ARTNeT Capacity Building Workshop on Trade Research
UN ESCAP

WITS
World Integrated Trade Solution

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UNCTAD

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World Integrated Trade Solution (WITS)

Outline

• What is WITS
• Databases
• Quick Query
• Advanced Query
• Tariff Change Simulation SMART
• Doha-Proposals in WITS
• Future Directions and How to Install WITS
World Integrated Trade Solution (WITS) vs Databases

**WITS** (UNCTAD - World Bank)

is a software which is designed to integrate several trade-related databases and provide easy access

Five databases are currently accessible through WITS
Databases of WITS

- TRAINS (UNCTAD)
- COMTRADE (UN Statistics Division)
- Integrated Database (IDB-WTO)
- Consolidated Tariff Schedule (CTS-WTO)
- AMAD (Agricultural Market Access Database)
Data contents of TRAINS
(as of 1 January 2005)

• Tariff measures at national tariff line level for 155 countries (770 country/years since 1988), including preferential rates such as RTA and GSP in many cases.

Primary data are drawn from
UN TARMAC
UN Tariff and Market Access Database

A joint effort with the
International Trade Centre (ITC)
Data contents of TRAINS (continued)

• Import statistics by origin at Harmonized System (HS) 6-digit level for every country-year by constructing mirror imports where necessary

• Non-Tariff Measures classified according to UNCTAD Coding System of Trade Control Measures
UN COMTRADE in WITS

• United Nations Commodity Trade Statistics
  – International trade statistics, detailed by commodity and partner country
  – Over 130 countries
  – From 1962 (not all countries) to most recent year
• Processed into a standard format with consistent
  – Converted into US dollars
  – Quantities (if provided) converted into metric units
AMAD in WITS

• Query:
  – Currently only raw data downloadable
  – Future: incorporated in advanced query

• Data availability
  – TRQ schedule: within-quota tariffs and quota volume
  – Out-of-quota tariffs available in WITS from CTS (normal tariff schedule)
### AMAD - Agricultural Database

**View and Export AMAD bindings and Tariff Schedules**

#### Select Data Type
- **TRQ Schedule**
- **Reporter**: European Union

#### Data Table

<table>
<thead>
<tr>
<th>Name</th>
<th>TRQID</th>
<th>Description</th>
</tr>
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<td>European Union</td>
<td>EEC001</td>
<td>Heifers and cows (other than for slaughter) of the following mountain breeds - Simmental and Pinzgau</td>
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<tr>
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<td>Heifers and cows (other than for slaughter) of the following mountain breeds - Simmental and Pinzgau</td>
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</table>

**Rows returned:** 333
Access to WITS

- **Software:** everybody
- **AMAD** and aggregated **WTO Data:** everybody
- **COMTRADE:** Free access to International Organizations, others against a fee
- **TRAINS:** Access to governments and international and regional organizations and donors to TRAINS Trust Fund
- **WTO:** Access to WTO member governments and selected International Organizations
WITS Functionality

• Data retrieval and analysis
  • Quick query
  • Advanced query
  • Tariff Change Simulations
  • Other options
Quick Query

Direct access to the Database

– By country and/or by product
– Export raw data
– Extraction by criteria
## World Integrated Trade Solution

### WTO CTS - Bound Duty Rates Database

**View and Export Bound Duty Rates**

**Select Data Type:** Concession

** Reporter:** European Union

**Year:** 1999

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<tr>
<th>TL</th>
<th>TLS Ex</th>
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<td>A</td>
<td>A</td>
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</tbody>
</table>

Rows returned: 10494

Save
Advanced Query

Users construct queries comprising of:

- Reporter countries
- Products
- Partner countries
- Years
**Custom Query – Parameters**

**Reporter Countries**
- Individual countries or user-defined groups of countries

**Products**
- Individual products or user-defined aggregates of products in various product classifications (HS, SITC, ISIC, GTAP, ATPSM, etc)
Custom Query – Parameters

Partner Countries
- Same as Reporter Countries. “World” is treated as an individual country

Years (for Internet application)
- From 1988
Custom Query – submission

Further options before submitting

- MFN rates (default), Bound Rates and/or Effectively Applied (preferential) rates
- Latest available year for each reporter country
- Substitution of unavailable year with the nearest available year
- Breakdown of country groups
Custom Query – results

Main indicators
• Simple and trade weighted tariff averages
• Value of imports
• Distribution of tariff rates
Tariff Change Simulation

(Single market simulation model)

- Trade Creation and Diversion effects
- Tariff revenue effect
- Welfare effect
- Importer and Exporter Views
Tariff Change Simulation
(Single market simulation model)

Assumptions:

- Each product is independent
- A same product from different supplier is an imperfect substitute
- Three sets of elasticities (Demand, Supply and Substitution between two suppliers)
Tariff Change Simulation

Results of Simulation:

- First round effect of tariff reduction
- No time horizon
- No cost of structural adjustment
Doha Proposals in WITS

- WTO “Doha Formulas” simulates the tariff reduction proposals submitted to the WTO’s Negotiating Group on Market Access.
- The scenarios as implemented in WITS get as close as possible to the proposals.
- Formulas apply only to Non Agricultural products.
- Proposals only deal with Bound and MFN Applied tariffs.

