



GTAP Advisory Board Meeting Summary Virtual Meeting | June 15-16, 2020

Attendance

GTAP Center: Angel Aguiar, Uris Lantz Baldos, Ginger Batta, Mary Burfisher, Maksym Chepeliev, Erwin Corong, Alla Golub, Iman Haqiqi, Thomas Hertel, Roman Keeney, Robert McDougall, Holly McIntire, Dominique van der Mensbrugge

Board Representatives:

- Jayson Beckman (Economic Research Service of the United States Department of Agriculture)
- Cecilia Bellora (Centre d'Etudes Prospectives et d'Information Internationales)
- Lorenzo Giovanni Bellù (Food and Agriculture Organization of the United Nations)
- Lucian Cernat (European Commission - DG Trade)
- Jean Chateau (OECD Environment Directorate)
- Lurong Chen (Economic Research Institute for ASEAN and East Asia)
- Shenjie Chen (Office of the Chief Economist, Global Affairs Canada)
- Jeffrey Condon (McKinsey & Company, Inc.)
- Laurent Creteigny (KPMG Switzerland)
- Joseph Francois (University of Bern, World Trade Institute)
- Paolo Giordano (Inter-American Development Bank)
- Jianwu He (Development Research Center of the State Council)
- Mark Horridge (Centre of Policy Studies, Victoria University)
- Stephen Karingi (United Nations Economic Commission for Africa)
- Kenichi Kawasaki (National Graduate Institute for Policy Studies)
- Bob Koopman (World Trade Organization)
- Marijke Kuiper (Wageningen Economic Research)
- David Laborde (International Food Policy Research Institute)
- Shantong Li (Development Research Center of the State Council)
- Maryla Maliszewska (The World Bank)
- Mondher Mimouni (International Trade Centre)
- Lars Nilsson (European Commission - DG Trade)
- Sergey Paltsev (MIT Joint Program on the Science and Policy of Global Change)
- Janine Pelikan (Thünen Institute of Market Analysis)
- Ralf Peters (United Nations Conference on Trade and Development)
- William Powers (US International Trade Commission)
- Chris Rasmussen (US Department of Commerce)
- Marika Santoro (International Monetary Fund)
- Andrew Schreiber (US Environmental Protection Agency)
- Susumu Suzuki (Economic and Social Research Institute, Cabinet Office, Government of Japan)
- Frank van Tongeren (Organisation for Economic Co-operation and Development)
- Matthias Weitzel (European Commission - Joint Research Centre)

Guests:

- Eddy Bekkers (World Trade Organization)
- Walter Cervi (Wageningen Economic Research)
- Amanda Countryman (Colorado State University)
- Andreas Maurer (World Trade Organization)
- Alessandro Nicita (United Nations Conference on Trade and Development)

A. Summary of Goals and Accomplishments in the Past Year

[2020 Report and Issues Document](#)

B. Summary of Agency Activities in the Past Year

https://www.gtap.agecon.purdue.edu/events/Board_Meetings/2020/index.aspx#agencyreports

C. Overview of Broad Goals for the Center

1. **Data Goal:** To Improve the quality of data products through:
 - a. Improving the quality of contributed I-O data
 - b. Addition and improvement of other datasets
 - c. Monitoring of data quality using comparison programs
 - d. Version control and documentation
2. **Research Goal:** To actively participate in quantitative economic analysis of pressing global concern in the areas of Trade and Development and Global Environmental Issues
3. **Model Goal:** To promote further development of GTAP-based models
4. **Education Goal:** To expand and improve education for global economic analysis worldwide
5. **Staffing Goal:** To actively seek and encourage talented staff and graduate students
6. **Collaboration Goal:** To actively seek opportunities for fostering collaboration with institutions around the world
7. **Communication Goal:** To facilitate communication amongst members of the network as well as between the Center and key stakeholders

