Overview of GTAP 7 Data Base and the Data Goal

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Outline

• Overview of Changes in Regional Databases
• International Trade
• Protection
• Energy
• Other Changes
• Summary: changes in GTAP v7 Data Base
• Data Goal
Overview of Changes in Regional Databases

- Reference year: 2004
- New Regional Classification
- 113 regions, 57 commodities
- 21 New and 34 Updated regions
- Major additions and improvements in Latin America, Africa, Europe and South-East Asia.
- More details on a separate presentation by Terrie Walmsley
International Trade

• 2004 Bilateral Merchandise Trade Data contributed by Mark Gehlhar and bilateral services trade data by IMF

• Improvements in the OECD bilateral services trade data, contributed by Nico van Leeuwen and Arjan Lejour, CPB, Netherlands
International Trade (Contd…)  

More on services trade data:  
– In GTAP 6 DB, it was constructed by rebalancing IMF bilateral trade matrix, using RAS and bilateral trade flows in goods (See chapter 15 in GTAP 6 DB documentation by Dimaranan, 2006)  
– OECD bilateral services data (2007) includes 2004 and data for 7 individual sectors under other commercial services this has been utilized and further processed by CPB to contribute a GTAP-consistent services trade dataset.  
– In GTAP 7 DB, this has been done for EU15, 27 other OECD countries and 2 non-OECD countries with their partner countries
Protection

- 2004 Tariff data contributed by David Laborde, based on CEPII’s MacMAPHS6 data
- MFA Export Tax Equivalent estimates for 2003 and 2004: contributed by Joseph Francois and Julia Wörz
Protection (Contd…) 

• Agricultural Domestic Support: 
  • New type of data by Hsin Huang (OECD) for non-EU OECD countries: includes data on activity-specific, group-specific and activity-generic payments 
  • For EU25: Given the invariance of most of these payments to the crops, we equalize the rates of support across all crop sectors, after totaling all the cropland subsidies. 
  • Non-OECD Economies that have domestic support data: Bulgaria, China, Romania, Russia, South Africa, Brazil and Ukraine: Treatment of this data is similar to version 6.
Energy

• Energy volumes and prices data updated to 2004: Robert McDougall

• Energy volumes are based on the “extended energy balances” published by the International Energy Agency (IEA) in 2006
  – Some changes are specific to few countries and industries, other changes are due to new IEA classifications (See McDougall and Aguiar, 2007 GTAP Research Memorandum 10)
Other Changes

• Agriculture Value-Added Shares have been updated using recent literature: Shinsuke Uchida
• Macro Data has been updated to 2004: Dominique van der Mensbrugghe
• CDE Parameters were calibrated from expenditure elasticities based on AIDADS model estimation using GTAP data
Summary: Changes in GTAP v7 DB

<table>
<thead>
<tr>
<th>Reference year</th>
<th>GTAP v6 Data Base</th>
<th>GTAP v7 Data Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Sectors</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>Sector Names</td>
<td>For forestry: FOR renamed as FRS; coal: COL renamed as COA</td>
<td>No Change since Version 6</td>
</tr>
<tr>
<td>No. of Regions</td>
<td>87</td>
<td>113</td>
</tr>
<tr>
<td>Region Names</td>
<td>No Change since Version 5</td>
<td>Romania: ROM renamed as ROU</td>
</tr>
<tr>
<td>New Primary Regions</td>
<td>16 since Version 5</td>
<td>15</td>
</tr>
<tr>
<td>Updated I-O Tables</td>
<td>16 since Version 5</td>
<td>36</td>
</tr>
<tr>
<td>Regional Classification</td>
<td>New classification</td>
<td>Composite regions changed: 2 eliminated and 4 created.</td>
</tr>
<tr>
<td>Trade Data</td>
<td>2001, COMTRADE through ERS, USDA</td>
<td>2004, COMTRADE through ERS, USDA</td>
</tr>
<tr>
<td>Domestic Support</td>
<td>2001 OECD PSE Data; some non-OECD members also included.</td>
<td>2004, New OECD dataset and different methodology.</td>
</tr>
<tr>
<td>Export Subsidies</td>
<td>2001</td>
<td>2004 or the latest available</td>
</tr>
<tr>
<td>MFA Export Tax Equivalent</td>
<td>2001, Francois and Spinanger</td>
<td>2004, Francois and Wörz</td>
</tr>
<tr>
<td>Agricultural Tariffs</td>
<td>2001, MacMAP and AMAD</td>
<td>2004, MacMAP</td>
</tr>
<tr>
<td>Merchandise Tariffs</td>
<td>2001, MacMAP</td>
<td>2004, MacMAP</td>
</tr>
<tr>
<td>Agricultural Factor Split</td>
<td>Updated using new literature</td>
<td>Updated using new literature</td>
</tr>
<tr>
<td>Income &amp; Factor Taxes</td>
<td>2001 data from IMF</td>
<td>No change since Version 6</td>
</tr>
<tr>
<td>Demand Elasticities</td>
<td>Revised</td>
<td>Updated using 2004 GTAP Data</td>
</tr>
<tr>
<td>Trade Elasticities</td>
<td>Revised</td>
<td>No change since Version 6</td>
</tr>
<tr>
<td>Population Data</td>
<td>2001 data from World Bank</td>
<td>2004, using World Bank Data</td>
</tr>
</tbody>
</table>
Data Goal

- The Data Goal: To Improve the quality of our data products.
  - Contributed IO Data (more on this by TW)
  - Comparison Programs
  - Addition and Improvement of Other Datasets
  - Versions and Database Documentation
Data Goal (Contd…)  

**Comparison Programs**  

Some Strategies to ensure better Data Quality:  

- Compares and summarizes the differences between two versions of a database. This has been useful to identify and rectify some defects so far.  
- Compares the results from a liberalization simulation with those of a previous version. This will be implemented soon.
Data Goal (Contd…)  

Additions/Improvements of Tax Data  
- Commodity taxes need close examination. We might use international data-sources to supplement the existing sources.

Additions/Improvements of Energy Data  
- There are some in-built weaknesses in the way we build our energy data. E.g. Treatment of energy commodity prices. This requires specialized knowledge of energy-related issues!
Addition of Domestic Margins Data

• Domestic margins are crucial because they are important in themselves and also because they are the foundation for other things in the database.

• But it means a major change to the database construction procedures and in the contributed I-O tables.

• This is a multi-stage process and will be implemented over several versions. Two tasks are involved:
  – Alter I-O table procedures to include domestic margins
  – Implement into the construction programs
Data Goal (Contd…)  

Additions/Improvements of Skill-Splits  
- The Center has been working with Rod Tyers to improve the skill splits required for the labor data in GTAP Data Base.

Version Control and Documentation  
- Multiple versions: More on this by TW.  
- Documentation book for the Data Base has been shortened and the full version is being made available publicly.
Data Goal (Contd…)

TASTE Database

- Mark Horridge and David Laborde have developed TASTE (Tariff Analytical and Simulation Tool for Economists) for disaggregated tariff-shocks and to split up trade and tariff data in the GTAP sectors.
- This is based on CEPII’s MACMAPHS6 dataset.
- TASTE is available for free download from GTAP website.
- This has trade flows consistent with GTAP v7 Database.
Thank you!

Comments and Suggestions about GTAP v7 Data Base and our data goal are most welcome!