Use of a Second ALM Model to Verify an Implemented ALM Model

McGuire Performance Solutions (MPS) Position Memo 03/01/07

Using a second ALM model to verify an implemented ALM model is not a regulatory mandate and it is rarely an effective approach. In the end, a model-to-model comparison proves out only whether the model math works correctly. But answering that question is more effectively done by requiring that the ALM model's fundamental functionality be certified by an independent expert.

With that assurance in hand, a proper ALM model verification determines (a) if the model is correctly implemented, including data footing, category set-up definitions, contractual inputs, behavioral assumptions, reporting, and the (b) whether model forecasts accurately reflect underlying contracts and behaviors. Only if its forecasts are proven accurate is the model really verified.

Background

Relevant regulatory guidance (e.g. the FDIC's December 7, 2005 Supervisory Insights article on model governance and OCC Bulletin 2000-16) specifically does not mandate use of parallel model runs for model verification. It is one of several approaches mentioned in the OCC bulletin, but it is not a required approach. Our conversations with OCC staff have confirmed that the practice would be most beneficial when an internally developed model is present. This is an unusual event, though, as almost all ALM models are now vendor produced, and delivered across wide user bases.

Model-to-model comparisons of vendor models add minimal content to an ALM model verification. This is because in a direct comparison, model data, category set-up definitions, contractual inputs, behavioral assumptions, rate tests, and reporting between the two models are identical. Differences in outputs are thus reduced to being driven by variances in model mathematical routines. Given formal vendor testing and constant user field testing, erroneous math does not survive long.

The MPS View

What is most important in an ALM model verification is proving the correctness of the model's technical specifications as it is installed, assessing how it is implemented, and (the ultimate mandate) verifying its forecast accuracy. Standard MPS procedures are to assess a client's model against itself, not another model. This process includes a detailed *verification* of model technical details (data inputs, category set-up attributes, contractual inputs, behavior assumptions, reports, and the model control environment) and then *validation* of model forecast outputs against expected behaviors (from underlying contracts) in specialized proprietary diagnostic systems.

Validation of income and expense forecasts is accomplished by examining forecasted income and expense and present value outcomes across interest rate scenarios. Only if the forecasts display proper performance direction, magnitude, and option behaviors is the model considered to be correct. As secondary tests for vital income and expense forecasts, more assessment is undertaken by back testing first month forecast values against prior month actuals and comparing model produced indicators of IRR exposure against relevant analogs (e.g. recent margin actual historic outcomes). If necessary, such correlations can be tested statistically by employing the econometric resources available to MPS through its core deposit and loan analysis programs.

If a client mandates that a model-to-model comparison be provided, MPS can do that using any of the several model licenses it holds. But in 10 years of report provision, it has never been requested.