Price Optimization: Regulators Struggling With Big Data

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“Price optimization,” an emerging practice that uses big data, predictive modeling and data analytics in pricing insurance products, especially personal lines property and casualty insurance, continues to draw the attention of state regulators, consumer advocates and class action plaintiffs. Several states have issued bulletins questioning — and in some cases, prohibiting — certain “price optimization” practices; the National Association of Insurance Commissioners Casualty Actuarial and Statistical (C) Task Force is preparing guidance on price optimization; and the Federal Advisory Committee on Insurance discussed the issue in its most recent meeting. At issue is whether state regulators should constrain “price optimization” in some fashion or permit the practice.

Adding to the complexity of the discussion is the lack of basic agreement on terminology. The term “price optimization” is used by different stakeholders to describe a wide variety of practices. Some use the term to refer to relying on predictive modeling and big data, rather than potentially subjective and anecdotal actuarial judgment, to select final rates. Others use the term to mean using information about customers’ price sensitivity as a rating factor, which critics contend will potentially allow companies to charge higher prices to customers who are less likely to object to a price increase, shop around, cancel or nonrenew.

NAIC Activity

The issue of price optimization was first taken up in December 2013 by the NAIC’s Auto Insurance (C/D) Study Group, which later referred the issue to the Casualty Actuarial and Statistical (C) Task Force in November 2014. The study group made the referral because “the topic of price optimization goes beyond auto insurance and requires a great deal of actuarial expertise.” In March 2015, the task force issued its first draft of a white paper on price optimization. After receiving numerous comments from regulators, consumer groups and industry trade groups, the task force on May 7, 2015, issued an updated draft of the white paper that has been exposed for comment through July 3, 2015. It is anticipated that the task force will next discuss the white paper during a call on July 21, 2015.

The May 7 draft white paper provides helpful background on price optimization, including a comparison of the various definitions of “price optimization” used by actuaries, state insurance departments,
vendors and consumer groups. It identifies the concerns raised and the potential benefits of using price optimization. Importantly, the May 7 draft identifies several alternative regulatory responses that state regulators can take, which include constraining price optimization in such a way that it “can only be applied to specific class sizes, not class sizes so small that price optimization could be applied at the individual insured level or to small groups of insureds”; constraining the variables that can be used; developing additional regulatory guidance; and changing filing requirements to require insurers to disclose their use of price optimization. The draft white paper left blank the section entitled “Recommendations and Next Steps.” That section will be completed after comments on the current draft are received.

State Regulation

In the interim, several state regulators have issued bulletins and notices addressing the practice of price optimization. Out of concern that price optimization may permit or disguise actuarial discrimination, some of these regulators have directed insurers to cease practices deemed to be price optimization.

Maryland was the first state to act in this area. On Oct. 31, 2014, the Maryland Insurance Administration issued Bulletin 14-23, which defined price optimization as “varying rates based on factors other than risk of loss, including, but not limited to: (a) the likelihood that a policyholder will engage in activities that result in policy turnover [defined to include shopping with other carriers for a lower premium, cancelling a policy before the expiration of the policy term, or failing to renew a policy at the renewal of the policy term]; and (b) the willingness of a policyholder to pay a higher premium compared to other policyholders.” The bulletin stated that price optimization, “by its nature,” involves discriminating against policyholders of the same class based on factors other than actuarial risk. The Maryland Insurance Administration therefore required every insurer that then used price optimization in Maryland to file a corrective action plan by Jan. 1, 2015.

The Ohio Department of Insurance followed Maryland’s lead by issuing Bulletin 2015-01 on Jan. 29, 2015. The Ohio Department defined price optimization as the practice of “varying premiums based upon factors that are unrelated to risk of loss in order to charge each insured the highest price that the market will bear.” The bulletin took the position that price optimization allowed insurers to set premiums based on factors that were unrelated to the risk of loss or expense. It required insurers using price optimization to rate insurance policies in Ohio to submit a SERFF filing compliant with the bulletin by March 31, 2015, with proposed effective dates no later than May 31, 2015, for new business and June 30, 2015, for renewal business.

The California Insurance Commissioner issued a notice on Feb. 18, 2015, to more than 750 property and casualty insurers doing business in California, announcing that “any use of price optimization in the ratemaking/pricing process or in a rating plan is unfairly discriminatory in violation of California law.” The commissioner had previously stated that in California, “[t]here are no differentials allowed based on whether the applicant or insured is more or less likely to look elsewhere for a lower price.” The Feb. 18 notice defined price optimization as “any method of taking into account an individual’s or class’s willingness to pay a higher premium relative to other individuals or classes.” The commissioner contended that price optimization “does not use actuarially sound methods to estimate the risk of loss” and “represents a fundamental threat to fairness in rating.” The notice directed insurers using price optimization in California to cease the practice, remove the effect of any adjustments based on price optimization from any future filing, and remove any factor based on price optimization from the next filing (which must be submitted within six months of the date of the notice).
The New York Department of Financial Services (DFS) took a different approach and issued a Section 308 inquiry letter on March 18, 2015, requesting information about the use of price optimization by insurers doing business in that state. The New York DFS was “concerned that insurers are charging higher premiums based on whether a consumer is less likely to notice, shop around or object,” which could violate the state’s insurance laws.

Most recently, on May 14, 2015, the Florida Office of Insurance Regulation (OIR) issued Informational Memorandum OIR-15-04M, which bans certain price optimization practices. Recognizing that price optimization “does not have a universally recognized definition,” the OIR defined it for purposes of the memorandum as “a process for modifying the insurance premium that would otherwise be charged to an insured or class of insureds in order to maximize insurer retention, profitability, written premium, market share or any combination of these while remaining within real world constraints.” The memorandum concluded that price optimization involves analysis and incorporation of data that is not related to the expected cost for risk characteristics and therefore its use leads to unfairly discriminatory rates. The OIR directed property and casualty insurers that have used price optimization in determining rates filed and currently in effect to “submit a filing to eliminate that use” and further directed that future filings “do not utilize price optimization in any manner.”

The Indiana Department of Insurance has also issued a draft price optimization bulletin and is seeking comments from the industry. The draft bulletin defines price optimization as “using data collection and analysis to predict which consumers will accept higher rates without changing insurers.” The draft bulletin states that the department “views a rating factor or rating methodology that adapts rates based on considerations other than risk, such as market competitiveness, to be at high risk of violating” state insurance laws. It would require companies using price optimization to notify the department within 30 days of the bulletin and would require that all future filing submissions “clearly disclose the use of price optimization and be accompanied by supporting documentation to demonstrate compliance with Indiana insurance laws.”

**Federal Activity**

The Federal Advisory Committee on Insurance (FACI), which is charged with providing advice and recommendations to assist the U.S. Treasury’s Federal Insurance Office in carrying out its statutory authority, has also begun to investigate the issue of price optimization. In the May 7, 2015, FACI meeting, FACI’s Subcommittee on the Affordability and Accessibility of Insurance reported on its review of issues relating to price optimization and the use of big data by insurers.

The subcommittee defined price optimization as a form of “granular consumer demand modeling to meet various business objectives.” In its report on NAIC and state regulatory activity involving price optimization, the subcommittee noted that it was not certain what types of “big data” are being used by insurance companies and vendors in making price optimization decisions. However, the subcommittee stated its belief that data points relating to a consumer’s credit, social media use, socioeconomic characteristics, Internet use, government records and shopping activity were among the kinds of data used in price optimization algorithms. The subcommittee could not say whether these data elements are correlated with loss cost or prohibited rating factors.

One question addressed by the subcommittee was whether state regulators should require approval of price optimization models prior to their use. The subcommittee discussed two potential regulatory approaches. First, regulators could try to update the regulatory system so that they can continue to monitor all of the data that goes into insurers’ models to try to ensure good outputs. However, the
subcommittee acknowledged that this approach is likely unrealistic. The second approach would be to start collecting “regulatory big data” on outcomes in the marketplace so that regulators can see if price optimization practices are resulting in protected class discrimination or other issues inconsistent with public policy.

Following the subcommittee report, comments by FACI members were generally favorable toward the practice, recognizing the business opportunity presented by price optimization and the use of big data by insurers.

**Potential Regulatory, Compliance and Litigation Issues**

Although price optimization represents a new way to analyze the vast amounts of big data available to insurers, insurers using price optimization should be aware of several potential pitfalls, including:

*Potential suspect class discrimination.* One of the issues raised in the FACI meeting was the possibility that big data elements and modeling factors may be correlated with otherwise prohibited rating factors. Information used in price optimization algorithms cannot be a proxy for information forbidden in insurance underwriting generally. Insurers may need to screen and test the data elements they use to ensure their price optimization models do not unintentionally run afoul of federal and state anti-discrimination laws.

*Privacy and the Fair Credit Reporting Act.* The use of big data by insurers also implicates the Fair Credit Reporting Act, which governs information provided by consumer reporting agencies and shared among affiliates. When considering the use of big data in price optimization models, insurers should consider whether the data they use would be deemed to have been obtained from a consumer reporting agency under the FCRA; whether they must provide notice to consumers of adverse actions; and whether consumer consent to data sharing is required.

*Consumer concerns.* Consumer groups have voiced strident opposition to price optimization, believing it to be a mechanism for insurers to raise rates or “punish” loyal customers. Consumer groups have raised scenarios in which individuals who would appear to have similar risk profiles may be quoted dissimilar rates as a result of price optimization models. Insurers will want to actively address consumer concerns about the supposed unfairness of price optimization.

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