

CentralReports© built-in Excel® compatible spread sheet: The ultimate way to troubleshoot Central Bank reports and keep accountants happy.

The CentralReports built-in spread sheet has proven to be an indispensable tool in preparing and verifying the new Central Bank reports. Looking at how people go about implementing the new reports, one can split the process in three main parts:

1. Data extraction/collection of the (existing) data
2. Data mapping into Central Bank variables and report generation
3. Report verification/validation and presentation in a form that accountants may understand and therefore sign for final submission to the Central Bank.

The above steps are by no means one way. Much of the time is spent in regressing back and forth between steps to rework data in order to include omissions, errors, etc. For example, if the accountant finds that the balance sheet does not balance, reverting to step 2 or even step 1 is usually necessary after the cause of the error is found. In fact, according to our experience with implementing the new reports at several banks so far, this process is the norm rather than the exception. We have found that, in most cases, most of the time is spent verifying the reports rather than extracting data or generating them.

The spread sheet paradigm is widely popular in the accounting world. In fact, the Central Bank themselves have published the new balance sheet requirements in an Excel® template. This is exactly what accountants need in order to verify that their reporting is correct.

One could use Excel® itself to fill in the balance sheet, validate/verify it and send the reports. In fact Excel® is an excellent package, one of the best programs ever written (it has to be. It took Microsoft 10 years to get it right!). But in the case of the new reporting framework set forth by the Central Bank there are certain problems which may be summarized as follows:

Workbook is too large

With around 60 worksheets, many of them running long at a thousand rows or more, the amount of cells that need to be filled in with data from the database is tremendous. Automation may be used but the process is very slow and the cell contents may not be easily checked to see if their contents are really what they should be.

Recalculation speed

The sheer size of the workbook, brings us to the next problem. Speed. Any change in the spread sheet which means data need to be re-fetched results in a massive data access operation. Certainly not good enough if you are troubleshooting and need to do it quickly.

Drill down capabilities

Not only it is necessary to look at a cell and be certain that its contents are what they were intended to be, but when there is a discrepancy, it is necessary to see the accounts which contributed to the value in the cell. Being able to do it quickly and easily enormously speeds up the verification and troubleshooting processes.

Side by side comparison

There are situations when a side by side comparison of a report with a previous one may be enlightening. For example it would be nice to be able to see all items that have changed by more than say more than 10% from last month to this month.

With all the above in mind and firmly noted on our list of absolutely necessary product specifications, it was not difficult to conclude that despite its virtues, Excel® was not the way to do this. There are just too many specifics to be able to fit the general purpose model of Excel. If we could just have Excel with all these custom requirements satisfied then everything would be perfect.

The Synergy© Spread Sheet

The Synergy Spread Sheet is a custom developed spread sheet application, developed from scratch to be compatible with Excel®. It reads the Excel file format (xls), supports most of the Excel functions and it even tries to emulate its look and feel. So much so, that most people confuse it with Excel. But Excel it is definitely not. You can run it on a computer without Microsoft Office installed.

The big difference is that it is tightly integrated with CentralReports© and thus can offer many specific extensions and custom functionality. Furthermore, the performance has been optimized specifically for the task at hand. Access to the database itself is optimized but even this was not enough. Therefore, SmartRecalc© was developed to further speed up recalculation. SmartRecalc© is basically an intelligent caching scheme that does away with fetching data from the database once the data has been fetched once and has not since changed. It also has the advantage that its performance does not depend on the size of the report so long reports are not taxing the system. All other factors being equal (computer speed, etc.), spreadsheet recalculation time is basically the same whether the data belongs to the smallest offshore banking unit or the largest of domestic banks.

Custom Functions

The heart of the Synergy Spread Sheet functionality is its custom functions. These functions were created to specifically satisfy the reporting requirements at hand and not only. They are easy to understand and remember, since the same convention is used throughout and at the same time powerful enough to allow the spread sheet balance sheet to be created with ease.

An example is the best explanation of how they work. Let's take the following function for example:

```
=SSSchBal ("2.1.1", "CYP")
```

The result is the balance for schedule 2.1.1 counting only the Cyprus pounds accounts. The same way we could have counted all currencies by not specifying a currency:

```
=SSSchBal ("2.1.1", "")
```

or just

```
=SSSchBal ("2.1.1")
```

This is both, powerful and easy to understand and use.