D. Overview of Priorities and Responsibilities, by Goal Type

1. **Data Goal:** To Improve the quality of data products

Tasks	Responsibility
Improvement of Datasets used in GTAP Data Base (core)	Aguiar
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> • Maintain pre-release schedule of GTAP 11 	Aguiar
<ul style="list-style-type: none"> • Procurement: Continue to work with IO table contributors and development of score card to better understand where are the largest changes taking place during the construction of GTAP. 	Aguiar
<ul style="list-style-type: none"> • Review of labor disaggregation 	Corong
<ul style="list-style-type: none"> • Continue improvements of the agricultural production targeting (APT) based on the best available data 	Chepeliev
<ul style="list-style-type: none"> • Procurement: Energy data 	Chepeliev
<ul style="list-style-type: none"> • Agricultural Production Targeting (APT) integration into FIT 	McDougall
<ul style="list-style-type: none"> • Procurement: Domestic support and export subsidies 	Aguiar
<ul style="list-style-type: none"> • Update factor shares 	Hertel, Saeed
<i>Secondary priorities</i>	
<ul style="list-style-type: none"> • Procurement: New bilateral services trade 	McDougall
<ul style="list-style-type: none"> • Mainstream AEZ into GTAP 	Corong
<ul style="list-style-type: none"> • Further explore the cross-entropy approach to the GTAP data balancing 	Chepeliev
<i>Tertiary Priorities</i>	
<ul style="list-style-type: none"> • Data/program separation 	McDougall
<ul style="list-style-type: none"> • Dwellings Module 	Aguiar

<ul style="list-style-type: none"> • Procurement: Income and factor taxes 	McDougall
<ul style="list-style-type: none"> • Document on contributing Supply-Use Tables to GTAP 	Corong

2. Research Goal: To actively participate in quantitative economic analysis of pressing global issues

Tasks	Responsibility
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> • Investigate role of export supply and import demand elasticities in shaping uncertainty in CGE policy outcomes 	Aguiar, Chepeliev, Golub, Hertel, van der Mensbrugge

3. Model Goal: To promote further development of GTAP-based models

Tasks	Responsibility
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> • GTAP-HS-TRQ - Implementation of TRQs in the GEMPACK uses complementarity condition. If applied to bilateral nodes without TRQ, complementarity unnecessarily increases computational time. Mark Horridge developed a new approach to sets definition, “ntuples”, and Dominique van der Mensbrugge incorporated this new approach into the standard GTAP model with TRQs. The new implementation limits complementarity to only bilateral trade nodes subject to TRQs. This is particularly useful for large models. The new approach to defining sets will be incorporated into GTAP-HS-TRQ model in the coming year. 	Golub

4. Education Goal: To expand and improve global economic analysis education worldwide

Tasks	Responsibility
Education Plan	Various
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> • Online courses migrated to Brightspace learning management system 	Batta
<ul style="list-style-type: none"> • Dynamic Short Course – add online component 	Aguiar, Batta
<ul style="list-style-type: none"> • GTAP Short Course 	Keeney, Batta
<ul style="list-style-type: none"> • GTAP 101 Courses 	Countryman, Batta
<ul style="list-style-type: none"> • GTAP PTA Course 	Walmsley, Strutt, Batta
<ul style="list-style-type: none"> • GTAP-HET Course 	Akgul, Batta
<ul style="list-style-type: none"> • Begin implementing short-term action items from strategic planning meeting 	Various
<ul style="list-style-type: none"> • GTAP Virtual Seminar Series 	Batta
<i>Secondary Priorities</i>	
<ul style="list-style-type: none"> • Continue investigating additional special topic online mini-courses 	van der Mensbrugge, Hertel

5. Staffing Goal: To actively seek and encourage talented staff and graduate students

Tasks	Responsibility
<i>Primary Priorities</i>	

<ul style="list-style-type: none"> Investigate hiring a GTAP-U course content oversight position 	van der Mensbrugghe, Batta, McIntire
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6. Collaboration Goal: Actively seek opportunities for fostering collaboration with institutions around the world.

Tasks	Responsibility
GTAP Conferences and Board Meetings	Batta, van der Mensbrugghe
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> 2021 Conference Proposal (Fort Collins, Colorado, USA) 	Batta, van der Mensbrugghe, Countryman
<ul style="list-style-type: none"> 2022 Conference Proposal (Kigali, Rwanda) 	Batta, van der Mensbrugghe, UNECA
<ul style="list-style-type: none"> 2023 Conference Proposal (Europe - tbd) 	Batta, van der Mensbrugghe
<ul style="list-style-type: none"> Future online conference offerings 	Batta, van der Mensbrugghe, Hertel

7. Communication Goal: To facilitate communication amongst members of the network as well as between the Center and key stakeholders.

