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TASK FORCE ON INTERNATIONAL MERCHANDISE TRADE STATISTICS
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Dissemination tools and policies of international organizations

Report by UNSD

1. This report focuses on transfer of data from the UN Comtrade database to other international agencies. Specifically, it describes the non-standard way of data transfer by UN Comtrade Web Services. The report does not deal with dissemination policies per se. As a background document, UNSD posted its "Policy of dissemination of UN Comtrade data" on the EDG.

2. UNSD offers several ways of downloading data from its UN Comtrade database. The most efficient is the batch submission which allows for downloading of compressed files with up to 25 million records per data extraction. Annex 1[1] gives a ranking of institutes by number of downloaded UN Comtrade records (using standard Batch or direct download of data) between 1 January 2006 and 1 April 2007. The World Bank and Eurostat make the top 10 with UNCTAD (at 11) and OECD (14) just thereafter. This annex shows the top 52 institutes each of which extracted more than 100 million records in this time period, for a combined total of almost 50 billion records.

3. Even though the standard ways of download and transfer are good enough to satisfy the needs of most users, some of the international agencies and a few other institutes required further automation to efficiently transfer large amount of data to their own servers on a regular basis.

4. As part of streamlining the data exchange process, UNSD designed Web Services for the UN Comtrade system (called UN Comtrade WS) which went into operation in January 2005. UN Comtrade WS offers straightforward data dissemination via internet medium and enables automatic data synchronization between UN Comtrade and other databases.

[1] **Annex 1 is given in document "TF07_item_6e_UNSD - Download Usage UN Comtrade.pdf"**

5. UN Comtrade WS offers two data formats: Element based XML and SDMX (Statistical Data and Metadata Exchange). Element based XML is the simplest XML format which does not offer clear separation between data and metadata (see Annex 2). SDMX offers a complete package of data transfer including tighter integration between data and metadata (such as reference tables). See Annex 3 for an example of SDMX data transfer. The SDMX format needs to be structured beforehand (with specification of the so-called Key Family) and allows for more complex data transfer than element based XML.

6. Up until now, UN Comtrade WS uses REST (Representative State Transfer) which by-passes additional header information. This results in faster response (especially for on-the-fly compression), but requires the user to have enough programming skills and knowledge to enter all necessary parameters.

7. For that reason UNSD constructed its so-called Comtrade Tools which assists the user to download data without much programming. International organizations like World Bank and OECD have successfully been using Comtrade Tools over the last year, as is shown in the usage statistics hereafter.

Usage Statistics

8. The total number of records downloaded via UN Comtrade WS since January 2005 can be broken down by type of data transfer and by organization (see tables below). The most used type is SDMX (used by the World Bank and OECD) followed by (XML based) ECLACTRADE (used by ECLAC) and standard Element based XML. The fourth procedure (MATRIX) is an internal UNSD procedure used for construction of the World Export Matrix. World Bank clearly leads in use of UN Comtrade WS.

Output Format	**Number of Downloaded Records**
SDMX	8,638,216,384
MATRIX	135,013,494
Element based XML	87,404,048
ECLACTRADE[2]	13,586,699

Organization	**Number of Downloaded Records**
World Bank	7,161,693,943
OECD	905,810,313
United Nations	773,667,535
ECLAC	26,075,569
WTO	2,612,582
ECOWAS	2,538,502

[2] The ECLACTRADE number is smaller than the others because the ECLAC application pulls aggregated data and not basic raw data. ECLACTRADE submits a rather high number of data queries with a relative low number of downloaded records.

