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Statistics

Using consistency rules in subject-specific survey documents

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Rules based on subject-specific data model

1. Purpose

For technical reasons, there are no calculations in the data entry fields of subject-specific Excel survey documents. Therefore, consistency rules have been included in the Excel survey documents to help reporting institutions ensure that the data in their reports are consistent.

If XML is used as a delivery format, the consistency rules used in the Excel survey documents are for information purposes. It is also possible to import an XML report into an Excel survey document, thereby validating it using the integrated consistency rules.[1]

This document outlines the structure, the meaning and the use of the rules included in the survey documents.

2. Structure

2.1. Errors and warnings in the *Start* sheet

The *Start* sheet summarises the number of errors and warnings in each sheet (cf. chart 1). If errors are indicated as soon as an empty file has been opened, these generally relate to data cells that should not be empty. Once data entry has been completed, there should no longer be any error reports. Warnings should be checked.

The reports will also be checked for consistency during processing at the SNB. Should errors or warnings be detected at the SNB, the report may be rejected and have to be resubmitted.
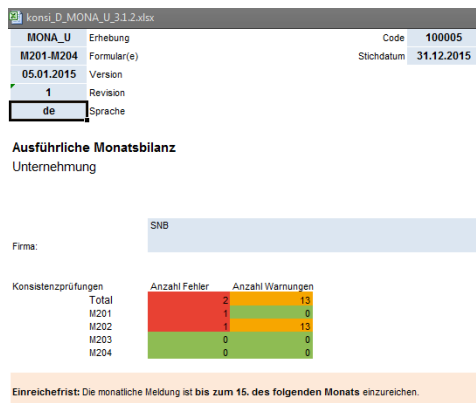

Chart 1

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[1] See information at www.snb.ch, *Statistics/Surveys/Delivery formats /XML delivery formats*.

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By double-clicking the number of errors or warnings in the *Start* sheet, the user is taken to the relevant sheet.

Excel's reaction to a double click depends on how the Excel options have been set, and in particular on whether, in the *Advanced options* window, *Allow editing directly in cells* has been checked or not.

For the explanations in this guide, *Allow editing directly in cells* is unchecked (cf. chart 2). This is recommended when using this Excel survey document as it prevents consistency rules being changed unintentionally. Illustrations in this guide are based on Excel 2010.
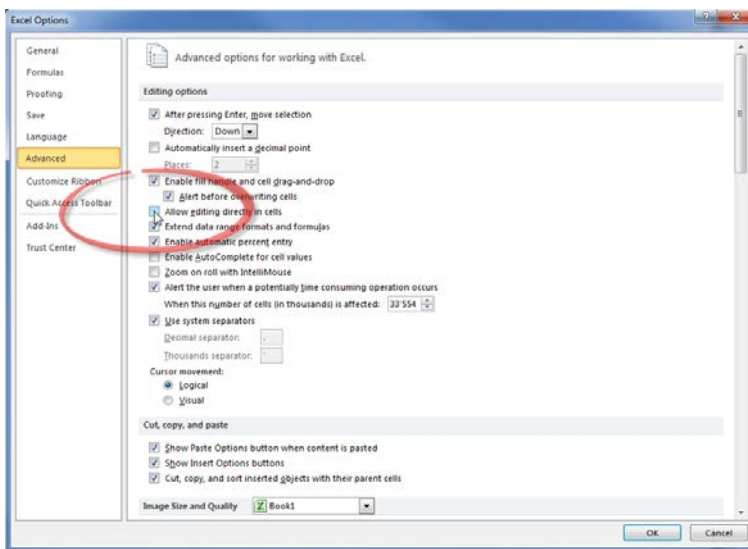

Chart 2: Unchecking Allow editing directly in cells.[2]

2.2.   Consistency rules in form sheets

The number of errors and warnings is shown at the top left of every form sheet (cf. chart 3).

Chart 2

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Consistency rules within a form sheet – in relation to the data entry field – can be found in three places: to the right, below and diagonally to the bottom right (cf. chart 4).

- To the right of the entry field are rules which check the items within a row.

- Below the entry field are rules which check the items within a column.

