 metric tons of wheat in the elaboration of both products. This clearly suggests that the bran of wheat is a by-product of producing flour of wheat.

14. Once the different uses of a product line are identified it is important to distinguish the quantities that go into those uses. To do that it is necessary to identify which products are in the first stage of processing, and which products go into further processing stages. These two pieces of information are also contained in the input column and in the input code column respectively. Thus, in the case of the main products resulting from the first processing stage, the value in the input code column should correspond to a primary commodity (that is commodities under the categories crops primary products and live animals); on the other side, for the main products resulting from further processing stages, the input code should identify an already processed product (that is, any commodity under the categories crops processed products, raw livestock products and processed livestock products). In both cases, the quantities of the input product used are indicated by the value of the input column.

15. For example, in the case of wheat the main products resulting from the first stage of processing are flour of wheat and starch of wheat (that is the ones that have wheat (or code number 15) indicated as a raw material in the column recording the code of the input product). Using the example of EU wheat during the base period, it is possible to tell that of the 94,910,783 metric tons of wheat available in the internal market (the sum of production plus import minus stock variation), 39,638,720 metric tons go into flour production, and 668,765 metric tons go into wheat starch production. The rest is either exported, consumed directly as wheat, or go into other uses not recorded in AMAD.

16. Continuing with the example of wheat in the EU during the base period, the products that are in a second stage of processing are macaroni, bread, and pastry. Their input code column for these three products have a value of 16, which indicates that all these three products use flour of wheat (an already processed product) as the input commodity. The values of the input column show that 431,657 metric tons of flour go into macaroni production, 68,862 metric tons of flour go into bread production, and 286,515 go into pastry production.

17. As stated above, the FAO methodology aggregates tariffs at homogeneous primary commodity levels using available supply. This means that, before aggregating tariffs all commodities in a product line must be converted into their equivalent in a given product which is chosen a priori. Thus, in the case of crop products, all crops processed products are converted into their primary product equivalent. On the other side in the case of livestock product, the products under the category of live animals and livestock processed products are converted into their raw livestock product equivalent. For example, in the case of wheat, the following commodities are converted directly into its wheat equivalent: flour of wheat, bran of wheat, wheat starch and wheat gluten; on the other side macaroni, bread and pastry must be converted first into its flour equivalent, and, then, the resulting flour equivalent is converted into its wheat equivalent.

18. Before converting into a product equivalent, and to avoid double counting, the quantities that are diverted into processing must be deducted from the total supply of a commodity. Thus, in the example of wheat production in the EU during the base period, the quantities of wheat diverted towards flour (39,638,720 metric tons) and starch production (668,765 metric tons) must be subtracted from the total supply of wheat (94,910,783 metric tons): that being so, the total amount of wheat that is available directly as a primary product - either for direct consumption or for exporting - is equal to 54,603,298 metric tons. Similarly, in the case of flour the quantities of flour diverted into macaroni (431,657 metric tons), bread (68,862 metric tons), and pastry production (286,515 metric tons) must be subtracted from the total quantity available of flour (production + imports - stock variation = 30,357,821 metric tons). Thus the resulting quantity of flour that is supplied directly as flour either for export, direct consumption, or for uses not recorded in the database is equal to 29,570,787 metric tons. This is the quantity that must be converted into its primary product equivalent, since the quantities diverted towards other uses will be protected by different tariffs (e.g. the bread or the macaroni tariff) and not by the flour tariff. To convert this supply of flour that does not go into further processing (at least according to the data available in AMAD), we need to divide the resulting quantity by its conversion factor (indicated in the conversion factor column), in this

case 0.7539 metric tons of flour per metric ton of wheat. The resulting wheat equivalent of the flour supplied directly as flour is then equal to 39,222,764 metric tons. In the case of macaroni, bread and pastry, we do not need to subtract any quantities before converting into their primary product equivalents. This is so because those products do not go into any further stage of processing. Thus, for macaroni all the quantity available in the market (717,400 metric tons) can be converted directly into its wheat equivalent: it must be converted first into its flour equivalent by dividing by the conversion factor of macaroni (1 metric ton of macaroni per metric ton of flour), and then into its wheat equivalent dividing again by the conversion factor of flour (0.7539). Thus, the wheat equivalent of the quantity of macaroni available in the market is equal to 951,561 metric tons.

