

IT Tools for the Compilation of SUTs

Regional Course on Supply and Use Table

20-24 January 2020

Chiba, Japan

Source Data Interface

- Standardized formatting of information derived from all sources of data
- Manual and automatic data cleaning
 - Investigating outliers
 - Correct reporting
 - Weighting of sample survey data
- Statistical Business Registry

SNA Transformation Interface

- Mapping of source data with SNA concepts
- Includes formulae to have one-to-one, one-to-many, many-to-one, or many-to-many transformations (e.g., profit, depreciation, inventories, consumption of fixed capital, etc.)

SUT Builder Interface

- Specify dimension of SUT template
- Mapping of transformed data to the SUT product and industry levels
- Populate SUT template using transformed data

SUT Balancing Interface

- Checking of local and global constraints using control totals for sectors/products/industries
- Specify constraints for all economic identities

$$\textit{Supply} = \textit{Use}$$

$$\textit{Output} = \textit{Input}$$

$$\textit{GVA} + \textit{tax} = \textit{FD} + \textit{GCF} + \textit{X}$$

$$\textit{GVA} \geq 0$$

$$\text{All cells except } \textit{CII} \geq 0$$

$$\text{Use TTM} = \text{Supply TTM}$$

$$\text{Value index} = \text{Price Index} * \text{Volume Index}$$

- Specify reliability of estimates
- Use RAS or linear programming to balance

Transformation to IOT Interface

- Generate/input necessary tables for transformation (TLS matrix, TTM matrix, Domestic Use, Imports Use)
- Compute transformation matrices
- Transform SUT to IOT using specified model

SUT Equalizer

- Developed by a team of statisticians, econometricians, and IT specialists of the Hendyplan International based in Belgium
- Methodology used in compiling SUT (current prices and volumes terms) and IOT
- The tool allows for the inputting of decentralized objects (“EXOGENOUS”) and calculated ones (“ENDOGENOUS”) using pre-set relationships (“EQUATIONS”)
- Centralized objects (SUT) are compiled using the “Process Tables” of the tool which provides transitions of data from source

SUT Equalizer

- The tool allows for the setting of reliabilities of exogenous objects which are the bases in the balancing process
- It has a database management system.
- The interface is like that of Excel where sheets and formulas can be edited.
- Tracking of changes/documentation

SUT Equalizer

- Step 1 and Step 2: Create exogenous variables
- Step 3: Loading of exogenous in the database
- Steps 4-7: Input product flows, check and balance flows, save to database (end-user cycle)
- Step 8: Building SUT and IOT
- Step 9: Check GDP estimates convergence under the 3 approaches
- Step 10: Publish tables.

IT Tools in some countries

Netherlands

- ***Microlab*** (database of source statistics)
- ***Airbag*** (mapping of source data to SNA concepts)
- ***iSR*** (integration system for quarterly and annual sector accounts)

IT Tools in some countries

France

- **SIE** (système intermédiaire d'entreprises, intermediate enterprise system)
 - functions as a first step on the bridge between the business statistics and the National Accounts
 - produces data for the sector non-financial corporations excluding agriculture
 - tables for the production by product category in each industry
- **SUSE** (système unifié de statistiques d'entreprises)
 - integrates structural annual survey with tax data
 - checks data at the level of individual company
- **(PAC)** passage aux computes
 - uses the SIE and other sources to create set of data for non-financial institutions
- **ERETES**
 - co-owned with Eurostat
 - storage, organize data, and calculation of GDP using the 3 approaches

IT Tools in some countries

Dutch

- **ESB** (economisch statistisch bestand, 'economical statistical file')
 - use of administrative data for business statistics and providing a medium for storage, analysis, integration and publication of data

United Kingdom

- **CORD** (Central ONS Repository for Data)
 - data of raw statistical data to be processed for the SUT compilation

IT Tools in some countries

Denmark

SAS packages such as GAUSS for IO-related works and Aremos for time series processing

Canada

- ***EzWeb*** as a user-friendly warehouse of SNA source data
- ***INDCOM*** developed in SQL environment for the balancing of SUT and IOT

IT Tools in some countries

Norway

- SUT module on a SAS environment
- Labor accounts module also in SAS environment

Finland

- **SKT95** database of annual accounts data
- **UNIX-SAS** used in the compilation of industry/sector level data
- **Voltti** as a calculation system to deflate NA in current prices

Source: Statistics Netherlands, International Benchmark National Accounts