- Diagonally to the bottom right of the entry field are other rules, e.g. rules which compare items from different sheets.
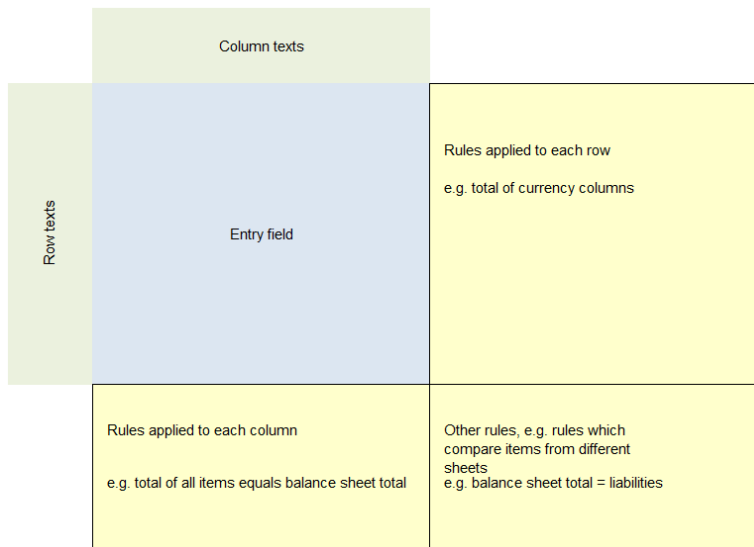

Chart 3: Arrangement of the rules within a form sheet.

During data entry, errors can occur which should disappear again once all data have been entered. Should there still be errors or warnings, you can click *ERROR* or *WARNING* *(cf. chart 5)*. This will highlight the data entry fields to which the respective consistency rule applies (as long as they are all in the same sheet).

Chart 4: An error message will be generated when there is no figure under Total.

Alternatively, you can click the Editor row (cf. chart 6) and the items calculated will be displayed as well. This alternative is, however, not recommended, as formulas can be overwritten.

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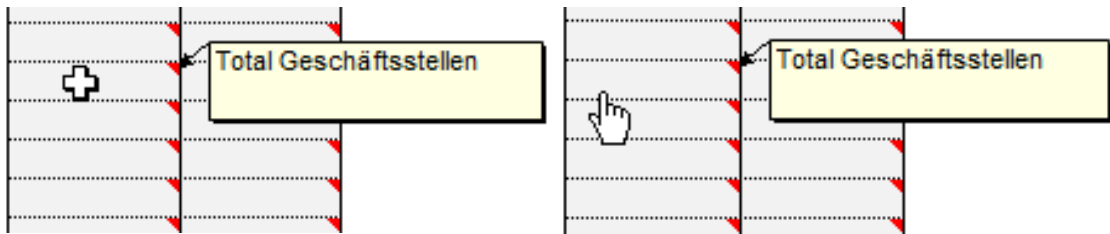Chart 5: By clicking the Editor row, affected items will be displayed.

Chart 6: Displaying items used in a rule cell also works when there is no error message in the field. Make sure, however, to place the mouse to the left of the cell (the hand must be visible).

The corresponding rule will also be calculated in the *Validation* sheet (cf. 2.3).

To find out how a rule was calculated, go to the Excel Formulas tab, and select *Evaluate Formula* in the *Formula auditing* group (cf. chart 8). To use the other functions in the group, the, worksheet needs be *unprotected*.
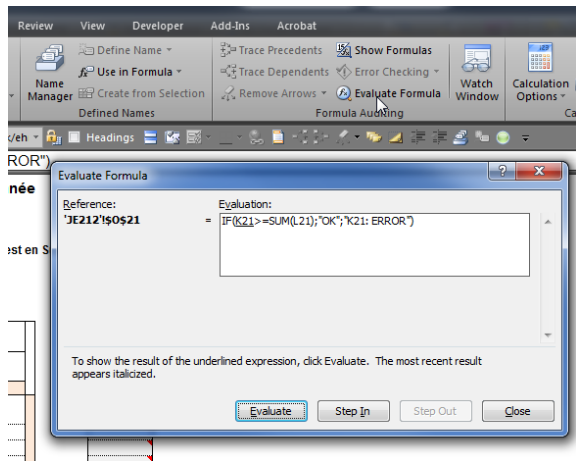

Chart 7: How to use Formula auditing.

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2.3. List of all the consistency rules in the *Validation* sheet

All the consistency rules in the Excel survey documents are listed again in the *Validation* sheet. In the upper left-hand corner is a summary of the errors and warnings for each form sheet. By double-clicking the cell that displays the number or errors (red) or warnings (orange) you can access the corresponding sheet.

In the lower part of the table all the rules are listed row by row. There is a hyperlink in the *Rule ID* column which leads to the corresponding sheet and displays the cells affected by the rule (provided that they are all in the same sheet).

The *Subject-specific rules* column defines items with subject-specific keys intended for those reporting data in both XML and Excel format.

The evaluation column displays the evaluation of the rule (*OK*, *ERROR* or *WARNING*).

To facilitate the display of errors or warnings, the sheet can be filtered.

The filter may need to be updated (reset) if the values in the sheet have been changed in the meantime.

Chart 8: Validation sheet and use of filter.

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