



U.S. International Trade Commission Report

1. GTAP Model and Data Base Usage

- The U.S. International Trade Commission continues to rely on the GTAP model and database for economy-wide analysis of trade and trade policy. This past year, we incorporated the GTAP model in official Commission reports, staff research papers, and contracts with outside organizations, as noted below. The GTAP model remains an important component of our trade modeling portfolio, which also includes gravity models; industry-specific partial-equilibrium models; and other general-equilibrium models, such as those based on Caliendo, Dvorkin, and Parro (2019) or Dix-Carneiro et al. (2022).

2. Publications and working papers

- Gurevich, Tamara, David Riker, and Marinos Tsigas (2021): "Trade Policy and Gender: Examination of Gender and Sector-Specific Outcomes." Economics Working Paper 2021-07-A.
- Yuan, Wen Jin, Katherine Antonio, and Arona Butcher (2022). "Incorporating Industry-Specific Wages and Unemployment into the GTAP Model: U.S.-EU Trade Liberalization Scenarios." Presented during the 25th Annual Conference on Global Economic Analysis. Purdue University, West Lafayette, IN: Global Trade Analysis Project (GTAP).

3. Presentations

- Yuan, Wen Jin, Katherine Antonio, and Arona Butcher (2022). "Incorporating Industry-Specific Wages and Unemployment into the GTAP Model: U.S.-EU Trade Liberalization Scenarios." Presented during the 25th Annual Conference on Global Economic Analysis. Purdue University, West Lafayette, IN: Global Trade Analysis Project (GTAP).

4. Reports

- USITC (2021). *Economic Impact of Trade Agreements Implemented Under Trade Authorities Procedures, 2021 Report*. Investigation No. TPA-105-008. The Commission used the GTAP model and database (pre-release 11p1A) to conduct an economy-wide analysis on the effects of all U.S. FTAs signed by Congress under its trade authorities procedures. The Commission changed the GTAP baseline data for total U.S. trade in goods and services to make them comparable to statistics published by the U.S. Bureau of Economic Analysis. The Commission also disaggregated the labor endowment and sectoral employment in the United States into 20 labor types,

reflecting differences in gender, levels of educational attainment, and types of occupations. The GTAP model and database allowed the Commission to determine the aggregate economic effects of U.S. FTAs as well as the heterogeneous impact of FTAs on U.S. workers.

5. Ongoing contracting projects

- **Conducting Historical Simulations, Validation Exercises and Baseline Projections using the GTAP-Recursive Dynamic (RD) Model Framework.** This contract with the Centre of Policy Studies, Victoria University is expected to be completed by December 31, 2022. This contract further develops the GTAP-RD model to incorporate demand shift parameters by region, and to ensure that historical baseline projections with structural shift parameters incorporated accurately reflect changes in the real world. The contract estimates global commodity demand shifts for services sectors to capture the historical trend of consumption demand shifting from goods to services, and also estimates commodity demand shifts by region through performing historical simulations from 2004 to 2014. This is a research effort jointly funded by the USITC and the World Trade Organization (WTO). The Purdue GTAP center is also providing in-kind support to this project.
- **Developing a CGE model with Labor Market Features to Analyze Changes in Sectoral Wages, Employment and Unemployment.** This contract with Marinos Tsigas is expected to be completed by March 31, 2023. The contract develops a CGE model that introduces labor market frictions to match job seekers with vacancies. The contract disaggregates the GTAP dataset for U.S. labor by skill level, education, and gender. It also calibrates job search frictions and unemployment to broad segments of the U.S. economy in the GTAP model, so that the model can simulate changes in unemployment in the U.S. labor force as a result of changes in trade policies. The contract also includes development of a recursive dynamic version of the framework to investigate the model's dynamic properties with a focus on short-run dynamics, sectoral wages, employment, and unemployment.