



GTAP Data Base: Sources, Construction, and Distribution

Betina V. Dimaranan

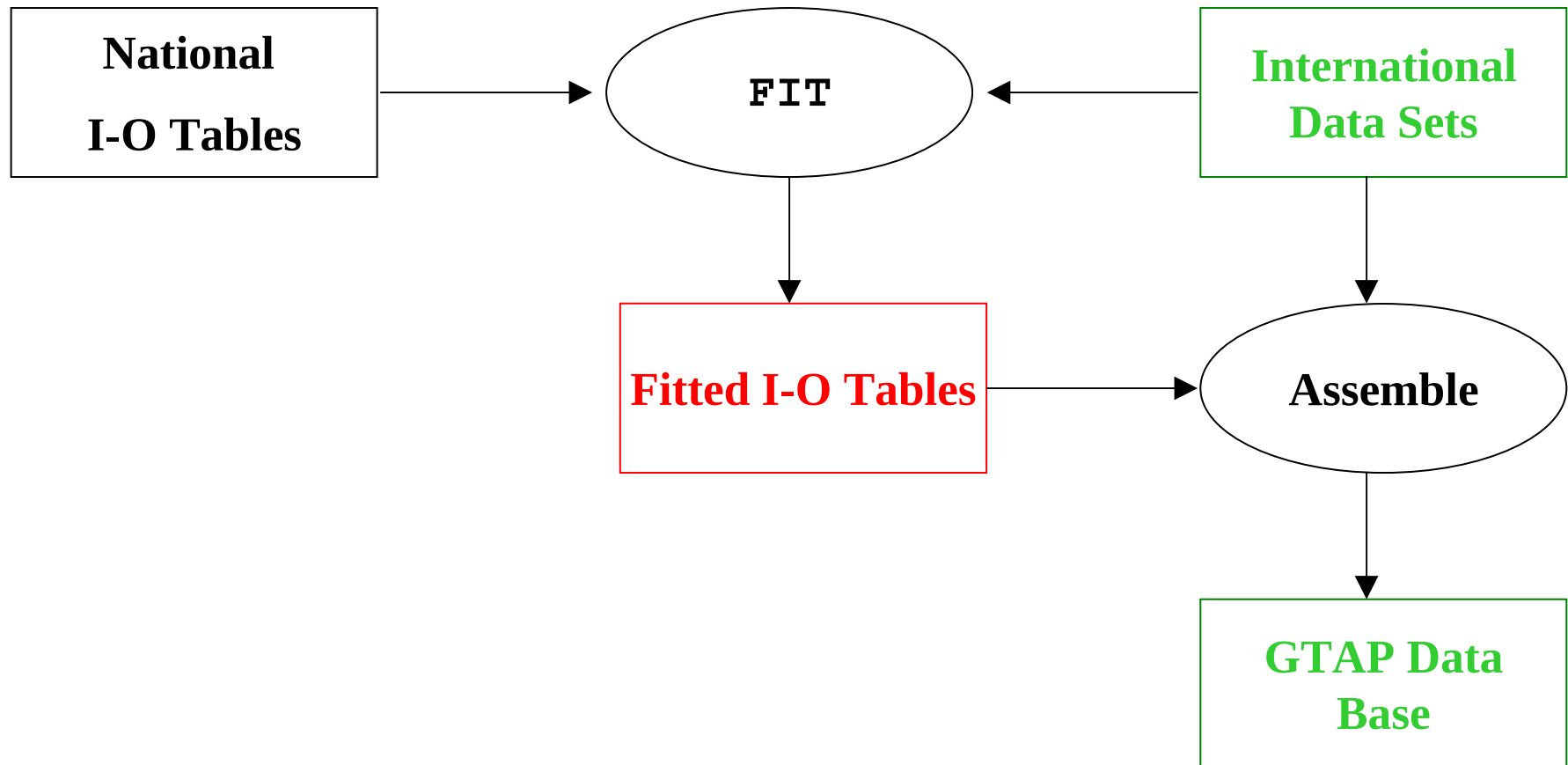
Presentation Outline

- **What is the GTAP Data Base?**
- **What's New in GTAP 6?**
- **Construction Procedure**
- **Construction Practices**
- **Distribution & Pricing**