Tasks	Responsibility
Improve user support system	
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> GTAP-L, gtapsupport, contactgtap: continue offering support 	Batta, Chepeliev
<ul style="list-style-type: none"> Website redesign/redevelopment (GTAP website, GTAP-HUB) 	Douglas, van der Mensbrugghe
Strategic Communication	
<i>Primary Priorities</i>	
<ul style="list-style-type: none"> GTAP Social Media – continue to increase presence 	Batta

E. Summary of Discussions

1. Welcome and Overview

a. [Overview and Issues](#)

Tom Hertel and Dominique van der Mensbrugghe (both GTAP) opened the meeting welcoming everyone, covering meeting protocol, introducing new board representatives, reviewing the meeting agenda, the Center’s goals, agency reports, and network growth updates.

Bill Powers (USITC) was named the Alan A. Powell Award recipient for 2020 for outstanding service of a representative currently serving on the GTAP Advisory Board.

b. [GTAP 10/11 Data Base](#)

Angel Aguiar (GTAP) gave an overview of the releases since last board meeting. There have been 4 main releases in total, 3 related to GTAP 10 and corrections, the latest being GTAP 10A. We have also produced the first pre-release of GTAP 11.

We have also released the following GTAP 10 extensions to the board: Power, GTAP-E, GDYN, GMig, Non-CO2, TS Trade, Multi-Region Input Output (MRIO), TASTE, and Air pollution.

For GTAP 11, we have expanded our country list from 244 to 251. This follows the latest ISO classification and adds to it Kosovo and Sark, from the UN listing.

We have also started to improve our macroeconomic data collection and documentation using R, and R Markdown. This adds transparency to our preprocessing and will plan to continue our use of with OECD's Agricultural domestic support and other inputs.

In pre-release 1, only a few inputs have been updated to 2017, these are Macro, trade and tariff data. We have also updated a number of IO tables. The remaining data inputs correspond to 2014 information. These remaining inputs will be updated in the next 2 pre-releases of GTAP 11.

Joe Francois (Member at large) raised the issue of new balance of payments 6, which change towards ownership would cause changes beyond services trade, into merchandise trade. We have left the incorporation of trade in services for the third pre-release because we plan to switch our input to use the latest available bilateral trade in services from WTO/OECD.

Bob Koopman (WTO) enquired about the possibility of including domestic support into manufactures, the way we already do in Agriculture. Dominique van der Mensbrugge argued that in principle the IO table should account for these measures.

Lars Nilsson (EC-DG Trade) enquired about the multiplicity of releases and the possibility of updating government procurement version and incorporating trade in services by mode of supply. Angel Aguiar indicated that for government procurement one of the inputs was the MRIO version, which only recently has become available. The second input is a measure of home bias. Original data included two different home bias only to illustrate the effects of policies reducing the bias. These was not based on actual data. Trade in services by mode of supply but it was pushed for discussion during the 'parking lot'.

2. GTAP Data Base: Core Component Updates

a. [IO Tables](#)

Angel Aguiar reviewed the new and updated IO tables introduced in GTAP 11p1: Serbia (new), Canada (2014), Chile (2016), China (2017), Iran (2012), Kazakhstan (2017), Mexico (2013), and Pakistan (2017). We expect to receive the following: Australia, Brazil (2010, 2015), Colombia, Costa Rica, India, Mali, Mongolia, New Zealand, Niger, Paraguay, Philippines, Saudi Arabia, South Africa, Sudan, Ukraine, United States (2007, 2012), Uzbekistan, West Bank.

We also plan to include some tables that we have available due to our research projects like: Afghanistan, D.R. of Congo, Iraq, Lebanon, and Syria. Yet, this should not be a deterrent for country-experts to work on tables. Those tables listed on the chopping block for removal in GTAP 11 are: Mauritius, Uruguay, Panama, Botswana, and Zimbabwe.

Angel presented the allocation of IO tables across different GTAP reference years and the review process of newly contributed data.

There were no board member comments to this session.

b. [FAO Data](#)

Maksym Chepeliev (GTAP) provided an overview of the ongoing efforts on the incorporation of nutritional information to the GTAP Data Base.

While assessment of the impacts of different policies on the nutritional outcomes is a desired feature for many modelling applications and is also important for the plausible long-run dynamic simulations, neither standard GTAP Data Base nor available satellites provide an explicit representation of nutritional accounts. With this motivation in mind, a methodological approach

that provides Food and Agricultural Organization (FAO)-consistent accounting of the nutritional information (calories, fats, proteins and carbohydrates) for the GTAP 10 Data Base was developed and implemented. Designed framework allows for the explicit tracking and redistribution of primary commodities between food and other categories (feed, seed, losses, other uses) enabling application in the dynamic simulations. A special release of the GTAP nutritional database is planned to be developed by the end of summer.

