Abstract:

Why use macro-editing:
Many editors are in a very time consuming process. An analyst often takes to avoid having a correct result in time. The software for many checks is often not automated, i.e. only manual records are accepted. This means that a lot of time can be spent checking information resulting in too many mistakes that need to be reviewed manually by an analyst. An example of this is frequently used to check the statistics change compared to the previous period. This additional time typically results in a considerable amount of time saved.

Why use macro-editing at Statistics Netherlands:
To avoid the need of time consuming checks, we use macro-editing. This method avoids an error at a number of places within Statistics Netherlands and other statistical software, based on applications tailored for specific statistics. At Statistics Netherlands macro-editing is used for error detecting in multivariate tasks. Another example of macro-editing is outlier detection where the (multivariate) distribution dimensions which records are mapped and possibly used to be corrected. These outliers may be determined automatically and subsequently be displayed, e.g. by coloring these points inside a scatter plot.

Although applications of the principles above exist at various statistical offices, on the level of our knowledge is a general software exists, which can be applied to data from most economical statistics.

Design considerations:
To ensure that Macroview can support all the approaches as discussed above, the software requirements should be for performing all the approaches here from the standpoint:

- The software should be able to compute aggregates from micro data and to compute aggregates using specified variables.
- The software should be able to select those records that contain the event to ensure observation at some aggregate level. In order to test this, the software should be able to select all reference data at all levels with the same confidence level or at a given reference data, set of data that is already observed by the statistics system in place.
- The software should be able to display the data in a scatter plot (i.e. display the data, possible corrections or manual changes).
- The analyst should be able to perform a forecast of the data.
- The analyst should be able to demonstrate the impact of the manual edit.

Basic top-down data editing:

Different views

Possibilities using plugins:

Real life examples:

Usage and References:

References:

Currently used at SN by:

- ARB: Checking correctness (using rules and business statistics)
- DRT: Basic own statistics
- KOS: Checking correctness (using rules and business statistics)
- DRT: Checking correctness (using rules and business statistics)
- NEST: Environment statistics

Wim Hacking, Statistics Netherlands, September 11, 2015

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