19. Once we have converted all the commodities of a given product line into their product equivalent, it is straightforward to compute the weights that can be given to the tariffs of each commodity. The sum of the weighted tariffs will give the aggregated tariff for that product line. In order to compute the weights we must distinguish between specific and ad-valorem tariffs. For specific tariffs the weight would be equal to the ratio of the primary product equivalent of a given commodity to the sum of the primary product equivalent of all the commodities in the same product line. For example, continuing with the EU example, the sum of the primary product equivalent of all commodities in the wheat processing chain would be equal to 54,603,298 (for raw wheat) + 39,222,763 (for wheat flour) + 137,994,487 (for wheat bran) + 951,561 (for macaroni) + 284,371 (for bread) + 1,079,072 (for pastry) + 783,453 (for wheat starch) + 49,191 (for wheat gluten) = 234,968,198 metric tons; thus, for example, the weight to be given to the raw wheat tariff should be equal to 54,603,298/234,968,198 = 0.23, to the flour tariff equal to 0.17 and for the macaroni tariff equal to 0.004. In the case, of ad-valorem tariffs the weight should be computed using the value of the primary product equivalent: thus, the weight should be equal to the ratio between the primary product equivalent of a given commodity and the sum of the values of the primary product equivalents of all the commodities in the same product line. To compute these values the quantities in primary product equivalent must be multiplied by the prices of the different commodities (e.g. the world price, or import unit values of each of the commodities, also available in AMAD).

7.**0**   **Brief Description of TRAINS and its Dissemination**

   TRAINS, for TRade Analysis and INformation System, is a PC-based information system, the global aim of which is to increase transparency in international trading conditions. TRAINS is intended more specifically for use by policy-makers and economic operators engaged in exporting, providing them with a comprehensive information system. It is also a powerful tool, both for trade negotiations, for instance, for the monitoring of an integration process, as well as for general research on international trade.

   TRAINS contains information from UNCTAD's Database on Trade Control Measures combined in an integrated manner with other relevant trade information components. TRAINS is designed to render compatible the presentation and analysis of several databases by utilizing the Harmonized Commodity Description and Coding System (HS), comprising more than five thousand basic items, as the common classification.

   The information components of TRAINS can be described as follows :

× (i) The UNCTAD Database on Trade Control Measures (TCMs), covering tariff, para-tariff and non-tariff measures. The Database contains elaborated information on the Generalized
   System of Preferences (GSP) as one particular preferential tariff measure and enables beneficiaries to have easy access to full details of GSP schemes, including quantitative restrictions and rules of origin associated with the GSP rates. So far, for a limited number of countries only, it also contains more detailed information on trade-related environmental measures.

× (ii) Trade data on imports by supplying country at the most detailed level of the Harmonized System, i.e., the 6-digit level, obtained directly from the countries or indirectly
   through the Latin American Integration Association (LAIA), the European Union (EU), the Inter-American Development Bank (IDB), the Permanent Secretariat of the General Treaty on Central
   American Economic Integration (SIECA), the World Trade Organization (WTO) and the United Nations Statistical Division (UNSD), and processed by UNCTAD.

× (iii) A database on product descriptions of the national tariff items beyond the basic HS items in English, French or Spanish, compiled on the basis of various sources, inter alia, the International Customs Tariffs Bureau (ICTB).

× (iv) The alphabetic index of the Standard International Trade Classification (SITC), Revision 3, prepared by UNSD. This index enables to find the corresponding SITC Rev. 3 code of an alphabetically arranged list of commodities.

× (v) General documentation on the various data elements including the import regimes, the GSP and other preferential schemes.