9. The download of data via WS mentioned in the previous paragraph concerns download of (Internet based) UN Comtrade data. WS is also used for downloads of original and processed (but not yet published) data, which UNSD uses in its exchange of data with OECD. Finally, WS is used for transfer of the so-called Tariff line data. These data are processed data where commodity and country nomenclature is kept at its (standard but) most detailed level. A breakdown of Tariff line records transferred via WS to the international agencies is as follows:

Organization	**Number of downloaded Tariff records**
WTO	1,914,334
FAO	3,978
OECD	336
UN	55,403,686
UNCTAD	61,459,881
World Bank	1,104,660,531

Future Work

10. SDMX 2.0 had been released (see http://www.sdmx.org) and it is expected not to have another major revision soon. Because UN Comtrade SDMX is still on version 1.0, it needs to be upgraded to be compliant with SDMX 2.0

11. Even though UN Comtrade WS has been used on a regular basis by World Bank, OECD and ECLAC, the Comtrade Tools could be made more user-friendly and some bugs need to be fixed. It has, therefore, been informally decided that Comtrade Tools will be upgraded (to version 2.0) as a cooperative effort between UNSD and the World Bank. This upgrade could lead to increased use of this tool by other organizations. Task Force members who are interested could help in defining additional functionality for Comtrade Tools 2.0.

Annex 2

The SDMX Output Format


```
-<CrossSectionalData>
  -<Header>
     <ID>UN312927728</ID>
     <Test>true</Test>
     <Truncated>false</Truncated>
     <Prepared>2007-03-19T11:39:39</Prepared>
    -<Sender id="UN">
       <Name xml:lang="en">United Nations</Name>
     </Sender>
     <KeyFamilyRef>UN_COMTRADE_H1</KeyFamilyRef>
     <DataSetID>01</DataSetID>
     <DataSetAction>Update</DataSetAction>
     <Extracted>2007-03-19T11:39:39</Extracted>
   </Header>
  -<uncs:DataSet>
    -<uncs:Group RPT="36" time="2002" CL="H1" UNIT_MULT="1" DECIMALS="1" CURRENCY="USD"
        FREQ="A" TIME_FORMAT="P1Y" REPORTED_CLASSIFICATION="H2" FLOWS_IN_DATASET="MX">
     -<uncs:Section TF="1" REPORTED_CURRENCY="AUD" CONVERSION_FACTOR="0.544675"
         VALUATION="FOB" TRADE_SYSTEM="General" PARTNER="Origin">
        <uncs:Obs CC-H1="TOTAL" CC-ID="6473" PRT="0" netweight="0" qty="0" QU="1"
           value="69240511327" EST="0" HT="1"/>
      </uncs:Section>
     -<uncs:Section TF="2" REPORTED_CURRENCY="AUD" CONVERSION_FACTOR="0.544511"
         VALUATION="FOB" TRADE_SYSTEM="General" PARTNER="Last Known Destination">
        <uncs:Obs CC-H1="TOTAL" CC-ID="6473" PRT="0" netweight="0" qty="0" QU="1"
           value="65007973177" EST="0" HT="1"/>
      </uncs:Section>
     </uncs:Group>
   </uncs:DataSet>
 </CrossSectionalData>
```

Annex 3

Element Based XML Output Format


```
-<Comtrade>
  -<r>
      <pfCode>H1</pfCode>
      <yr>2002</yr>
      <rgCode>1</rgCode>
      <rtCode>36</rtCode>
      <ptCode>0</ptCode>
      <cmdCode>TOTAL</cmdCode>
      <cmdID>6473</cmdID>
      <qtCode>1</qtCode>
      <TradeQuantity>0</TradeQuantity>
      <NetWeight>0</NetWeight>
      <TradeValue>69240511327</TradeValue>
      <estCode>0</estCode>
      <htCode>1</htCode>
    </r>
  -<r>
      <pfCode>H1</pfCode>
      <yr>2002</yr>
      <rgCode>2</rgCode>
      <rtCode>36</rtCode>
      <ptCode>0</ptCode>
      <cmdCode>TOTAL</cmdCode>
      <cmdID>6473</cmdID>
      <qtCode>1</qtCode>
      <TradeQuantity>0</TradeQuantity>
      <NetWeight>0</NetWeight>
      <TradeValue>65007973177</TradeValue>
      <estCode>0</estCode>
      <htCode>1</htCode>
    </r>
  </Comtrade>
```