Week 18 Exercises: Technology-adjusted CBA

(May 2nd 2022)

Objectives

- Calculate TCBA in Python
- Calculate Scope 1, 2, and 3 emissions in Python
- Visualize the results in Python

Python exercises: part 1

Technology adjusted consumption-based accounting

- In one Supplementary Information file of 'Kander et al. 2015. National greenhouse-gas accounting for effective', the authors illustrated the TCBA calculation and results in a spreadsheet.
- Download and go through the spreadsheet example to further understand the TCBA calculations.
- Implement the same calculations in Python. Note, when we use a real MRIO dataset (200 products and 49 regions/countries) for the IGA, performing the EIOA analysis in excel spreadsheet will be quite difficult.

Python exercises: part 2

Economy-wide accounting of Scope 1, 2, and 3 emissions.

- In Figure 3 of "Hertwich, E. G., & Wood, R. (2018). The growing importance of scope 3 greenhouse gas emissions from industry", scope 1, 2, and 3 emssions are calculated by sector (**5 sectors**) and region.
- Calculate the scope 1, 2, and 3 emissions with the data from EXIOBASE for year 2015, by sector (**7 sectors**) and region (49 regions). Data source: https://zenodo.org/record/5589597 . ("IOT_2015_pxp.zip")
- Draw a figure (similar to figure 3) for the Netherlands of scope 1, 2, and 3 emissions.