

Comment #7 – 5/8/19 – 4:24 p.m.

SUBJ: Proposed Actuarial Standard of Practice (ASOP) on Modeling
Fourth exposure draft

3.5.2. MODEL VALIDATION

The actuary should take appropriate steps to validate that the model output reasonably represents that which is being modeled. Depending on the intended purpose, model validation may include the following:

a. testing, where applicable, preliminary model output against historical actual results to verify that modeled output would bear a reasonable relationship to actual results over a given time period if input to the model were set to be consistent with the conditions prevailing during such period;

The ASOP reference to model validation appears to be missing any reference to validation of predictive models, which are those most frequently used in insurance pricing. Specifically there is no mention of validating a predictive model using hold-out data that was not used to develop the model. A hold-out validation not only demonstrates that the developed model is a reasonable predictor on data not already seen by the model, but also would demonstrate that the model is not over-fit.

I would suggest adding an additional validation comment after item 3.5.2.a perhaps worded like this:

For predictive models, testing should include running the developed model against a hold-out dataset, not used to develop the model, to verify that modeled output would bear a reasonable relationship to actual results from the hold-out data.

You might also need to add a definition of hold-out data in the definition section. Something like:

Hold-out data – typically a random subset of the data being modeled. Hold-out data is not used to create the model itself, but rather, used to validate that the model that was built is truly predictive when applied to a previously unseen set of data.

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