Some selected challenges of nutritional accounts incorporation were discussed during the presentation. These include: a) Reporting of the food balance sheets data in primary equivalents (e.g. wheat and products), so that the composition of each category by commodities is not explicitly available; b) High level of aggregation of the GTAP agricultural and food sectors relative to the FAO commodities; c) Inconsistencies in trade data between GTAP and FAO; d) Inconsistencies between GTAP input-output table structures and FAO-implied shares (feed, seed, loss, processing, etc.); e) Differences between FAO and GTAP agricultural output data.

c. **Land Use**

Uris Baldos and Erwin Corong (both GTAP) presented that they are working on releasing the GTAP-AEZ 10A Data Base in the weeks following the conference. Erwin is also mainstreaming the land cover and land use build in the standard GTAP Data Base build for version 11 cycle to allow quick creation of the LULC database. Improvements on modelling land use in the static GTAPv7-AEZ and recursive dynamic GTAP-RD-AEZ will also start by the end of 2020.

d. **Future Releases**

Angel Aguiar talked about the upcoming releases: Land Use and Cover (LULC), Domestic Margins, Energy subsidies, FAO based APT, Nutritional Database and SSP.

Angel also stated the planned additions to the next 2 pre-releases. These will be released before the upcoming board meetings.

We have started to work at the country level and aggregate to the GTAP regions. We believe this will facilitate the development of data extensions since the GTAP Data Base is a key input on all satellites. We plan to introduce FAO production to complement current OECD/EU in our targeting (APT).

OECD's agricultural domestic collection will be improved using R Markdown. Among the FIT improvements we note the inclusion of the APT pre-process. As discussed in the first database session, we plan to switch to trade in services from WTO-OECD as our new data input.

We plan to review our labor and land disaggregation using new labor data by education attainment by the World Bank and mainstreaming our own land use and land cover extension.

It remains our goal the re-engineering of current data work flow separating data from programs and improving our IO disaggregation module. We are also working to improve our savings computation by including remittances, foreign payments and aid.

There were no board member comments to this session.

3. Education and Outreach

a. **Education Plan**

Roman Keeney (GTAP) presented an overview of the Center's previous twelve months of education activities. Courses delivered included the GTAP Short Course on campus at Purdue (July 2019) as well as the online offerings of GTAP-HET (Fall 2019), GTAP PTA (Spring 2020), and GTAP 101 (Fall 2019 & Spring 2020). Data on applications (153), accepted participants (90), and completions (76) were consistent with previous twelve month averages. Additionally,

the board was briefed on the one-day GTAP staff retreat (November 2019) focused on the implementation of GTAP-U as an umbrella framework for managing the education mission and migration of all training to a Learning Management System (LMS).

Two topics were raised for discussion following the presentation. First, the number of non-admitted applications (63/153) was raised by the board as an issue for clarification. Preparedness, funding prospects, and capacity were all identified as causes. Ginger Batta advised the board of procedures for steering applicants that are declined admission for preparedness to GTAP training that would make their future applications successful. Roman Keeney suggested the potential of a future free/on-demand GTAP training module using publicly available text and data that might help professionals better articulate their case in funding requests.

Tom Hertel put the question of curriculum and certification to the board as both a means of quality control monitoring and external signaling to potential employers. Board response to investing in a detailed certification process was mixed. Most responders indicated that the certifications would hold little value as a signal of GTAP skill since they are always going to be looking for demonstrated performance outside of a training environment.

b. [Journal of Global Economic Analysis](#)

Tom Hertel provided the Board with an update on the JGEA, which the board supports indirectly through its core support of the Center. He discussed the forthcoming special issue on dynamic CGE baselines, guest-edited by Rob Dellink, Dominique van der Mensbrugghe and Bert Saveyn. This comprises one overview paper by the editors and five papers covering different aspects of baseline construction and analysis. This promises to be of great interest to the GTAP community and Joe Francois suggested that we have a series of seminars based on this issue, but also, going forward, other JGEA issues. Ginger Batta is preparing a proposal for a quarterly Virtual GTAP Seminar Series which would encompass these seminars as well as others of interest to the community.

c. [CGTA PhD Students](#)

