QIS-4 Supervisory Formula Calculator Instructions

These instructions describe how to use the excel spreadsheet to aid in filling out the QIS 4 worksheets. The calculator (SFA calculator 11 09 04.xls) contains 3 sheets: "T & L cheat sheet," "SFA calculator," and "SFA reference." (Generally, the same formatting rules apply as apply to the QIS-4 worksheets. For example, yellow cells must be filled in by the user.)

T & L cheat sheet

This sheet allows the user to convert tranche and pool information from dollars to the thickness (T) and credit enhancement (L) ratios needed to compute the supervisory formula. There are two areas where the user must enter information. The pool amount in dollars must be entered in C5. The tranche amounts in order of seniority from most senior at the top to most junior at the bottom are entered in column H rows 6 to 40. The spreadsheet will prompt you to enter the pool amount and then the tranche amounts. An automatic warning is generated if the dollar value of the tranches does not equal the dollar value of the pool. See Figures 1-4.

Figure 1) "T & L cheat sheet" screen shot with pool prompt.

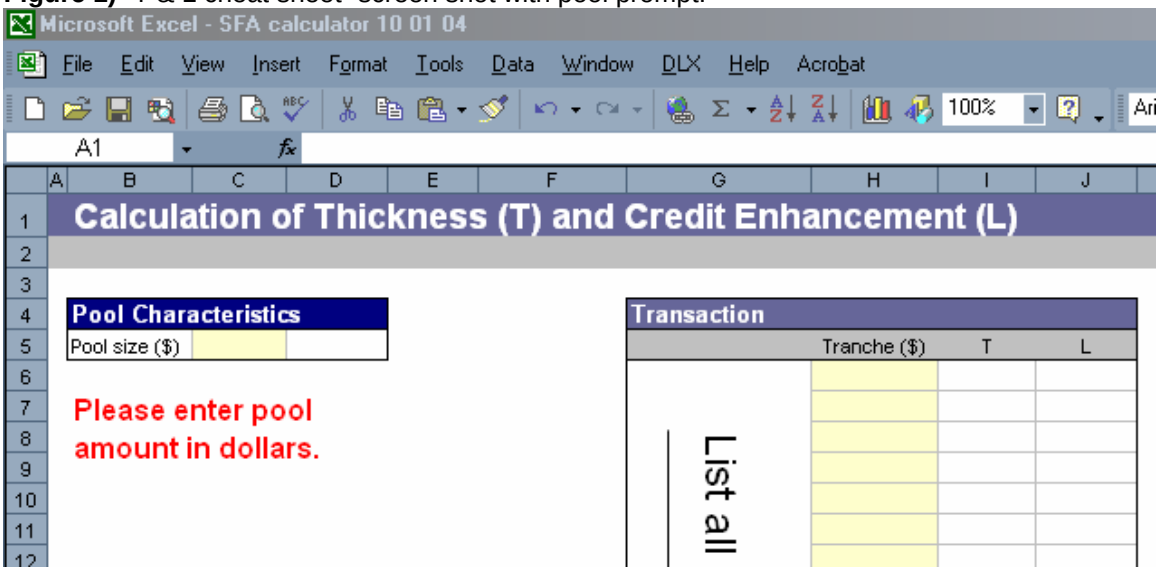


Figure 2) "T & L cheat sheet" screen shot with tranche prompt and warning.

