



Global Trade Analysis Project

GTAP MRIO

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2025 GTAP Advisory Board Meeting



Outline

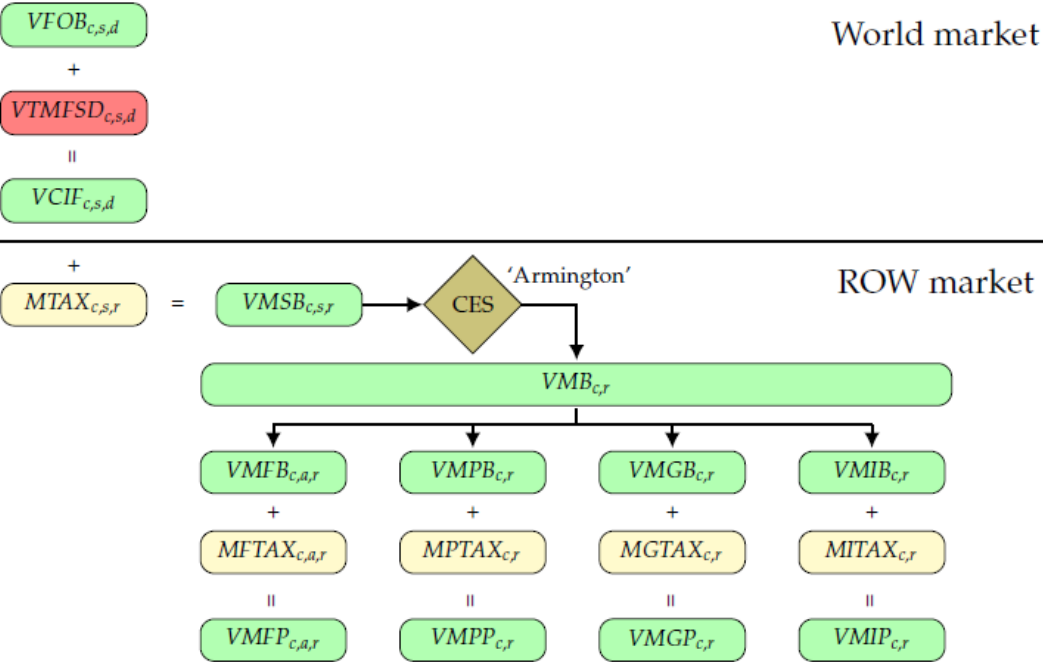
- **Standard GTAP vs GTAP-MRIO**
- **GTAP-MRIO data and model**
- **GTAP-MRIO v12 Data Base**

