A Graphical User Interface to Manage Cell Suppression on Sets of Linked Tables

Using SAS and $\tau$-Argus

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τ-ARGUS in Production

τ-ARGUS in a production process
- Extract data from production data base
- Turn data into format readable by τ-ARGUS (e.g. .csv, .txt, ..)
- Run τ-ARGUS
- Turn output into the data base format
- Update database (e.g.: update suppression status of cells)

The production process can be automated using τ-ARGUS batch facility

Example for the case of a SAS based production process
- SAS Package Bifrost (SAS2ARGUS) (Almberg et al., Kraftling)
How about linked tables?

German experience:

- Relation structure of multiple linked tables often too complex to be handled by Argus as single linked-tables instance
- In that case
  - Handle as multiple linked-tables instances, e.g.
    - Use „traditional“ approach for linked tables
Traditional approach for linked tables

Example with three linked tables $T_1$, $T_2$, and $T_3$:

1. Protect $T_1$
2. Carry pattern over to $T_2$ and $T_3$
3. Protect $T_2$
4. Carry pattern over to $T_1$ and $T_3$
5. Protect $T_3$
6. Carry pattern over to $T_1$ and $T_2$
7. Repeat until no change in pattern
SAS Argus-control package (Schmidt and Giessing; 2010, 2011)

Allows „Groups“ of tables to be „Objects“ of a „traditional linked tables“ step, e.g.

- Process with outer and inner loops
- Inner loop can be replaced by single Argus-linked-tables step (where feasible)

Requires a lot of meta-data, e.g.

- Structure of (many) tables
- Information on loop-ordering sequence, etc.

Therefore

- Excel workbook (with several worksheets) to capture meta-data
- „Twin“ package for „Build tables“ step, e.g.
- SAS SDC tabulation package
Steps of the SDC process

Design SDC tables
- SDC department + Domain experts

Prepare process meta data, for
- SDC tabulation and
- Argus control packages
  - SDC department

Execute application
- might be fully integrated into the production process

Facilitate by GUIs?
GUI for the SDC Tabulation Package

Tab “Data”
GUI for the SDC Tabulation Package

Tab “Classifications”

[Image of the GUI for SDC Tabulation Package, showing classification groups and classifications with fields for NACE and name of variable (SAS micro data file), code for “Total” (classification group), hierarchical, hierarchy levels, and leading string (indentation character).]
GUI for the SDC Tabulation Package

Tab “Tables”
GUI for the ARGUS Control Package

Tab “Data” of the ARGUS Control Package GUI
GUI for the ARGUS Control Package

Tab “Groups”
GUI for the ARGUS Control Package

Tab “Distances”
Summary

- SAS macro packages to handle multiple sets of linked tables in an automated way via τ-ARGUS

- The packages cover tabulation, and primary risk assessment and serve as a control center to execute multiple interdependent Argus applications

- Ongoing: development of GUI‘s (may facilitate future sharing of the tools?)

- Our GUI enforces systematic definition of multiple classifications for the spanning variables (where needed)
  - Helps to make the structures of links between tables more obvious
Thanks for your attention