   TRAINS enables users to extract, for selected products and markets, information on trade control measures, combined with trade flows. For each basic HS item as well as for any aggregate thereof, it allows for a cross-country comparison of indicators on the import regime, such as tariff averages and the incidence of non-tariff measures; likewise, it allows the same comparison to be made of import values. For each market it indicates the number of national tariff lines that benefit from GSP preferences.

Agricultural Market Access Database--User's Guide

Separate options in TRAINS give access to the supplying countries of the selected product with several corresponding indicators as well as to bilateral trade flows between countries selected as markets and suppliers. TRAINS presents the information for each tariff line included under the selected basic items. Any information extracted may be printed for reference or stored for further processing. Beyond the 6-digit level, further information can be extracted only for TCMs, including detailed GSP conditions, by individual country.

Following a decision by the Trade and Development Board,Ú which called on the UNCTAD secretariat to provide member States, on request, with information on trade control measures contained in its computerized Database under its own responsibility, UNCTAD developed the TRAINS CD-ROM. The further development of the TRAINS software, inter alia, the integration of the SMART (for System for Market Analysis and Restrictions on Trade) module into it, is being carried out in collaboration with the World Bank.

Subsequent to the adoption of the Board decision, the General Assembly of the United Nations, in its decision 46/211 of 20 December 1991, stressed, inter alia, the need to further improve and strengthen the Database, including an expansion of its coverage of countries and measures. In this context, it should be mentioned that thanks to special collaboration with the Inter-American Development Bank on the development of the subsystem TRAINS for the Americas, the Database has been extended with information on bilateral preferential trade agreements, as well as on rules of origin for the countries of the Western Hemisphere, participants in the 1994 Miami Summit. In addition the general documentation files for these countries have been enriched by basic data on socio-economic variables. Furthermore, through collaboration with OECD on a project on indicators of government assistance, the quality of the information on the OECD countries in the Database has been improved.

The TRAINS CD-ROM contains versions for DOS as well as for Windows. The Windows version has as a new facility the possibility to analyse and display historical data on TCMs and import statistics, in principle from 1990 to the most recent year available. However, several of the facilities in the DOS version, such as analysis of potential trade, as well as the possibility to link TRAINS with GREENTRADE, have yet to be developed for the Windows version.

For dissemination purposes, the secretariat has invited the member States to designate a TRAINS Focal Point and has also contacted regional institutions in this connection.Ü At present, the secretariats of ALADI, SAARC, SIECA and UDEAC are actively collaborating with the UNCTAD secretariat, and contribute to this Interactive TRAINS information system. The national and regional Focal Points are being regularly supplied with the TRAINS CD-ROM, containing updated information on TCMs. The Focal Points serve also as a channel through which the secretariat obtains recent information on the countries or regions, particularly computerized information on tariffs and trade, as well as documentation on para-tariff and non-tariff measures.

Parallel to the national and regional TRAINS Focal Points for interactive dissemination, many countries had already designated GSP Focal Points with the purpose of improving the utilization of the various GSP schemes. On request, these GSP Focal Points will also be provided with TRAINS on CD-ROM.

Beyond the Focal Points, the TRAINS CD-ROM is available to other parties that make a minimum contribution to the UNCTAD Trust Fund created for this purpose. (UNCTAD Trust Fund Account (indicating TCMIS), No. SBS-CO-590163.1-US$, UBS AG., P.O.Box 2770, 1211 Geneva 2). This contribution is at least $625 for private enterprises in least developed countries, $1,250 for those in other developing countries and $2,500 for the ones in developed countries.

These contributions are halved for non profit-making institutions. The TRAINS CD-ROM may be used only for the donor's own internal purpose.   It may not be sold, rented or otherwise provided to any third party.   Arrangements for use in a network, time-sharing and other multiple user options are only allowed if the corresponding voluntary contribution has been made.

