

# Trade in Services

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# **Construct initial estimates.**

- **Use services exports and imports data from IMF Balance of Payments statistics.**
- **Fill in missing values using time series and cross section comparisons (entropy method).**
- **Reconcile import and export estimates (simple rescaling).**

# Bilateralize.

- **Initial estimates:**
  - **Allocate across partners proportionally to total trade.**
  - **[Path not taken: Take pattern from merchandise trade data.]**
- **Zero diagonal.**
- **Rebalance.**

# **Adjust to GTAP categories.**

- **Remove royalties.**
- **Set international freight aside for separate treatment.**
- **Apportion travelers' expenditures across commodities.**
- **Adjust Hong Kong trade for reexports.**

# Develop trade margins.

- **Take modal shares in U.S. trade margins from Mark Gehlhar.**
- **Extrapolate heroically to other countries' trade.**
- **Balance against main services trade data set.**
- **In some cases, our heroic extrapolations look better than the IMF statistics.**

# Defects and Difficulties

- **IMF BoP statistics:**
  - Much improved since GTAP 5 in coverage and internal consistency.
  - Uneven level of detail, e.g., Denmark provides no commodity breakdown within transport.
  - False zeros.
  - Some implausible transport trade profiles.
- **No data for apportionment of travelers' expenditures across commodities.**

# **OECD Bilateral Services Trade Data**

- **Three commodities**
- **Limited set of reporter countries**
- **Partner detail**
  - **multi-level aggregation**
  - **not fully disaggregated**
  - **level of disaggregation varies across partner countries**

# Problems

- **Inconsistency with IMF data**
- **Inconsistency between export and import reports**
- **Inconsistent levels of partner detail**
- **Incomplete country coverage**



# CPB data set

- **Resolves for us most problems in OECD data**
- **Country coverage less complete than IMF**
- **Most comparable to our services trade data set before adjustment to GTAP categories**

# Exploitation

- 1. Where available, use CPB OECD-based estimates.**
- 2. Bilateralize Purdue IMF-based estimates according to merchandise trade pattern.**
- 3. Use (2) to fill in gaps in (1).**
- 4. Rebalance against IMF totals.**

# IMF vs OECD

- **Default position: Adjust IMF to OECD rather than vice versa.**
- **IMF has more complete country coverage.**
- **Review in light of data comparison.**