July 2, 2015

Via email to Kris DeFrain (kdefrain@naic.org) and Tiffany Fosgate (fosgate@naic.org)

Richard Piazza
Chair, Casualty Actuarial and Statistical (C) Task Force

c/o Kris DeFrain, Director, Research and Actuarial Department
National Association of Insurance Commissioners
1100 Walnut Street, Suite 1500
Kansas City, MO 64106-2197

RE: Casualty Actuarial and Statistical (C) Task Force Request for Information

Dear Mr. Piazza:

Thank you for the opportunity to provide comments on the Casualty Actuarial and Statistical Task Force (CASTF) May 19, 2015, draft "Price Optimization White Paper." The American Academy of Actuaries[1] Casualty Practice Council (CPC) formed the Price Optimization Task Force earlier this year to address price optimization issues. The Task Force has now reviewed the May 19 document and offers the general and specific comments below, along with a few clarifications of our comments on the first draft.

General Comments:

The addition of a definition section (in paragraph 11) is helpful. However, "price optimization" itself is not defined in this section, perhaps because of the variety of existing definitions of the term (as noted in paragraph 19). If this is the case, it may be useful to note at the outset that no common definition exists and/or that the white paper does not attempt to establish a definition. If, on the other hand, the description of price optimization contained at the end of paragraph 1 is intended to serve as a definition, then that definition should also be placed in paragraph 11.

Several of the below questions have been posed in paragraph 39. We hope that you find our comments helpful as you develop Section VII, Recommendations and Next Steps.

1. What is an acceptable difference between a selected rate and a cost-based rate?

---

[1] The American Academy of Actuaries is an 18,500+ member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

Factor values falling within a reasonable range of the cost-based indication could be considered actuarially sound regardless of the method used to make a final selection. An explicit measurement of the deviation considered acceptable to regulators could set a metric for both regulators and insurers.

2.   At what point does the difference result in an unfairly discriminatory rate?

Germane to the price optimization debate is the question of whether the use of price optimization, in and of itself, results in an unfairly discriminatory rate structure. Or should the end result be the means by which unfair discrimination is identified?

3.   What types of data are acceptable to review in establishing a rating plan and price?
      a.   Competitor data?
      b.   Insurance-related consumer data?
      c.   Non-insurance related consumer data?

Some states do not allow the use of certain categories of data, as a matter of public policy. For example, collection accounts with a medical industry code cannot be used when determining an insurance-based credit score. A similar concern regarding the consumer data being used for price optimization could be directly addressed by defining the categories of data that should not be used. These categories of data could be explicitly identified in regulations/rules similar to the approach that has been used for credit scoring.

4.   In developing a rating plan, what level of granularity is acceptable?

Due to the sheer number of insureds and the resulting availability of data, price optimization techniques are more likely to be employed in personal lines pricing than in commercial insurance. For this reason, it might be appropriate for the draft white paper to take a more focused view, addressing only personal lines concerns. Much competition takes place in this market among competitors to better refine and price (i.e., predict the cost for) individual risks. Competition results in a better matching of price with expected cost for all insureds, often through increased granularity. Insurers must stay abreast of such innovation in identifying, underwriting, and pricing risk or face the financial effects of adverse selection. Nevertheless, there may be a point at which a classification plan is deemed to be too granular.

Comments on Specific Paragraphs:

1.   Comment and suggested edit: First, we suggest a change to the fourth sentence as follows:

> "The advent of more sophisticated data mining tools and modeling techniques have allowed the use of more objective and detailed quantitative information *for* ~~about the judgmental~~ aspects of ~~in~~ the rate-setting process *that have traditionally relied* ~~instead of reliance primarily~~ on *judgment or* anecdotal evidence.

Second, we have comments and a question regarding the fifth sentence. As noted above, this sentence can be interpreted as the definition of price optimization for use throughout the white paper. If that is the intention, some clarifications are needed: Quantifying policyholder retention is not price optimization. Demand modeling (or retention modeling) occurs independent of price optimization, yet the terms have been used interchangeably here and elsewhere. Additionally, price optimization is being defined in terms of "sophisticated tools"—does price optimization occur only within the context of formal models, or might price optimization also occur when the procedure is less formal? It is likely the concerns exist independent of the formality of the mechanism; however, there has been public criticism about the formalized aspect of price optimization.