Board members have expressed interest in keeping tabs on the PhD students working with the Center, so Tom Hertel presented on what each of the Center's current students are working on and when they would be entering the job market. Board members can access more information about students working with the Center at: www.gtap.agecon.purdue.edu/about/center.aspx (scroll to "Center Graduate Students" list and click "Full Details")

4. New Data and Modeling Developments

a. [Sub-regional Modeling](#)

Dominique van der Mensbrugghe (GTAP) updated the board on the Wisconsin National Data Consortium (WiNDC)—based at University of Wisconsin, Madison, spearheaded by Tom Rutherford and supported by a core of 4 U.S. agencies. The main objective of the Consortium is to provide a states-based (all 50 U.S. states plus the District of Columbia) SAM for the United States. The data 'build' procedure relies exclusively on publicly available data. The latest version of the core database covers 73 sectors and is built for each year between 1996 and 2016. Specialized versions can be created that incorporate additional agricultural or energy data. The Center has developed a GEMPACK-based model that hones closely to the structure and terminology of the GTAP model. The presentation included summary results from a simple policy application using the model—a 25 percent increase in U.S. import tariffs on processed metals—highlighting the differential impacts across states on incomes and labor.

b. [Grid-level modeling MAGNET](#)

Marijke Kuiper (Wageningen Economic Research) presented the integrated land use/economic modeling currently underway at WUR. This includes modeling land use change by linking MAGNET and IMAGE as well as an exploratory effort aimed at downscaling results from MAGNET to the grid cell level.

5. Trade Protection Data

a. Tariff Reduction Schedules

Mondher Mimouni (ITC) presented a global database of preferential tariff reduction schedules covering 450 economic partnership agreements (EPAs) that are currently in force. A collaborative effort between GRIPS and the UN-ITC, the tariff reduction schedules span the years 2014 to 2050 and are based on legal texts of each EPA. The database is available at both detailed HS6 and GTAP levels, and can be downloaded at www.macmap.org/en/download. Mondher ended his presentation by informing the board that updates are now underway to incorporate EPAs that have been signed since 2019.

b. Estimates of AVEs of NTMs

Alessandro Nicita (UNCTAD) presented work done at UNCTAD, by himself and Ksenia Koloskova, constructing a GTAP-compatible database on ad valorem equivalents (AVEs) of non-tariff measures (NTMs), with financial support from the National Graduate Institute for Policy Studies (GRIPS). Data for NTMs are sourced from the UNCTAD TRAINS database, tariffs from the ITC, trade from Comtrade, and GDP from UNCTADStat, for HS6 products, 49 importing countries, and 116 exporting countries, the European Union counting as one country. Three measures of NTMs are constructed, for border measures, technical measures, and non-technical measures; the first measure overlaps the latter two.

Traded quantities are regressed against tariffs, an NTM measure, and gravity-type controls. The regression provides estimates for the quantity effects of NTMs, and for elasticities of trade volumes with respect to tariffs; from these are calculated ad valorem equivalents of NTMs; those are then aggregated from HS6 to GTAP products.

Frank van Tongeren (OECD) mentioned that the OECD has made GTAP-level estimates of AVEs available to users of the METRO model.

Frank van Tongeren was concerned about lack of robustness in bilateral estimates (in the OECD's experience); Ken Kawasaki (GRIPS), how gaps in geographical coverage should be filled; Tom Hertel, with the implications of differences in trade elasticities between the econometric model and the simulation model; Frank van Tongeren again, with guidelines for the development of scenarios for NTM liberalization, given that many regulations and their compliance costs could not realistically be eliminated; Stephen Karingi (UNECA), with extensions of coverage better to support analysis of African FTAs.

6. Modeling the COVID-19 Pandemic

a. Modeling the COVID-19 Pandemic

Eddy Bekkers (WTO) and Maryla Maliszewska (World Bank) presented their experiences in modeling the COVID-19 pandemic. They started with a review of how previous pandemics (e.g., Avian Flu and Ebola) were modeled within a CGE framework, then highlighted key aspects and challenges associated with modeling the Covid-19 pandemic such as: identifying transmission channels, magnitude of shocks, and post pandemic economic (e.g., V-shaped, U-shaped, L-shaped) recovery assumptions. They ended their presentation by discussing future aspects to focus on and potential ways to improve the current CGE modeling of the COVID-19 pandemic.