A rich assortment of custom functions is available for every conceivable task related to the Central Bank reporting requirements. Actually, we have included functions

much more generic so that CentralReports may be used for a variety of reporting and analysis tasks, not only the new reporting requirements.

The screenshot shows the Synergy Spreadsheet application window. The active cell is D12, containing the formula `=SSSchBal("2")`. A context menu is open over this cell, listing options: Format Cells (Ctrl+F1), Delete Cells, Cut, Copy, Paste, Merge Cells, Split Cells, and Drill Down (Ctrl+L). The spreadsheet data is as follows:

| | A | B | C | D | E |
|----|--------------------------------|-----------------|--------------|-----------------|---------------------------|
| 4 | | | As of | 31/08/05 | |
| 5 | | | | (Month) | (Year) |
| 6 | | | | | |
| 7 | ASSETS | Schedule | Code | CYP | LIABILITIES |
| 8 | | No | No | thousand | |
| 9 | | | | | |
| 10 | Cash | 1 | 11000 | 1 | Deposits |
| 11 | | | | | |
| 12 | Loans | 2 | 12000 | 4,518 | Debt securities issued by |
| 13 | | | | | |
| 14 | Securities other than shares | 3 | 13000 | | es ar |
| 15 | | | | | |
| 16 | Money market fund shares/units | | | | |
| 17 | issued by MMFs | 4 | 14000 | | |
| 18 | | | | | |
| 19 | Shares and other equity | 5 | 15000 | | |
| 20 | | | | | |
| 21 | Fixed assets | 6 | 16000 | | |
| 22 | | | | | |
| 23 | Financial derivatives | 7 | 17000 | | share |

The bottom of the window shows a worksheet tab labeled 'Balance Sheet' with sub-tabs 1, 2, 2.1, 2.1.1, and 2.1.2. A 'Manual Calc' button is visible in the bottom left corner.

Drill Down Power

Even though looking at the functions makes it very easy to tell exactly which part of the report we are dealing with, in most cases the need to know exactly which report lines and accounts are involved in the calculation of the result is absolutely a must. By just right clicking a cell containing a formula and selecting the drill down option, we see the list of report lines which make up the cell in question. The report lines may be further drilled down to see exactly which accounts are involved. Try this with Excel®!

Side by Side comparison

The ability to easily and directly compare figures from other reporting periods is sometimes a great troubleshooting tool, an indispensable aid to finding out what went wrong. The Synergy© Spread Sheet can compare two workbooks and highlight in a third workbook the figures which are different by a certain (definable) percentage or more. Visually presenting the information like this, makes spotting out differences very easy, given the overwhelming amount of information one has to go through.

| Balance Sheet | | | | | | | |
|---|-------------|---------|-------------------|---|-------------|---------|-------------------|
| (Bank) | | | | | | | |
| As of 31/08/05 | | | | | | | |
| (Month) | | | | (Year) | | | |
| ASSETS | Schedule No | Code No | USD thousand | LIABILITIES | Schedule No | Code No | USD thousand |
| Cash | 1 | 11000 | 7,451 | Deposits | 9 | 51000 | 11,607,305 |
| Loans | 2 | 12000 | 22,589,970 | Debt securities issued by MFIs | 10 | 52000 | 10,201,624 |
| Securities other than shares | 3 | 13000 | 0 | Provisions for liabilities and charges | 11 | 53000 | 0 |
| Money market fund shares/units issued by MMFs | 4 | 14000 | 0 | Financial derivatives | 12 | 54000 | 0 |
| Shares and other equity | 5 | 15000 | 0 | Remaining liabilities | 13 | 55000 | 104,648 |
| Fixed assets | 6 | 16000 | 388,606 | Capital and reserves | 14 | 56000 | 1,680,901 |
| Financial derivatives | 7 | 17000 | 0 | Money market fund shares/units issued by MMFs | | 57000 | 0 |
| Remaining assets | 8 | 18000 | 608,500 | | | | |
| TOTAL ASSETS | | 10000 | 23,594,527 | TOTAL LIABILITIES | | 50000 | 23,594,478 |
| | | | 23,594,494 | Off -balance sheet items | 15 | 58000 | 2,662,462 |

Smart Features

No effort was spared to ensure that productivity is maintained at the highest standards throughout. A lot of enhancements specifically targeted at making the task at hand –producing the reports for the Central Bank- as efficient as possible have been incorporated.