GTAP-MRIO Database

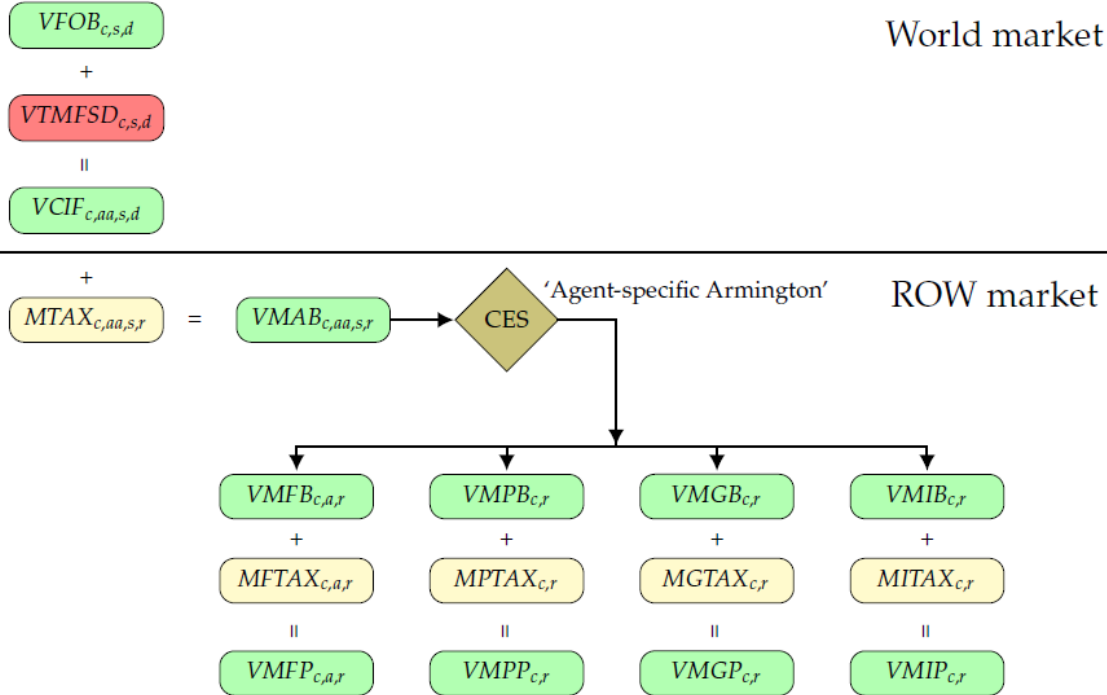
- **Extends the standard GTAP data**
 - Distinguish bilateral trade and tariff flows by end-users: firms, private household, government and investors (from COMMXREGxREG to COMMXREGxREGxAGENTS)
- **HS to BEC to SNA**
 - United Nations Statistics Division (UNSD) 6-digit HS2017 to Broad Economic Categories concordances (BEC rev5) to System of National Accounts (SNA) end-use framework
- **UN-ITC's MAcMap database**
 - Incorporate HStoBECtoSNA into MAcMap HS6 database, then aggregate trade and tariff flows to GTAP commodity level with 3 end-use categories
- **Disaggregate Trade and tariff flows**
 - Use disaggregate trade and tariff flows information from MAcMap
 - Optimization procedure to ensure initial GTAP trade and tariff flows (com by src by dst) equal MRIO flows (com by src by dst by end-use) summed over end-use
 - Further disaggregate trade and tariff flows to GTAP's com by src by dst by 68-agents

