GTAP Board Report 2018-2019
Organisation for Economic Cooperation and Research (OECD)

The GTAP databases are important inputs into two OECD CGE models: The ENV-linkages model in the Environment directorate and METRO model of the Trade and Agriculture Directorate. The GTAP database version 9.2 as well as GTAP's carbon emissions database is one of a few database inputs into the OECD dynamic environmental-economic CGE model, ENV-Linkages. The main GTAP database version 9.2 as well as the associated migration satellite database (GMIG) are used as the basis of the METRO model database, the in-house CGE trade model.

Both models are used to produce OECD reports and papers. The ENV-linkages model is used to project materials use to 2060. While the METRO model has been used to assess the impact on trade of various policy measures resulting in several, working papers, policy briefs.

OECD Environment Directorate

Database and baseline projections

1. The GTAP database version 9.2 has been used to conduct an analysis projecting the use of materials to 2060, published in the OECD's "**Global material resources Outlook to 2060: economic drivers and environmental consequences**"
   – Using the OECD ENV-Linkages model with to project an aggregation of 55 sectors and 25 regions to 2060.
   – 9 new sectors relevant to recycling as well as primary and secondary metal processing (for Iron and steel, Aluminium, Copper and Other nonferrous metals) were splitfrom GTAP based on EXIOBASE information.
   – 60 primary materials were linked to economic activities of the model sectors, using the material extraction database from UNEP and GTAP bilateral trade flows. Furthermore, the report relies on a revised set of long-term scenarios for 230 countries, updating the previous SSP scenarios.
   – Environmental damages were linked to these material use
   – 10 alternative baselines were projected.

Details here:

https://www.oecd.org/environment/global-material-resources-outlook-to-2060-9789264307452-en.htm

related database:

http://www.icio.oecd.org:3838/GMRO2018/#_ga=2.48172003.598891695.1560255782-959614958.1558087260

Projects and reports

1. Three reports are actually in preparation about modelling Material Tax reforms and Resources efficient and Circular Economy policies in the baseline of the "**Global material resources Outlook to 2060"**.
2. Participation of ENV Team members to various papers of the forthcoming special issue of JGEA dedicated to baseline in CGE models, edited by Dominique, Rob and Bert.
3. Contribution of the IEA World Energy Outlook "Special Report on Producer Economies". Using ENV-Linkages.
   https://webstore.iea.org/weo-2018-special-report-outlook-for-producer-economies
4. Publication of an OECD report on "Development Strategy 2030: Slovenia"
   http://www.oecd.org/economy/slovenia-economic-snapshot/
5. Introduce in OECD ENV-Linkage Model Emissions (Air Pollution and GHGs) form IIASA GAINS Model.

OECD Trade and Agriculture Directorate

Database

1. The METRO model database is derived from the GTAP V9.2L11 database extended with trade flows disaggregates by use categories derived from the OECD and UN sources. Bilateral remittance information from the GTAP satellite data GMIG2 is also included.

2. UN Comtrade is used to calculate split shares for the 42 agriculture and manufacturing sectors. The OECD Inter-Country Input-Output Model provides use information for the 15 services sectors. The OECD ICIO data, however, is available only for a subset set of countries. Accordingly, the 140 regions in GTAP are aggregated to match the 61 regions available in the OECD data. The METRO model database, therefore, distinguishes 61 regions, 57 sectors and 4 use-categories.

METRO Model related publications and papers

3. Arriola, C., Carrico, C., Haugh, D., Pain, N., Rusticelli, E., Smith, D., van Tongeren, F., Westmore, B. (2018), "The Potential Macroeconomic and Sectoral Consequences of Brexit on Ireland", OECD Economics Department Working Papers, No. 1508, OECD Publishing, Paris, http://dx.doi.org/10.1787/e930967b-en.

4. Flaig, D., Haugh, D., Kowalski, P., Rouzet, D., van Tongeren, F. (2018): "Miracle or Mirage: What role can trade policies play in tackling global trade imbalances?", OECD Economics Department Working Papers, No. 1473, OECD Publishing, Paris, https://www.oecd-ilibrary.org/economics/miracle-or-mirage_1a55f809-en.

5. Greenville, J. (2018), "ASEAN Rice Market Integration: Findings from a Feasibility Study", OECD Food, Agriculture and Fisheries Papers, OECD Publishing, Paris.

6. Greenville, J., , K. Kawasaki, D. Flaig, and C. Carrico (2019), "Influencing GVCs through Agro-Food Policy and Reform", OECD Food, Agriculture and Fisheries Papers, No. 125, OECD Publishing, Paris, https://doi.org/10.1787/9ce888e0-en.

