THE ‘GETTING THE DATA RIGHT’ PROJECT
- UPDATING AND EXTENDING THE EXIOBASE HYBRID MRIO DATABASE

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Content of presentation

- **Current state** of EXIOBASE
  The ‘Getting the data right’ project:
  - Partners, duration, and budget
  - Main objectives
  - **Added value** relative to existing MRIOs
  - Strategy for **long-term data integration**
What is EXIOBASE?

- A global, detailed Multi-Regional Environmentally Extended Supply-Use Table (MR-SUT) and Input-Output Table (MR-IOT)
- Combination of traditional SUTs and estimates of emissions and natural resource extractions
- Used for analysis of environmental impacts associated with the final consumption of products
- One of the most extensive EE MR-IOTs worldwide
- More information: https://www.exiobase.eu/
Current state of EXIOBASE

- Currently third generation: **EXIOBASE3**
- Two versions:
  - A *monetary version* consistent with macro-economic accounts
  - A *hybrid mixed-unit version*
- Current detail of SUTs: 163 industries * 200 products
- Current geographical detail: 43 countries (>80% of World GDP) + 5 RoW regions
- **Period covered:**
  - 1995 – 2011
  - Monetary version with *extrapolations up to 2015* and 214 countries (based on trade and other macro-economic data)
  - Hybrid mixed-unit version: Year 2016 is currently being prepared for publication
Project partners of the new project

- Aalborg University (lead)
- CML, Leiden University
- 2.-0 LCA consultants
- CICERO, Oslo

^ Members of the consortium behind EXIOBASE3

Project duration and budget

- 4 years; 5.5 million EUR
Main objectives of new project

- Algorithms for continuous updating to the most recent year possible
- Increased geographical resolution (more countries and sub-country detail)
- Increasing product and activity detail (flexible level of aggregation)
- Enhancing the scope of the previous model by including detailed household production and consumption patterns, and quantification of uncertainty
- Embedding in an independent organisation (BONSAI) to ensure permanent maintenance

^ The name of the new hybrid database will be BONSAI, since the name EXIOBASE is owned by the previous consortium of researchers
Adding value relative to existing MRIOs

At the level of SUTs:

• Both monetary and physical property layers, with simultaneous balancing
• Higher product and activity detail, based on national SUTs with more detail, other statistical data, and engineering models
• High flexibility in terms of aggregation levels in all dimensions
• Including both stocks and flows
• Including details on household consumption patterns and unpaid production
• Option to parameterise flows, to make modelling as transparent, flexible, and reusable as possible
• Automised validation and plausibility checks to identify possible errors
• Software support to facilitate manual review procedures
Adding value relative to existing MRIOs

At the level of IOT:

• Modelling of physical and monetary flows based on cause and effect (using Stone’s by-product technology model and consequential market modelling)
  ➢ As an alternative to valuation matrices, market activities are introduced:

  ➢ Enabling a smooth transition from SUT accounting to consequential IO model (ensuring that IO results reflect the effect of marginal changes, as relevant for decision making)

  ➢ Ensuring consistency of both mass and economic balances by using the generalised by-product technology construct (Merciai & Schmidt 2017)
Adding value relative to existing MRIOs

General:
• Open access data and open source code
• Transparency in the documentation of each single datapoint in terms of provenance and calculations used to arrive at the numerical value
• Reproducible query results
Strategy for long-term data integration

For SUT data (and beyond):

• **Seeking to avoid duplication of efforts:**
  • Using data already available at international organisations

• **Seeking to minimize burden on national statistical offices:**
  • No requirements of standard formats, while requesting additional detail
  • Automated procedures to facilitate annual updating

• **Seeking long-term collaborations with mutual benefits**
  • Advocacy and support for open data policies
  • A collaborative educational network
Thank you for your attention!