GTAP Data Base Releases

Data Release	Release Year	No. of Regions	No. of Sectors	Reference Year
GTAP 1	1993	15	37	1990
GTAP 2	1994	24	37	1992
GTAP 3	1996	30	37	1992
GTAP 4	1998	45	50	1995
GTAP 5	2001	66	57	1997
GTAP 6	2005	87	57	2001

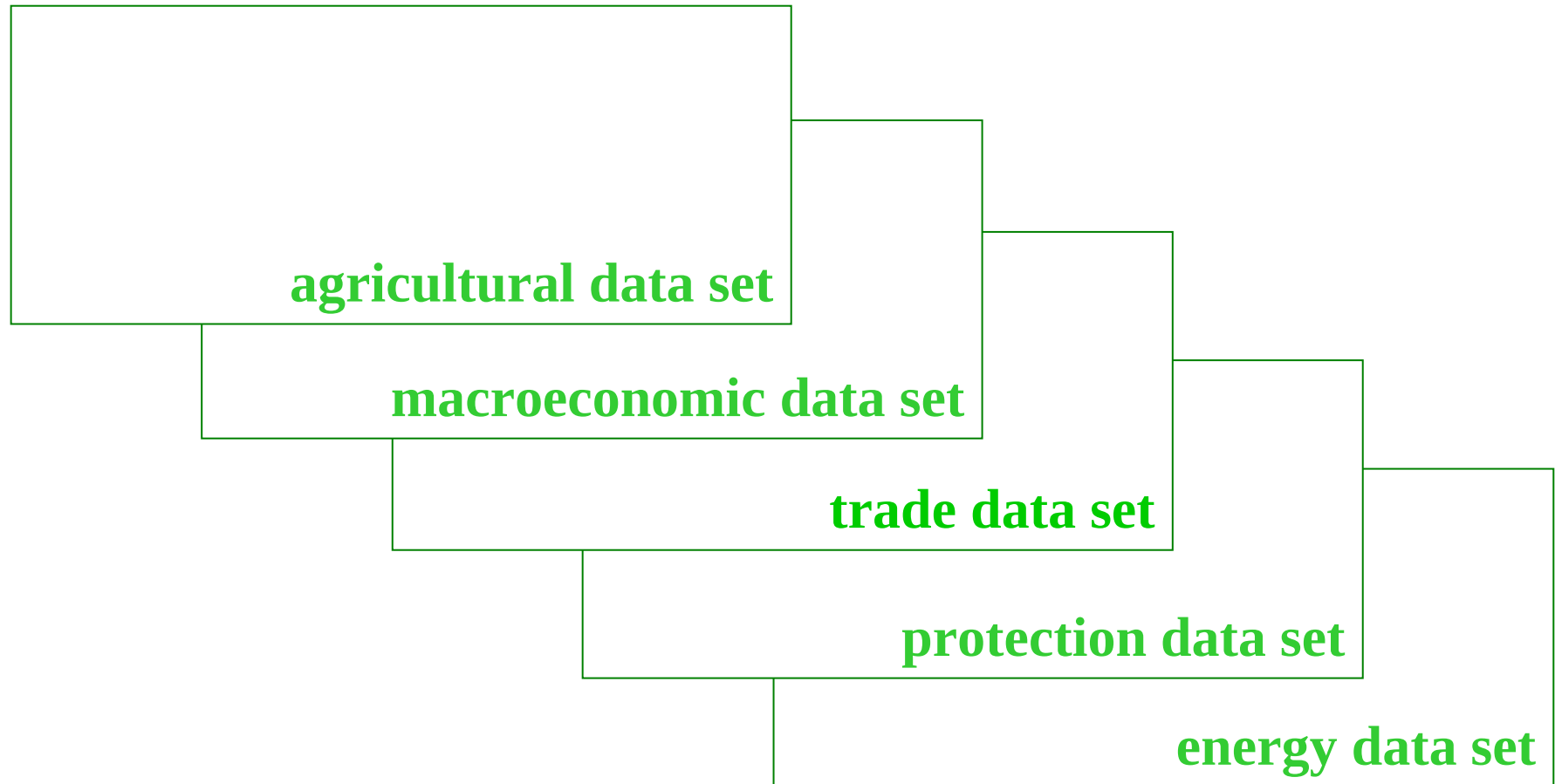
What is the GTAP Data Base?