7. *Kierzenkowski,R., Gal, P., Fulop, G., Flaig, D., van Tongeren, F. (2018):"Sectoral and regional distribution of export shocks: What do two hundred thousand UK firm observations say?," OECD Economics Department Working Papers 1501, OECD Publishing, https://www.oecd-ilibrary.org/education/sectoral-and-regional-distribution-of-export-shocks_e5f21088-en.*

8. OECD (2018), "Market Opening, Growth and Employment", *OECD Trade Policy Papers*, No. 214, OECD Publishing, Paris, https://doi.org/10.1787/8a34ce38-en.

9. OECD (2018), "Trade Policy and the Global Economy. Scenario 1: Reducing Tariffs", OECD Publishing, Paris. https://issuu.com/oecd.publishing/docs/oecd-trade-scenario-1-reducing-tari?e=0.

10. OECD (2018), "Trade Policy and the Global Economy. Scenario 2: Increasing Tariffs", OECD Publishing, Paris. https://issuu.com/oecd.publishing/docs/oecd-trade-scenario-2-increasing_ta?e=0.

11. OECD (2019), "Trade Policy and the Global Economy. Scenario 3: Reducing Unnecessary Cost of Non-Tariff Measures", OECD Publishing, Paris. https://issuu.com/oecd.publishing/docs/oecd-trade-scenario-3-costs-ntms?e=0.

12. OECD (2019), "Trade Policy and the Global Economy. Scenario 4: Addressing Barriers to Services Trade", OECD Publishing, Paris. https://issuu.com/oecd.publishing/docs/oecd-trade-scenario-4-services?e=0.

13. Smith, D., C. Arriola, C. Carrico, F. van Tongeren (2018), "The potential economic impact of Brexit on the Netherlands", *OECD Economics Department Working Papers*, No. 1518, OECD Publishing, Paris, https://doi.org/10.1787/20cb5ddc-en.

14. Smith, D., M. Hermansen and S. Malthe-Thagaard (2019), "The potential economic impact of Brexit on Denmark", *OECD Economics Department Working Papers*, No. 1544, OECD Publishing, Paris, https://doi.org/10.1787/41a95fb3-en.

15. Van Tongeren, F., Flaig, D., and Greenville, J. (2018): "Market Opening, Growth and Employment", OECD Trade Policy Papers, No.214, OECD Publishing, Paris. https://www.oecd-ilibrary.org/trade/market-opening-growth-and-employment_8a34ce38-en

ECONOMICS papers incorporating METRO model analyses

1. OECD Economic Outlook, Volume 2018 Issue 1, https://www.oecd-ilibrary.org/economics/oecd-economic-outlook-volume-2018-issue-1_eco_outlook-v2018-1-en.

2. OECD (2018), *OECD Economic Surveys: Ireland 2018*, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-irl-2018-en.

3. OECD (2018), *OECD Economic Surveys: Netherlands 2018*, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-nld-2018-en.

4. OECD (2018), *OECD Economic Surveys: United States 2018*, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-usa-2018-en.

5. OECD (2019), *OECD Economic Surveys: Argentina 2019*, OECD Publishing, Paris, https://doi.org/10.1787/0c7f002c-en.

6. OECD (2019), *OECD Economic Surveys: Denmark 2019*, OECD Publishing, Paris, https://doi.org/10.1787/eco_surveys-dnk-2019-en.

Presentations

1. Elena Rusticelli (presenter),"Potential TRADE-related Spillovers from Brexit In Europe" 2019 Conference on the Economic Consequences of BREXIT at the Banco d'Espaňa, Madrid. 23 May 2019.

2. Donal Smith (presenter), "The potential macroeconomic and sectoral consequences of BREXIT on Ireland", 16th European Forecasting Research Association for the Macro-Economy (EUROFRAME) Conference at the Economic and Social Research Institute in Dublin, Ireland. 7 June 2019.

Other Activities related to the METRO model

1. In May 2018, a new version of the METRO model was made publically. The most significant changes in the new model version include three new modules. 1) The willingness to pay module gives the user an alternative to modelling NTMs; 2) The capital accumulation module, when activated, introduces capital static changes into the model; and 3) ICIO-TiVA module which create indicators based on analysis results to analyse changes in the global value chain.

2. Several METRO model enhancements are in the pipeline. OECD is developing a new module to improve international labour market flows. Work is also underway to improve the supply response of the agriculture.

3. OECD has recently updated the model database using the newly released GTAP version 10 database with reference year 2014. Accordingly, an updated of the GTAP bilateral migration database associated with version 10 would be very much appreciated.