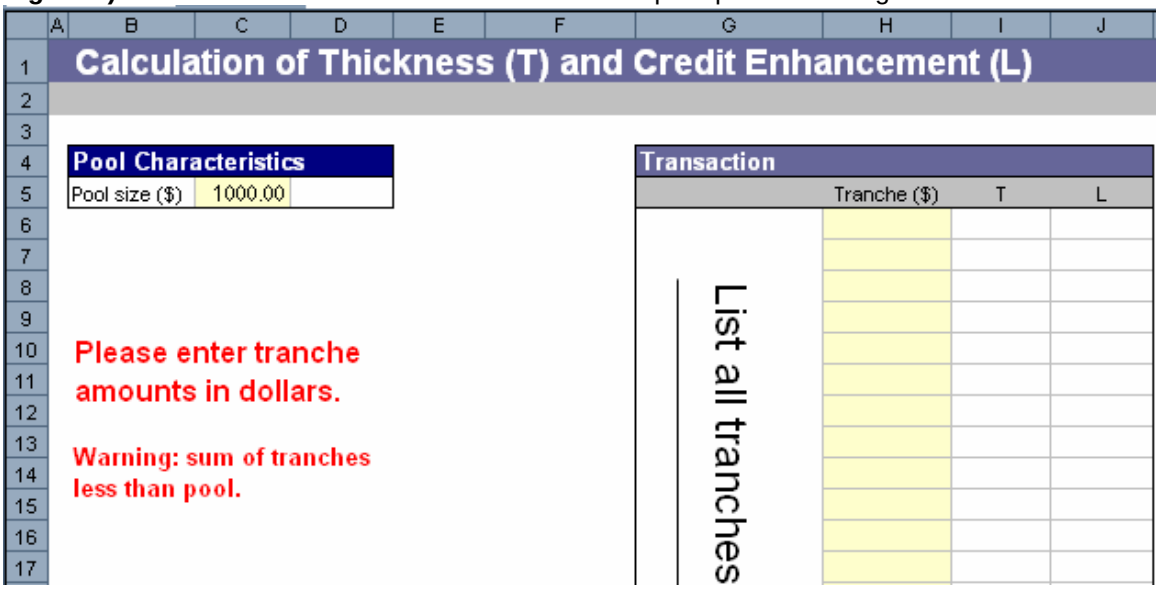


Figure 3) "T & L cheat sheet" screen shot with warning.

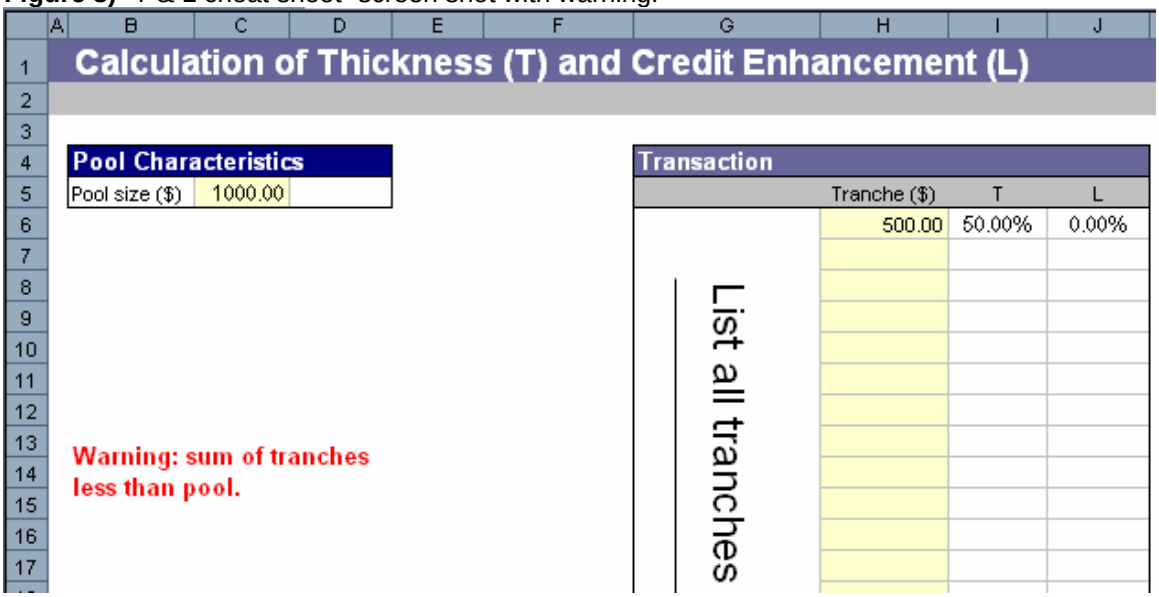
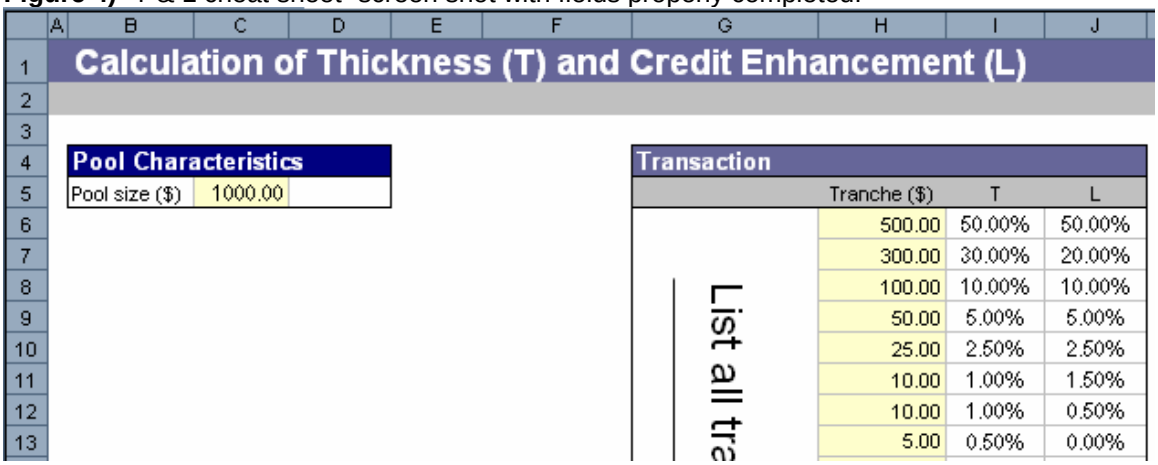