National I-O Table

	Production	Final Demand
Domestic Inputs		
Imported Inputs		
Primary Factors		

International Data Sets



GTAP Data Principles

- **Public availability**
- **Regular upgrades: currently on GTAP 6.0**
- **Broad participation: GTAP pools data development efforts**
- **Comparative Advantage: get best person in world on any given task**
- **Documentation**
- **Replicability**

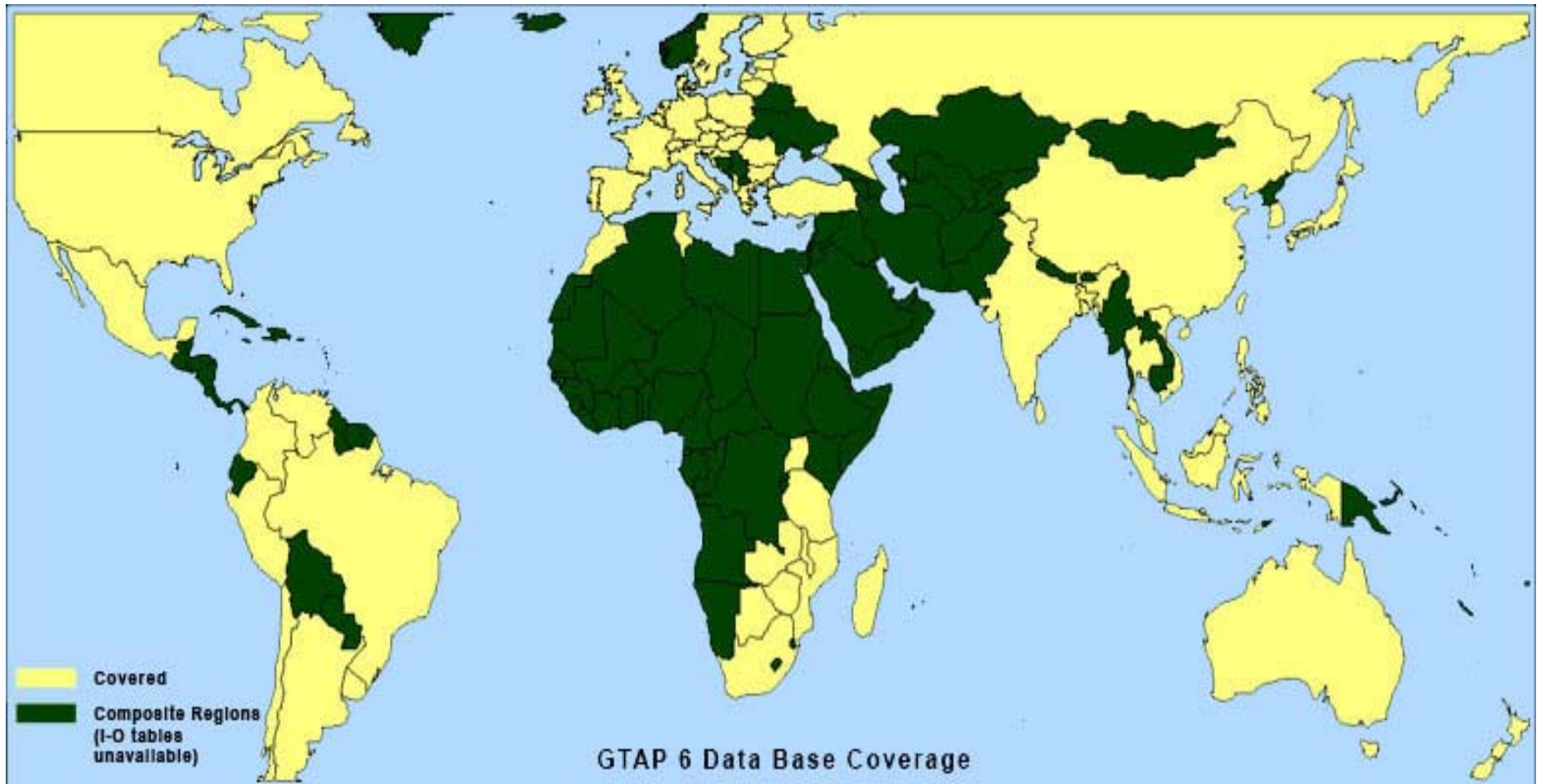
GTAP 6: What's New?