More flexible, user-defined tariff change formula option is under development.
Doha Proposals in WITS (cont.)

- US proposal
- EC proposal
- Korean
- China
- India
- WTO Chairman
Formulae

\[ t_1 = (t_0 \times 0.8) - (0.7 \times (t_0 - 2 \times t_a)) \]

\[ t_1 = \frac{(t_a + (B \times P)) \times t_0}{(t_a + P^2) + t_0} \]

\[ t_{1a}^w = \frac{A \times t_{0a}^w}{A + t_{0a}^w} + \alpha \]

\[ t_1 = B_1^L + (t_0 - B_0^L) \times \left[ \frac{B_1^U - B_1^L}{B_0^U - B_0^L} \right] \]

\[ t_1 = c \times t_0 \]

\[ t_1 = \frac{(B \times t_a) \times t_0}{(B \times t_a) + t_0} \]

\[ t_1 = \frac{8 \times t_0}{8 + t_0} \]
Non ad valorem tariffs:

**WARNING**

- Non ad valorem tariffs are not taken into account where no ad valorem equivalent is available.

- Non ad valorem lines are concentrated in certain countries and certain categories of products.

- As a result, tariff profiles are not strictly comparable between countries, in particular at a disaggregated level.

- Ad valorem equivalents may be calculated for some non ad valorem tariffs but there is no consensus how.
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WITS - Analytical Tools

WTO Cut Definition:

WTO Tariff Cut Scenario:

- Importer(s):
- Trade Partner(s):
- Products (tariffs to be cut and displayed):
- Tariff Change:
World Integrated Trade Solution

WTO Tariff Cut Scenario:
- Importer(s):
  - Indonesia IDN
- Trade Partner(s):
  - Japan JPN
  - European Union EUA
  - United States USA
  - Philippines PHL
  - Malaysia MYS
- Products (tariffs to be cut and displayed):
  - HS 1396
    - Chapter
    - WTO H1 Industrial

Doha's Proposal:

---Select Doha Formula---

Include GSIM Report

Tariff Change:

Parent
7/8/2003
**Doha's Proposal:**

- WTO Secretariat
- Include GSIM Report

**Information**

**Tariff base:**
Bound tariff when available. Two times the MFN applied tariff (2001) when bound tariff does not exist. When MFN applied tariff is 0 then bind at 5%. If 2001 is not available, take the nearest available year (later year wins tie).

**New MFN Applied tariffs:**
Based on MFN applied tariffs for latest available year.

\[ t_1 = \frac{B \times t_a \times t_0}{B \times t_a + t_0} \]

with \( t_a \) the tariff average

**User Parameter**

Value of \( B = 1 \)

7/8/2003
Improvement for immediate future

- **Ad Valorem Equivalents:**
  - Specific tariffs converted into ad valorem equivalents for all countries using two different methods
    (already available for Quad, Norway and Switzerland)

- **Multi-market Simulation Model**
  - Analytical model SMART is already available but there will be a new one: GSIM (General Simulation Model)
Computer Requirement

– PC of reasonable speed (minimum 200MHZ)
– Windows 98, 2000 or XP
– Internet Explorer version 5.0 or higher
– Internet Access with 50mb of disk space
How to Install WITS

Register at http://wits.worldbank.org/witsweb

Receive userid and password via e-mail


Install
CONTACT

Trade Information Section
UNCTAD/DITC/TAB
Palais des Nations
1211 Geneva 10, Switzerland

E-mail: wits@unctad-trains.org
Fax: +41 22 917 0247
Annex

Proposals and other simulations
China

- As base rate for reduction developed countries should use applied rates (in 2000), and developing countries and newly acceded countries should use a simple average between applied rates (in 2000) and their final bound rate.

- The following formula: \[ T_1 = \frac{(A + B \times P) \times T_0}{(A + P^2) + T_0} \]

\[ T_0: \] Base rate

\[ T_1: \] Final rate

A: Simple average of base rates

P: Peak factor, \( P = \frac{T_0}{A} \)

B: Adjusting coefficient, e.g. for 2010, \( B=3 \); for 2015, \( B=1 \)

For the current example \( B=1 \).
Implication for Tariffs

People's Republic of China Formula (B=1)

Initial Rate (%) vs. Final Rate (%)

- 5% AVE.
- 10% AVE.
- 15% AVE.
- 25% AVE.
- 50% AVE.
European Union

- A "Compression Mechanism", to reduce all tariff duties and their dispersion by compressing them into a range.
- The "Compression Mechanism" formula:

\[
\begin{cases}
  f(x) = B^L_1 + (x - B^L_0) \times \frac{(B^U_1 - B^L_1)}{(B^U_0 - B^L_0)},
\end{cases}
\]

with \( B^L_0 \) and \( B^U_0 \) as lower and upper limits in base bracket,

and \( B^L_1 \) and \( B^U_1 \) as same limits in the new bracket,

and where \( x \) = initial duty.