   As regards trade control measures, it should be pointed out that the degree of their restriction varies from country to country; therefore particular caution should be exercised when making cross-country analyses using the data. Moreover, the user should be aware that notwithstanding the efforts to achieve accuracy and completeness, the Database on Trade Control Measures still   might contain some shortcomings; it would be greatly appreciated if users would inform the UNCTAD secretariat of any deficiency they might encounter.

   Users are invited to address any comments on the TRAINS software, the Database on Trade Control Measures, as well as the other data components, to:

       UNCTAD/DITC/TRAINS
     Palais des Nations
      1211 GENEVA 10
      Switzerland
    Fax: (41-22) 907 02 47

Agricultural Market Access Database--User's Guide

Appendix A: Product Coverage of the WTO Agreement on Agriculture in both HS 1992 and HS 1996 nomenclature

HS Chapters 1 to 24 less fish and fish products, plus the following[1]:

HS Level	HS 1992	HS 1996	General Product Category
HS Code	2905.43	2905.43	(mannitol)
HS Code	2905.44	2905.44	(sorbitol)
HS Code	1520.90	2905.45	(glycarol (other than crude)
HS Heading	3301	33.01	(essential oils)
HS Code (ex)	2106.90 ex 2208.10 ex	3302.10 ex	(preparations based on odoriferous substances, of a kind used in the manufacture of beverages
HS Headings	3501 to 3505	3501 to 3505	(albuminoidal substances, modified starches, glues)
HS Code	3809.10	3809.10	(finishing agents)
HS Heading	1519	3823	(oleochemicals)
HS Code	3823.60	3824.60	(sorbitol n.e.p.)
HS Headings	4101 to 4103	4101 to 4103	(hides and skins)
HS Headings	4301	4301	(raw furskins)
HS Headings	5001 to 5003	5001 to 5003	(raw silk and silk waste)
HS Headings	5101 to 5103	5101 to 5103	(wool and animal hair)
HS Headings	5201 to 5203	5201 to 5203	(raw cotton, waste and cotton carded or combed)
HS Heading	5301	5301	(raw flax)
HS Heading	5302	5302	(raw hemp)

The foregoing shall not limit the product coverage of the Agreement on the application of Sanitary and Phytosanitary Measures.

Source: World Trade Organization

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[1] The product descriptions in round brackets are not necessarily exhaustive.

Agricultural Market Access Database--User's Guide

Appendix B: Non-ad Valorem Tariffs and Their Ad Valorem Equivalents

A subset of tariff rates in agriculture established by some WTO members in the Uruguay Round have been established in specific or other non-ad valorem terms. These tariffs are referenced, for example, inBaseOther or BoundOther in the AMAD Bindings tables. The rates define the tariff rate to be assessed in one of many ways. A common method of defining a non-ad valorem tariff is to define the tariff as a specific monetary value per unit of import.

For analytical purposes, when non-ad valorem tariffs are used, the ability to compare levels of protection across countries or commodities is complicated. A recent paper by the WTO secretariat, "Ad valorem, Specific, and other Tariffs," (AIE/S5, February 6, 1998), discusses issues raised in calculation of ad valorem equivalents of non-ad valorem tariffs.

Tariff binding data in the AMAD database contains bindings as they were made by WTO members, and does not include calculations of AVEs. However, the database does contain information that would allow calculation of AVEs. The following example illustrates the steps necessary to calculate and AVE of a typical specific tariff.

For example, as shown in the Bindings table for the United States, the final bound, over-quota U.S. tariff rate on cheddar cheese, HS 0406.10.28 is $1.277/kg. In order to calculate the ad valorem equivalent (AVE), it is necessary to divide the specific over-quota tariff by a price, such as the world import unit value for the 6-digit tariff category. For the period 1995-97, the average world import unit value for the 6-digit category 0406.10 is $2.936/kg. Therefore, the over-quota rate on cheddar cheese translates to an ad valorem equivalent of 41.6 percent in the following way:

- (specific rate) / (world import unit value) * 100 = ad valorem equivalent

- ($1.227 per kg.) / ($2.936 per kg.) * 100 = 41.8 percent