- **Reference Year: 2001**
- **87 regions / 57 sectors**
 - 16 new regions
 - 15 updated I-O tables
 - more composite regions
- **Updated international datasets (2001)**
- **New sources/type/coverage of some protection data**
- **Revised trade and demand parameters**
- **Income and factor taxes**
- **Population**
- **Various revised procedures**

New and Updated Regions

- 16 new regions
(ALB, BGR, HRV, CYP, CZE, MLT, ROM, SVK, SVN, EST, LVA, LTU, RUS, TUN, ZAF, MDG)
- 15 updated regions
(AUS, NZL, KOR, TWN, IDN, MYS, PHL, THA, SGP, IND, ARG, BRA, COL, NLD, TUR)
- 18 composite regions (from 10) – no more XRW
(XOC, XEA, XSA, XNA, XAP, XSM, XCA, XFA, XCB, XEF, XER, XSU, XME, XNF, XSC, XSD, XSS)
- (69 primary regions)

GTAP 6 Data Coverage



More on I-O Tables

- **Representative I-O Table**
 - GTAP 5: sum of I-O tables of 12 countries
 - GTAP 6: sum of I-O tables of 39 countries
- **I-O Disaggregation – 18 of 69 I-O tables**
 - 3 agricultural
 - 4 non-agricultural
 - 11 both
- **Agricultural Production Targeting**
 - OECD I-O tables

International Datasets

- **Macroeconomic Data**
 - 2001 GDP, C, I, G from World Bank and other sources
 - In GTAP 6: adjusted C, I, G to be consistent with GDP data
- **Agricultural I-O Data**
 - Based on FAO production, trade and producer prices data
 - Used in disaggregation of agriculture for some I-O tables
 - In GTAP 6: data extended to all countries
- **Energy Data**
 - 2001 IEA energy volumes data
 - 1995 or earlier price data index-adjusted to 2001
 - various data sources

International Data: Trade

- **Bilateral merchandise trade data**
 - COMTRADE and GTIS data from countries
 - reconciled and contributed by Mark Gehlhar (ERS/USDA)
- **Non-margin services trade**
 - IMF Balance of Trade Statistics (Robert M^cDougall)
- **International transport margins**
 - COMTRADE; IMF BTS;
 - modal shares: US Census Bureau Foreign Trade Statistics, Mark Gehlhar
- **Re-exports**
 - Hong Kong trade statistics, Yao & Feenstra
 - Netherlands trade statistics (CPB)

International Data: Protection

- **Agricultural Domestic Support**
 - Based on 2001 OECD PSE/CSE Data Base (Huang/OECD)
 - Disaggregated EU data (Jensen/FOI)
 - Calculate total domestic support as share of prodn value
 - Calculate shares in total support, classify according to: output subsidies, input subsidies, land-based payments, and capital-based payments
 - In GTAP 6: include data for NMEs
- **Agricultural Export Subsidies**
 - 2001 data from country notifications to the WTO (Elbehri/ERS)
- **ATC ETEs for textiles and clothing**
 - 2001 estimates (Francois and Spinanger)