- All the B parameters, as well as the base and final bracket levels, in the formula have to be negotiated. For the current example, the following parameters have been used for B.

  - \( T_0 \) from 0% to 2%, \( B=0\%
  - \( T_0 \) from 2% to 15%, \( B_L=1.6\%, B_U=7.5\%
  - \( T_0 \) from 15% to 50%, \( B_L=7.5\%, B_U=15\%
  - \( T_0 \) above 50%, \( B=15\%

Implication for Tariffs

EU Formula

Initial Rate (%) versus Final Rate (%) graph.
Korea

- As **target** reduction a **40%** reduction of the **trade weighted average tariff rate**.
- All bound tariffs should be reduced **at least 20%** through a **linear cut**.
- Tariffs above twice the national average, after the 20% reduction, shall be further subtracted by 70% of the difference between them and twice the simple national average:
  \[ T_1 = (T_0 \times 0.8) - 0.7 \times (T_0 - 2 \times T_a) \]
  
  - \( T_1 \): maximum tariff rate after reduction
  - \( T_0 \): tariff rate before reduction (above 2 times the national average)
  - \( T_a \): national average tariff rate

- Tariffs above 25%, after 20% reduction, shall be further subtracted by 70% of the difference between them and 25 percent.
  \[ T_1 = (T_0 \times 0.8) - 0.7 \times (T_0 - 25) \]
  
  - \( T_1 \): maximum tariff rate after reduction
  - \( T_0 \): tariff rate before reduction (above 25 percent)

- If a tariff is above twice the simple national average and also above 25%, the final rate will be whichever is lower after reduction described above.
- If the resulting average is above the 40% target, each country should make further reduction at its own discretion.
Implication for Tariffs

Korean Formula

Initial rate (%) vs. Final rate (%)

- 5% AVE.
- 10% AVE.
- 50% AVE.
## United States

<table>
<thead>
<tr>
<th>Phase</th>
<th>Period</th>
<th>Products Covered</th>
<th>Target Tariff</th>
<th>Modality</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0%</td>
<td>Zero</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Products with tariffs above 5%</em></td>
<td><strong>Maximum: 8%</strong></td>
<td>Swiss Formula with a maximum coefficient of 8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Highly traded sectors</strong>*</td>
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<td>Zero-for-Zero</td>
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<tr>
<td>Second</td>
<td>2010-2015</td>
<td></td>
<td>0%</td>
<td>Not specified</td>
</tr>
</tbody>
</table>
Implication for Tariffs

US Formula

Swiss formula coefficient 8
India

- A linear reduction of a percentage to be specified for developed countries and a 30 per cent lower percentage for developing countries.
- Tariff peaks: no rate should exceed three times the national average.

\[ T_{F1} = (1 - \frac{AY}{100}) \times T_o \]

\[ T_F = T_{F1} \times \text{or} \ 3 \times T_A \ 	ext{whichever is less} \]

Where

- \( A \) = less than full reciprocity’ parameter;
- \( A = 1 \) for developed countries and
- \( A = 0.67 \) for developing countries
- \( Y \) = Reduction percentage (to be negotiated)
- \( T_0 \) = Present bound tariff on an individual tariff line
- \( T_{F1} \) = Reduced tariff after Step 1 on the individual tariff line
- \( T_A \) = Simple average tariff after Step 1
- \( T_F \) = Final bound tariff on the individual tariff line
Implications for Tariffs

Indian Formula

Initial Rate (%) vs. Final Rate (%)

- Linear Cut 50%
- Linear Cut 30%

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
WTO Chairman Draft Proposal

• The WTO formula component is given by:

\[ T_1 = \frac{B \times ta \times T_0}{B \times ta + T_0} \]

Where

\( ta \) is the national average of the base rates
\( T_0 \) the initial rate; \( T_1 \) the final rate

\( B \) is a coefficient common to all countries yet to be determined
\( B \) set at 1 implies the average bound rates become the maximum.

• All tariffs to be ad valorem (percentage)

• Then a Swiss-type compression/harmonization formula is applied, with key factor based on current average

• However an undefined multiplier (B) is also to be applied
WTO Chairman Draft Proposal

• All exc. LDCs to have 95% of tariff lines bound, exceptions may not exceed 5% of imports

• A complex proposal with many undefined elements:
  - Combines different approaches –i.e. a « cocktail »- but main formula is similar to Chinese proposal
  - Free trade in sectors «of export interest to developing countries»
  - Supplemented by zero for zero, sectoral and request & offer
  - Increased bindings all round
  - LDCs excluded from tariff cutting and newly acceeded countries may make lesser tariff reductions