

The Global Trade Analysis Project (GTAP) Data Base: Current Developments and Challenges

Topic: IO Data: Development of input-output data and their analysis

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This paper provides an overview of the Global Trade Analysis Project (GTAP) Data Base and its latest release, version 10. The GTAP Data Base has been used in thousands of economy-wide analyses over the past twenty-five years. While initially focused on supporting trade policy analysis, the addition of satellite accounts pertaining to greenhouse gas emissions, land use, water and air pollution has resulted in a surge of applications relating to climate change as well as other environmental issues. The Data Base comprises an exhaustive set of accounts measuring the value of annual flows of goods and services with regional and sectoral detail for the entire world economy. These flows include bilateral trade, transport, and protection matrices that link individual country/regional economic datasets. Version 10 disaggregates 141 regions, 65 sectors, 8 factors of production, for 4 base years (2004, 2007, 2011 and 2014). The 121 countries in the Data Base account for 98% of world GDP and 92% of world population.

Several satellite extensions complement the GTAP Data Base. There is an energy extension (GTAP-E) that tracks CO₂ emissions, the international migration and remittances data extension (G-Mig), the land use and cover extension (GTAP-AEZ), the foreign income payment and receipt data extension (GDYN), the disaggregation of the electricity sector (GTAP-POWER), the non-CO₂ emissions dataset, the GTAP air pollution database and the GTAP Data Base with incorporated fossil-fuel consumption subsidies. There is also ongoing work to release the GTAP Multi Region Input Output data (GTAP-MRIO), which allows for agent-level sourcing of imports by region of origin with differentiated preferences and tariffs.

Development of the core GTAP Data Base, as well as numerous satellite extensions poses challenges from both data and methodological perspectives. In this paper, we discuss our treatment of the selected data and methodological issues, as well as look into future challenges.