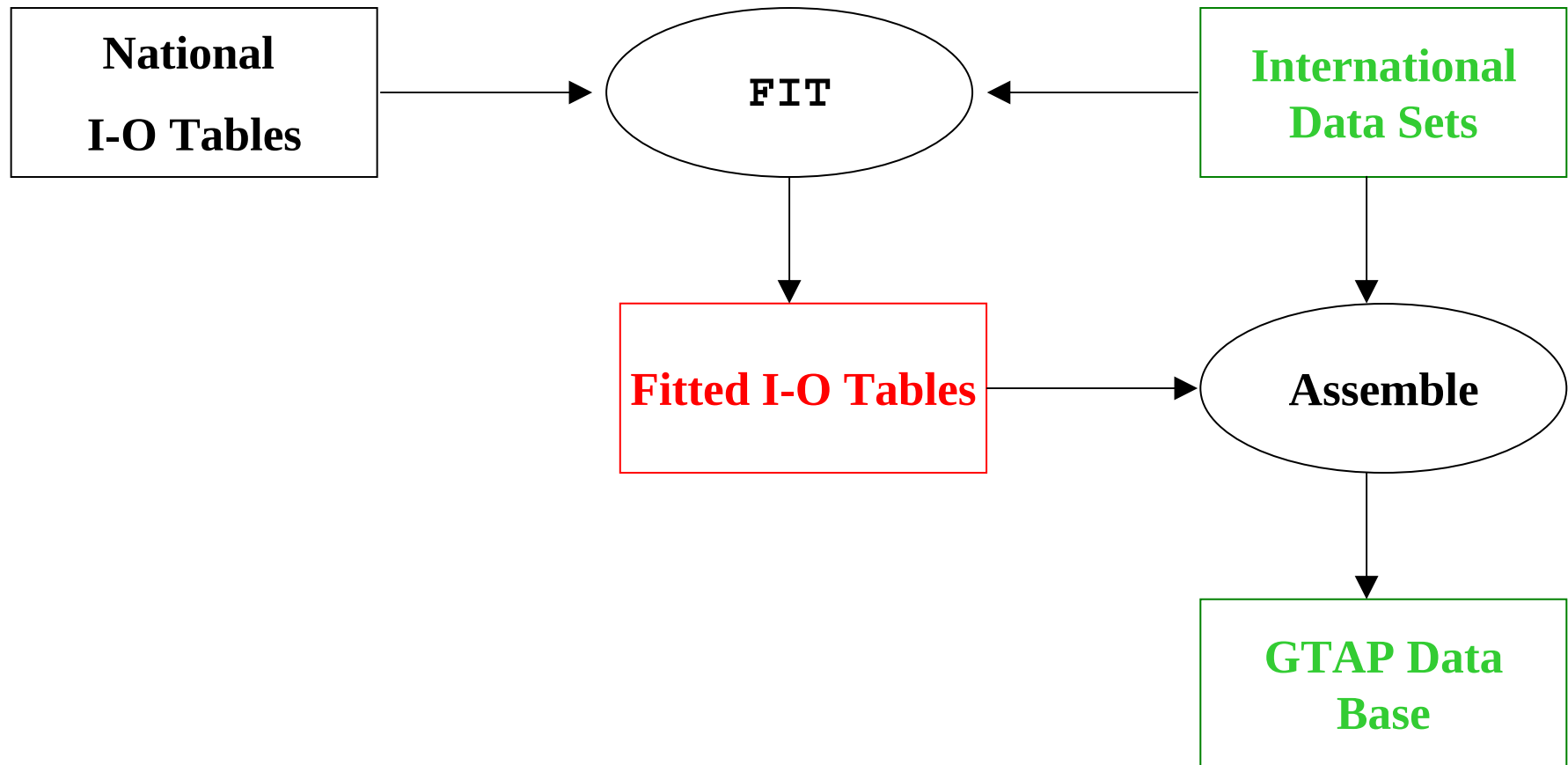
International Data: Tariffs

- **Source**
 - GTAP 5: agricultural tariffs from AMAD, non-agricultural tariffs from UNCTAD-WB WITS
 - GTAP 6: Market Access Maps (MAcMap) (CEPII/ITC) – based on UNCTAD, WTO, AMAD and country data
- **Bilateral tariff variation**
 - GTAP 5 agric.: no bilateral variation
 - GTAP 5 non-agric.: bilateral detail, MFN rates
 - GTAP 6: bilateral detail; preferential rates
- **Specific rates**
 - GTAP 5: ignored
 - GTAP 6: converted to AVEs

