

**Comment #20 – 5/15/19 – 2:38 p.m.**

To: the Actuarial Standards Board

Below are my comments regarding the fourth exposure draft of the proposed Actuarial Standard of Practice on the topic of “Modeling,” as approved for exposure by the Actuarial Standards Board in December 2018. These comments represent my opinions, and do not necessarily represent the opinions of my employer or any other organization with which I am associated.

My comments relate to the use of the term “parameter” in the proposed ASOP. The term “parameter” is defined in Section 2.12 as a “type” of input, but in contrast to how “assumption” and “data” are defined, the distinguishing characteristics of this “type” of input are never stated. Instead, we are given the following examples of parameters:

... expected values in probability distributions, coefficients of formula variables, and benefit plan or policy provisions.

Some of these examples, such as policy provisions, appear to represent “data” as that term is defined. Other examples, such as expected values in probability distributions, are likely to be “assumptions” as that term is defined. Nowhere is it made clear how “parameters” are distinguishable from other assumptions or data.

Outside of Section 2, the term “parameter” is never used except in conjunction with the term “assumption.” In the cases where the parameter is a form of data, those provisions of the ASOP seem inapplicable; once one starts adding margins to data (Section 3.1.6.b), or creating ranges of values beyond what the data set already contains (Section 3.1.6.c), then one is creating assumptions rather than using data.

Those references to “parameter” in conjunction with “assumption” do make perfect sense where the parameter is in the form of an assumption. However, in such cases, the use of “parameter” is unnecessary; once we recognize that the parameter being considered represents an assumption, guidance about “assumptions” is automatically applicable. There is no guidance provided about “parameters” that differs from the guidance about “assumptions.”

Also, the use of “parameters” in Section 2.10 makes that section too narrow. Its wording implies that “parameters” are the only form of output that can be used as input for other models (since only parameters are characterized as such), whereas in fact any output from a model might be used as input for other models.

There are really only two types of input: data and assumptions. A “parameter” is never distinguished from those two types, and apparently can be of either type. Therefore, the ASOP would be clearer if the unnecessary term “parameter” were deleted. Where it appears in conjunction with “assumption,” the term “assumption” by itself can be used. The term “parameters” could be deleted entirely from Section 2.7. Section 2.10 would be improved by reframing it as follows.

Output—The results of a **model** including point estimates, likely or possible ranges, or qualitative criteria on which decisions could be made. The **output** of a **model** may serve as an **input** to other **models**.

If the Board, and the Committee and Task Force responsible for this exposure draft, feel strongly that the term “parameter” needs to be retained, then its definition ought to be strengthened considerably. As it stands now, the “definition” does not define the term in a way that distinguishes it from the other forms of input already described, nor does it offer a reason why parameters must be considered as a separate type of input. If the use of the term is truly important, then a clear definition should be possible, and guidance specific to parameters (beyond what is generally applicable to assumptions) should be provided.

Thank you for your consideration of these comments.

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