Standard GTAP vs. GTAP-MRIO

Standard GTAP

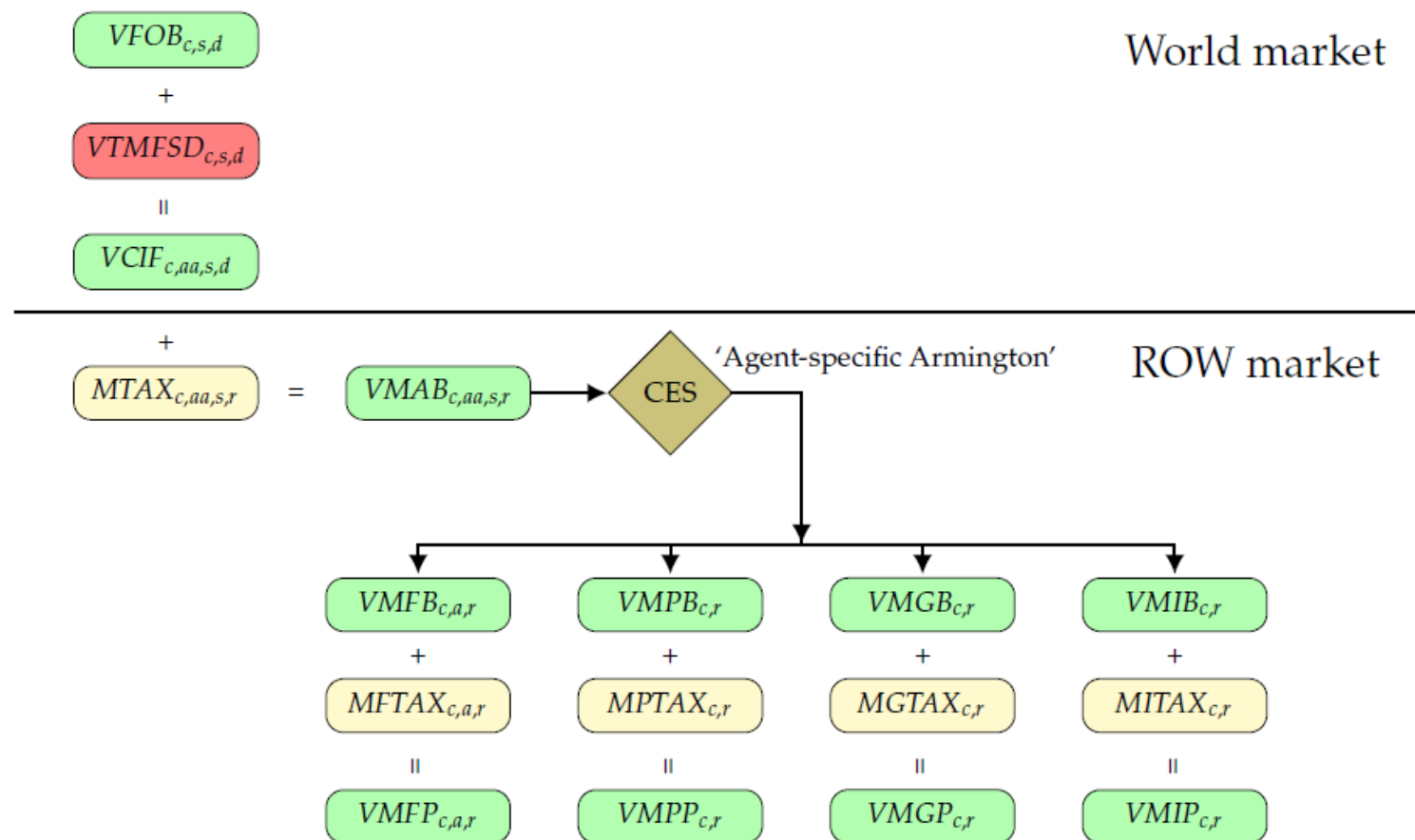


GTAP-MRIO



Where: a - activities or industries; c - commodities; s - source region; d – destination region; aa – agents; F - Firms; P - Private household; G – government; I – Investment

GTAP-MRIO Database Trade Flows



Where: a - activities or industries; c - commodities; s - source region; d – destination region; aa – agents; F - Firms; P - Private household; G – government; I – Investment

GTAP-MRIO v11c

- **New, completely revamped workflow for ease of readability and processing**
 - Use MAcMAP database directly (previous workflow involves a separate step to extract data in TASTE then create a *.dta file in STATA)
 - Begins with tariff processing code used in GTAP Data Base
 - Less manual interventions (old code requires a number of manual changes; current code only requires defining a set of countries found in MAcMAP)
 - Uses HS2017 and BEC5 concordances
- **GTAPAgg2 Package**
 - Generates usual GTAP input data and GTAP World Input Output Table (GTAPWIOT) format
 - Released to Board in June with public release in August
- **MRIO Application**
 - GTAP-MRIO model
(https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=6182)
 - GTAPMULT.TAB file which calculates Type 1 and Type2 multipliers for each country and full MRIO levels (including TiVA indicators)

GTAP-MRIO Accessibility to Input Output Modelers [NEW]

gtapmrio.har in C:\Users\ecorong\Downloads

File Contents Edit Sets Export Import History Search Aggregation Programs Help

	Header	Type	Dimension	Coeff	Total	Negs	Min	Max	Name
1	REG	1C	10 length 12						Set REG regions
2	COMM	1C	10 length 12						Set COMM commodities
3	AGNT	1C	13 length 12						Set AGENTS agents
4	ACTS	1C	10 length 12						Set ACTS activities
5	ENDW	1C	5 length 12						Set ENDW Endowments
6	ENDL	1C	2 length 12						Set ENDWL Labor endowment(s)
7	FDEM	1C	3 length 12						Set FINDEM Final demand
8	GIOR	1C	112 length 12						Set GIOR GTAP-MRIO world input output table rows
9	GIOC	1C	131 length 12						Set GIOC GTAP-MRIO world input output table columns
10	IORW	1C	22 length 12						Set IOROWS GTAP Input Output Table rows
11	IOCL	1C	14 length 12						Set IOCOLS GTAP Input Output Table columns
12	IOT	RE	IOROWS*IOCOLS*REG	IOT	252663680	73	-156641	7549524	IO table by region
13	GRIO	RE	GIOR*GIOC	GTAPMIOT	240696140	73	-156641	7549524	GTAP MRIO data in World Input Output Table format