2. **Comment and suggested edit** (last sentence of paragraph): We suggest deleting "and were often selections lower than indications." We do not believe the phrase accurately describes how judgment has traditionally been applied. When selections to some classes are made that are lower than the cost-based indications (e.g., the rating territory example noted), there could be offsets to other classes or to the overall base rate, resulting in selections that are higher than the cost-based indication for other classes.

3. **Comment:** It is important to isolate the potential areas of regulatory concern to better define acceptable pricing practices. This paragraph raises two such issues: rating plan granularity and acceptable data. These issues exist independent of price optimization. Only the third issue—formalized and mechanized adjustments—might require price optimization and, even then, price optimization is not a necessary component.

4. **Comment:** As noted above, price optimization is not consumer demand modeling. Insurers that model demand are using their own data and/or insurance shopping databases that are related to insurance purchasing habits. Competitor pricing data is, by definition, insurance data. Thus, it is unclear where the non-insurance data comes into the demand modeling. Non-insurance data does come in—where allowed—on loss modeling, e.g., credit-related data, catastrophe modeling.

11. **Suggested edits:** There is a typographical error in subsection c: "price" should be "rate" in the first sentence.

    In subsection d, you might wish to indicate that the "actuarial indication" is also referred to as the "cost-based indication." Alternatively, all references to "actuarial indication" could be changed to "cost-based indication," as the term "actuarial indication" is not used in the document beyond this point.

    Additionally, in regards to subsection d, the first two sentences appear to be contradictory. We suggest the following edit to the second sentence:

    "It is determined by the data at hand and the analytical techniques used ~~but may not always provide the best estimate of costs going forward~~."

In subsection g., the proposed definition for the broader use of "rating variable" would mean that hypothetical "Company A," considering a competitor's rate relativity (which is a piece of quantified data), makes the competitor's rating relativity a rating variable in Company A's class plan.

You might wish to add a definition of "rating factor," a term that is used throughout the document and is distinguished from "rating variable." We suggest the following addition to subsection g.:

"A rating factor is the numerical value assigned to a rating variable."

15. **Comment and suggested edit:** A non-parametric approach, by definition, has no rating plan. There are no parameters (rating factors) and no rate order calculation. We suggest deleting the second sentence: "~~The output is often on a nonparametric basis, generating prices that are often not related to an insurer's rating plan.~~" (the non-parametric aspect is introduced in paragraph 13b).

19. **Suggested edit:** In subparagraph b, following "(Academy)," we ask that the specific group at the Academy be identified: "The American Academy of Actuaries' *Price Optimization Task Force* defines price optimization as ….".

22. **Suggested edit** (last sentence): "Both approaches make adjustments to the *cost-based* indicated risk classification factors…"

24. **Suggested edit** (third sentence): Because "price elasticity of demand" is defined in paragraph 11.e, we suggest the following:

"Price optimization relies on the concept of "price elasticity of demand ~~of consumers~~," *as defined above*."

25. **Comment:** The graphic depicts individual price optimization (in the rightmost column). As we noted previously,[2] this is not a U.S. technique for pricing personal lines insurance. We suggest removing the graphic or changing it to address rate book or hybrid optimization.

27. **Suggested edit** (first sentence): "Price optimization ~~often~~ affects the selected rates or rating factors rather than the *cost-based indications* ~~indicated ones~~…"

33. **Comment and suggested edit:** The second and third sentences of this paragraph seem to be a counterpoint to the contention that price optimization is allowed by current actuarial standards of practice (ASOPs). However, there is the alternative view that the ASOPS do not explicitly allow for the practice. It is not clear why the absence of an ASOP specific to ratemaking is notable in this context. We suggest deleting these two sentences and possibly replacing them with the latter view to illustrate the scope of opinions.

---

[2] http://actuary.org/files/Price_Optimization_TF_Response_to_NAIC_PO_White_Paper_Exposure_4.15.15.pdf

The task force appreciates this opportunity to provide comments to the CASTF. We hope these observations and suggestions are helpful, and we welcome further discussion. We stand ready to provide additional input on future drafts of the CASTF Price Optimization White Paper. If you have any questions about our comments, please contact Lauren Pachman, the Academy's casualty policy analyst, at pachman@actuary.org or (202) 223-8196.

Sincerely,

Mike Angelina, MAAA, ACAS
Chairperson, Price Optimization Task Force

Shawna Ackerman, MAAA, FCAS
Vice President, Casualty Practice Council
American Academy of Actuaries