Insert List Data for Schedule

Schedule: 2.1.1

List for each: [] Include Description

| Variable | Explanation |
|-----------------|-------------------------------------|
| ADD_LOAN_INFO | Further classifies the amount |
| BILLS_PAYABLE | Indicating whether the amount |
| BOOK_VALUE | Wherever in the schedule sp |
| COU_CODE_LCP | The Country of the Counter |
| CUR_CODE | The currency code related to |
| CUR_CODE_REP | The currency code in which a |
| DCB_BOUGHT | This variable takes a Y or N i |
| DEBT_SEC_TYPE | Further classifies the amount |

The screenshot shows the Synergy Spreadsheet interface. The active window is titled 'Synergy Spreadsheet'. The menu bar includes File, Edit, Format, Insert, and Configuration. The toolbar shows various editing and formatting tools. The spreadsheet grid displays data for columns C through J and rows 16 through 44. A red box highlights a section titled 'Analysis by Currency' starting from row 18, column F. The data in this section is as follows:

| Row | Column C | Column D | Column E | Column F | Column G | Column H | Column I | Column J |
|-----|----------|----------|----------|----------|------------------------------|-------------------|----------|----------|
| 16 | 0 | 0 | 0 | | | 1275109 | | |
| 17 | | | | | | | | |
| 18 | ----- | ----- | ----- | | Analysis by Currency: | | | |
| 19 | 0 | 0 | 0 | | AED | 451,799 | | |
| 20 | 0 | 0 | 0 | | AUD | 451,799 | | |
| 21 | 0 | 0 | 0 | | BHD | 451,799 | | |
| 22 | 0 | 0 | 0 | | CAD | 451,799 | | |
| 23 | | | | | CHF | 451,799 | | |
| 24 | 0 | 0 | 0 | | CYP | 192 | | |
| 25 | 0 | 0 | 0 | | CZK | 451,799 | | |
| 26 | 0 | 0 | 0 | | DKK | 451,799 | | |
| 27 | | | | | EUR | 63,242 | | |
| 28 | | | | | GBP | 451,799 | | |
| 29 | 0 | 0 | 0 | | HKD | 451,799 | | |
| 30 | 0 | 0 | 0 | | IDR | 451,799 | | |
| 31 | 0 | 0 | 0 | | ILS | 451,799 | | |
| 32 | | | | | INR | 451,799 | | |
| 33 | 0 | 0 | 0 | | IQD | 451,799 | | |
| 34 | 0 | 0 | 0 | | JOD | 451,799 | | |
| 35 | 0 | 0 | 0 | | LBP | 451,799 | | |
| 36 | | | | | LKR | 451,799 | | |
| 37 | 0 | 0 | 0 | | LVL | 451,799 | | |
| 38 | 0 | 0 | 0 | | NOK | 451,799 | | |
| 39 | 0 | 0 | 0 | | RUB | 80,288 | | |
| 40 | 0 | 0 | 0 | | SAR | 14,005,782 | | |
| 41 | 0 | 0 | 0 | | USD | 308,077 | | |
| 42 | 0 | 0 | 0 | | | | | |
| 43 | | | | | | | | |
| 44 | 0 | 0 | 0 | | Total: | 22,589,963 | | |

The bottom status bar shows 'Manual Calc', '00:00:00.406 - Cache Size: 18586', and a navigation pane with 'Balance Sheet' and sub-items 1, 2, 2.1, 2.1.1, 2.1.2, 2.2, 2.2.1.

For example, in many places, it is required that an analysis of a certain schedule item is done by currency or country. A special menu option, brings up a wizard that easily generates a list of formulas that make up this analysis.

Excel compatibility throughout

Synergy® Spread Sheet can read and write native Excel files. When custom formulas are used, if the worksheet needs to be saved so that it will be Excel-readable, a special save mode allows the workbook to be saved with the custom formulas replaced with their values. This way the resulting file can be opened by Excel.