Figure 4) "T & L cheat sheet" screen shot with fields properly completed.



It is very important that you enter all of the tranches in the correct order to make sure that T and L are computed correctly. Omitting tranches junior to the tranche(s) of interest will result in incorrect values of T and L.

SFA calculator

The SFA calculator sheet allows you to calculate capital charges and risk-weighted assets for up to 1000 tranches. Each row is treated as a distinct tranche. The rows are independent—that is, tranches from different structures may be mixed together and rows may be skipped entirely without harming the output. (It is suggested that tranches from a given deal be grouped together and spaces added to separate different deals for organizational clarity.) The table (beginning in G4) contains the exposures and risk-weighted assets aggregated as required by the QIS-4 securitization sheet. See Figure 5.

Again, the yellows cells (columns A through G, beginning in row 19) must be completed by the user. The user-defined fields are as follows: K_{irb}, N, LGD, T, L, Pool, and Retail. The variables K_{irb}, N, LGD, T, and L are as defined in the June 26, 2004 International Convergence of Capital Measurement and Capital Standard: A Revised Framework (ICCMCS). Pool refers to the pool amount in dollars. Retail is a yes/no drop-down indicating whether the securitization qualifies for simplified treatment as a retail exposure.

Several conventions have been adopted of which the user should be aware. First, computed values will not be displayed for a particular row until all of the required values have been completed. Second, the default assumption for Retail is "no." This has several implications. Computed values will be displayed even when N is left blank *if* Retail is assigned a value of "yes." Also, if the exposure does not qualify for retail treatment then Retail may be left blank. It is only necessary to fill in this column when the exposure does in fact qualify for retail treatment. Individual users may choose to fill in this column for clarity.

QIS-4 separates the information collected between securitization exposures *not* benefiting from credit risk mitigation (CRM), exposures benefiting from financial collateral, and exposures benefiting from guarantees. In addition, residential mortgages subject to the SFA are broken out separately. In order to use the SFA calculator's table to summarize this information, it is necessary to make sure that the data entered correspond to the portion of the QIS-4 securitization worksheet that the user is putting together. More concretely, to fill out the left-most table in section C(i) of the securitization worksheet, it would be necessary to enter only the variables that correspond to tranche information for non-residential mortgage securitization exposures that do not benefit from CRM. Similarly, to fill out the middle table in section C(i) of the securitization worksheet, tranche information for non-residential mortgage securitization exposures that benefit from financial collateral would need to be entered *prior* to adjusting their values for the effects of the collateral and again *after* adjusting for these effects. Alternatively, one could make additional copies of the "SFA calculator" sheet and enter the appropriate information on separate sheets.

SFA reference

This sheet contains hyper-linked descriptions of the variables and calculations used in the "SFA calculator" sheet. Clicking on a hyper-linked heading (for example, K_{irb}) takes you to to the appropriate row of the "SFA reference" sheet where you can read a brief description and, where appropriate, review the formula. Clicking again on the heading returns you to your original place.

Figure 5) "SFA Calculator" layout.