Presentation Outline

- **GTAP 6: What's New**
- **Construction Procedure**
- **Construction Practices**
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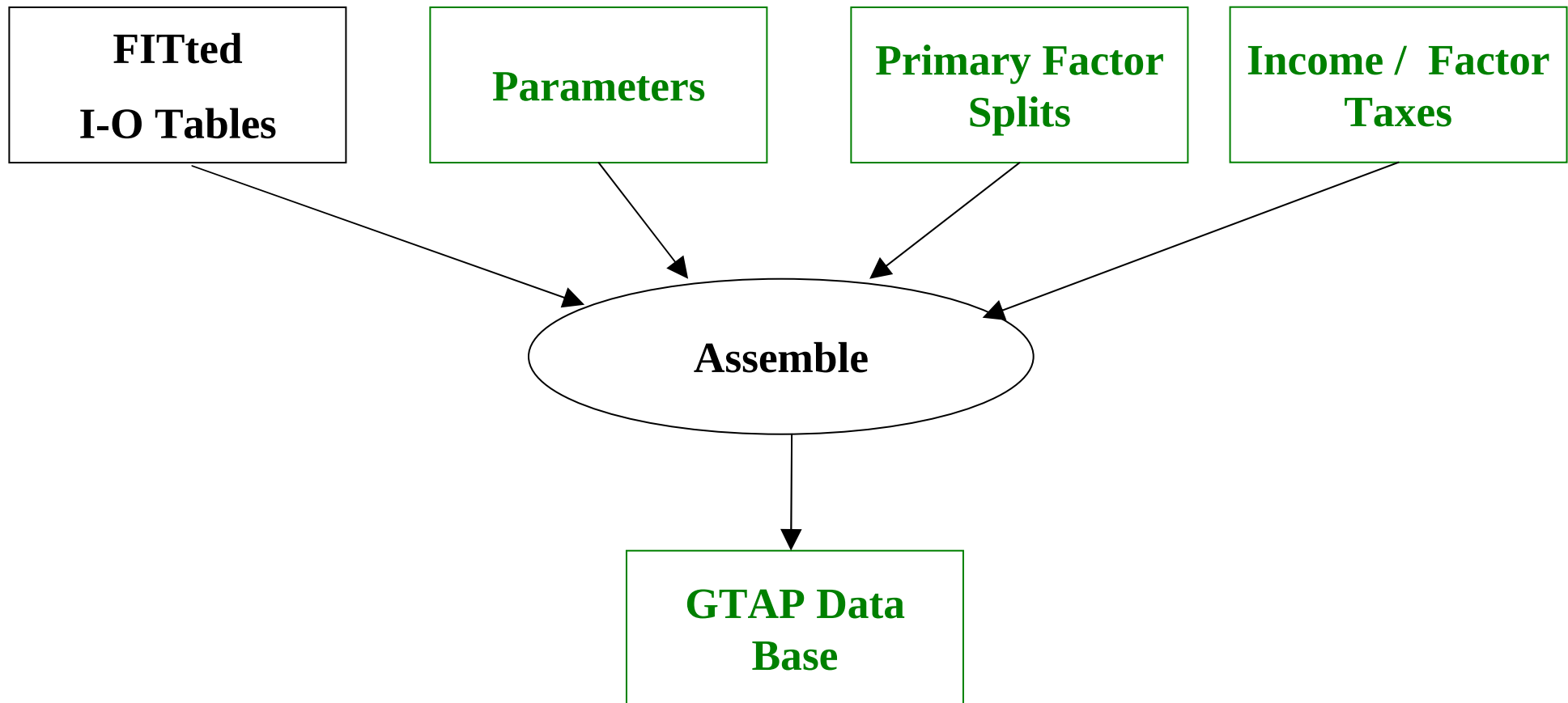
Construction Process



Updating I-O Tables

- **Use FIT procedure (James and McDougall, IC 1993)**
- **Update domestic data bases to base year using macroeconomic data**
- **Reconcile domestic data bases with other international data sets**

Data Assembly



Data Assembly

- **Fitted I-O Tables – updated & reconciled**
- **Parameters**
 - **Trade Elasticities**
 - GTAP 6: revised econometric estimates (Hertel et al)
 - **Demand parameters (CDE)**
 - GTAP 6: revised econometric estimates (Reimer & Hertel)
 - **Other Parameters**
- **Primary Factor Splits**
- **Income and Factor Taxes – new in GTAP 6**
 - **Data from IMF Government Financial Statistics**

Construction Standards

- **Regional Flexibility**
 - standard countries (226)
- **Complete Automation**
 - Modular Structure
 - Build Management – using MAKE
- **Replicability**
 - Version Control
 - Common Tool Set

Data Releases

- **Pre-releases (GTAP 6pre1, 6pre2, etc)**
 - Start of data cycle, new reference year
 - Several pre-releases as we assemble international data
 - Useful for quality improvements
 - Available to GTAP consortium /data contributors
- **Public release (GTAP 6)**
 - When all updated international data are assembled
 - Available to data purchasers in CD-ROMs
- **Interim releases (GTAP 6.1, 6.2, etc)**
 - Add new/updated I-O tables on same reference year
 - Small bug fixes
 - Available to GTAP consortium /data contributors

GTAP Data Package

- **GTAPAgg**
 - GUI aggregation package (Horridge)
 - Constrained to 10 x 10; license relaxes constraint
- **FlexAgg**
 - Command line aggregation package
 - Amenable to customization by advanced users
- **RunGTAP**
 - GUI software for solving the GTAP model (Horridge)
 - Includes sample applications
- **Data Documentation**
 - Forthcoming – Dimaranan and McDougall, editors
 - Some chapters now available on GTAP website

Current Pricing*

- **New Subscription**

- **Government and Private Sector License** **\$ 4,000**
- **Multiple Academic User License** **\$ 1,500**
- **Single Academic User License** **\$ 800**

- **Upgrade from Version 5 Data Base**

- **Government and Private Sector License** **\$ 2,500**
- **Multiple Academic User License** **\$ 800**
- **Single Academic User License** **\$ 400**

* **Prices are for full data package; half price for constrained data package; half price for subscribers from low-income economies; under review**

Conditions on Data Use

- Purchaser signs a license agreement specifying license type, licensee, users
- GTAP Data Base, GTAPAgg, RunGTAP programs may be used by the licensed individual(s) or within licensed organization
- May distribute *small* aggregations / RunGTAP applications
- Should not be made available over a network
- Should cite reference to GTAP Data Base

Resources for Using the Data Base

- **Data Documentation – available online**
- **Annual Short Course in Global Trade Analysis**
- **Hands-on documentation**
- **Published applications using GTAP data**
- **GTAP-L**
- **User support**

GTAP Data Team: Center

Betina Dimaranan

- day-to-day management; overall construction; protection data; macroeconomic data; coordinate/edit doco

Rob McDougall

- special modules – I-O disaggregation; energy data; trade data; taxes data; I-O fitting;

Terrie Walmsley

- I-O tables - coordination and checking

Data Base Team: Center

Judy Conner

- data base sales; GTAPAgg licences; doco formatting

Ginger McColley

- Data-related web support

Tom Hertel

Strategic Issues / Special Projects

Graduate students

- sometimes asked to assist in various tasks

GTAP Data Team

- **Domestic Data Base Contributors**
 - Numerous country nationals
 - Special projects e.g. EU, CEECs, Southern Africa
 - Mark Horridge -
- **International Dataset Contributors**
 - Trade data - Mark Gehlhar (ERS/USDA)
 - Macroeconomic data – World Bank
 - Protection data – various
 - Energy -
 - Agricultural I-O – Everett Peterson
 - Parameters - various

Next Release

- **GTAP 6.1 interim release (October 2005)**
 - Same 2001 base year
 - New regions – Pakistan, *Bolivia*, *Ecuador*, Iran, *Nigeria*, *Mauritius*
 - Updated I-O table – Chile
- **GTAP 6.2 interim release (~ March 2006)**
 - Any available new/updated I-O tables

GTAP 7 Preview

- 2004 reference year
- more regional disaggregation (Africa, Latin America)
- international datasets for 2004
- incorporation of energy prices data
- bilateral content in services trade
- primary factor splits
- First pre-release – mid 2006
- Public release – mid 2007

Other Data-Related Projects

- **Margins – E. Peterson**
- **CO2 and non-CO2 data – H. L. Lee**
- **Land-Use Data – H. L. Lee**
- **GTAP Dynamic – T. Walmsley**
- **Labor Migration – T. Walmsley**

Other Various Software

- **GTAPinGAMS - Tom Rutherford**
 - Convert data to GAMS format / includes GAMS model
- **GView - Mark Horridge**
 - View GTAP Data
- **ShadeMap - Mark Horridge**
 - Report results in a world map
- **Splitcom (proposal stage) – Mark Horridge**
 - Split GTAP commodities

Concluding Remarks

- **The GTAP Data Base**
 - continues to evolve to provide support to quantitative economic analysis
 - depends on the network of contributors of domestic data bases and international data sets