GTAP-MRIO v12 cycle

- **New processing routines facilitate quicker GTAP-MRIO data availability**
- **Compare UNSD's HS to BEC with OECD's new Statistical Classification of Products by Activity (CPA) version 2.2**
- **Incorporate trade shares by firms from various bilateral partners from FIGARO and OECD ICIO**
- **GTAP-MRIO will now be released at the same time as initial batch of satellite data releases**



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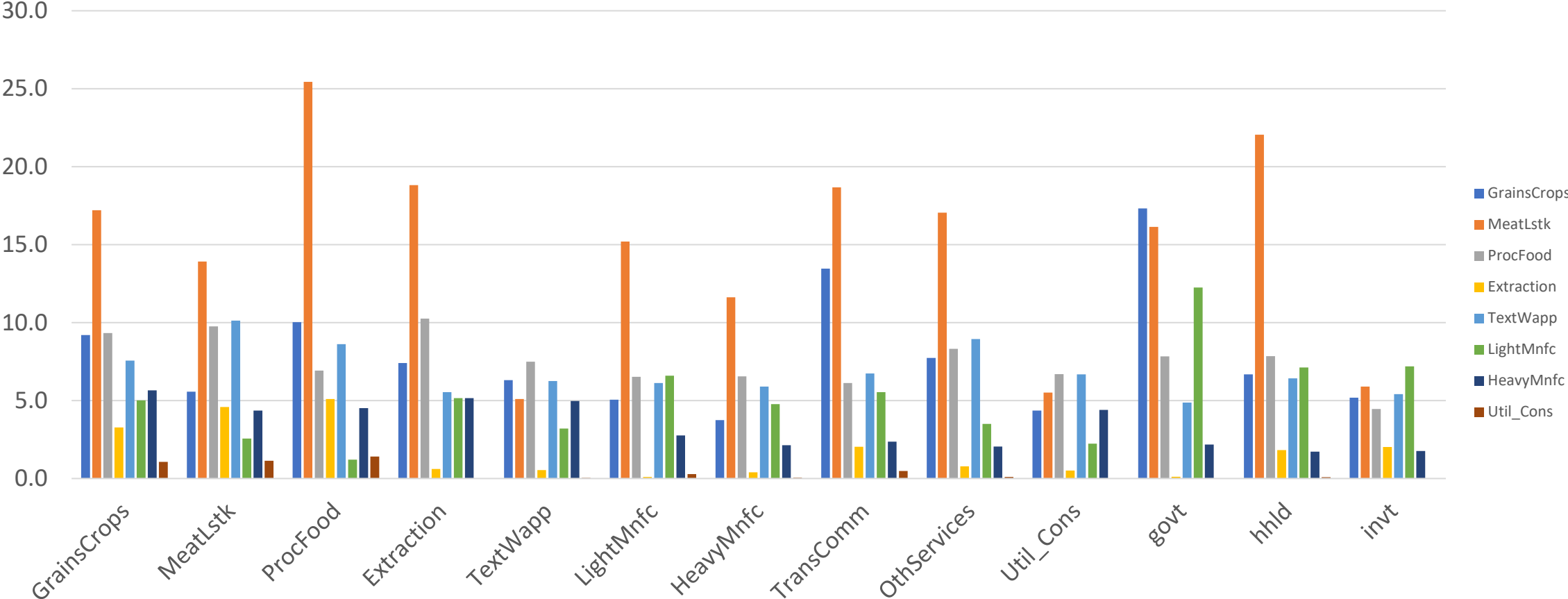
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Tariff rates (Imports by East Asia from North America)



Tariff rates (Imports by North America from East Asia)