7. Center Management

a. Center Finances

Dominique van der Mensbrugge (GTAP) reported a \$441K surplus for 2020 and projected a \$141K surplus for 2021 reminding the board that the high surplus in the early years of a data base release cycle covers the latter years where sales revenue decreases.

8. GTAP Network

a. [GTAP Research Fellows](#)

The Board approved the following individuals to serve as GTAP Research Fellows for 2020-2023.

- Jonas Luckmann
- Simon Mevel
- Roberto Roson

The Board also inducted Kenichi Kawasaki (GRIPS) into the GTAP Hall of Fame for outstanding leadership in the development of the GTAP community across the Asia-Pacific Rim, as well as his contributions to cutting edge analysis of global trade policy issues.

b. GTAP Conferences

Presentations and subsequent discussions on the current and future GTAP Conferences were held with the following outcomes.

- [2020 Conference Update](#) – Ginger Batta (GTAP) updated the Board on the 23rd Annual Conference on Global Economic Analysis, focusing on the shift to an online format, registration growth, and demographics.
- [2021 Conference Update](#) – Amanda Countryman (Colorado State University) presented an update on holding the 2021 conference in Fort Collins, Colorado in June 2021. The conference program committee will be established soon and will meet online and via email to begin discussions on potential sources of funding, plenary speakers, and organized session topics.
- [2022 Conference Proposal and Vote](#) – Ginger Batta (GTAP) presented the proposal to hold the 2022 conference in Kigali, Rwanda in June 2022. The board unanimously approved this proposal.
- [2023 Conference](#) – Preliminary discussions were held regarding potential locations and partnerships for 2023, targeting Europe. Ginger Batta (GTAP) will begin working on a proposal for circulation to the board in late 2020.

9. [Priorities for Forthcoming Year](#)

- Data:** (1) Finalize Version 10 extensions; (2) Deliver pre-release 2 of V11; (3) Improve database documentation including conversion to RMarkdown; (4) improvements: new input-output tables, integrate biofuels, review employment data, improve balance of payments accounts, incorporate new services data; (5) Setup a nutrition working group; (6) continue assessing feasibility of new ‘build’ procedure.
- Model:** (1) consolidate code for V7 of the model—GTAP-E/Power/RD and GTAP-HS (with TRQs and CET for output allocation); (2) pursue potential new directions: (a) labor, for example extending E. Peterson’s paper; (b) services using the recently posted TiSMoS data on services trade by mode; (c) Assess feasibility of embedding sub-regional models in GTAP, for example WiNDC-based data.
- Research:** (1) Global to Local Analysis (GLASS), which links models with different objectives and geometries to look at pressing sustainability issues; (2) NSF-China project with a focus on linking a gridded version of the SIMPLE-China model, a bottom-up energy model and Envisage; (3) estimation of new Armington and CDE parameters; (4) evolution of global value chains, trade and gender; (5) implementation of the Paris Agreement, and potential co-benefits; and (6) impacts of the Covid-19 pandemic.
- Network:** (1) Pursue web-upgrade; (2) Develop more modularized core units for the portfolio of courses; hire a course coordinator; assess possibilities of additional 300-level courses for example

GTAP-E, GTAP-HS, GTAP-M(argins), TASTE; (3) Develop a webinar series around JGEA issues; and (4) develop proposals for future venues for board meetings and conferences.

10. Parking Lot

- a. The parking lot discussion was devoted to services trade and particularly to services trade by mode of supply (MoS). The discussion was led by Robert Koopman (WTO), assisted by special guest Andreas Maurer (WTO). Andreas Maurer provided an overview of the recently posted Trade-in-Services by Mode of Supply (TiSMoS) database. “The objective of TISMOS is to provide for the first time an overall picture of international trade in services by the four modes of supply as defined in the GATS. TISMOS covers 200 individual economies for the period 2005-2017. The European Union (28) aggregate is available from 2010 to 2017. The information is broken down by service sector and refers to the economies' trade with the rest of the world.”¹ Several issues arose from the discussion: (1) it will not be easy to integrate the data into the standard GTAP database though the Center will proceed by steps, first make the data compatible with GTAP with minimal processing and provide it as a database extension. Eventually the data will need to be gap-filled, rendered consistent on a global level and made bilateral; (2) there are unresolved issues regarding BPM5 and BPM6; (3) the ultimate challenge will be to incorporate the data into a model tuned to the different modes of supply. The Center will take the operational lead for moving this forward, but will rely on external specialists to push the research agenda.

¹ https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm