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Editorial

## Expert Opinion, Heuristics and Small Company Actuaries

By Grant Hemphill

**W**hy do we have a *Small Talk* newsletter? Why do we exist as a section? Why do other organizations with similar missions exist? [See the article on page 9 “Organizations That Support Smaller Insurance Companies.”] I want to mention some recent articles that I find pertinent to the highly regulated work of small company actuaries.

An announcement that Jean Tirole had won the 2014 Nobel Prize in Economics contained some interesting quotes. He was awarded the Nobel Prize for his analysis of market power and regulation. The focus of his work has been on the market power held by massive companies and how it should be controlled so that they work for consumers, and not the other way around. *He urges regulators to resist coming up with single regulatory regimes to cover very different types of businesses.* [My emphasis.] The announcement says Tirole’s work has been made more important by new forces that generated mega-companies. These forces are privatization, the Internet, and globalization. Tirole says companies with huge market share are not a problem—so long as the market is open. Like most economists, Tirole believes the consumer is best served by a free market—as originally defined. Regulators are a necessity to maintain a relatively free market. One aspect of that is the lack of barriers to entry and exit.

To me, it is normal and expected that successful companies will work to create barriers to entry. Economists tell us to expect this. Insurance, with its long-term promises, must always have barriers to exit. We can’t walk away from our long-term promises. Regulators should help

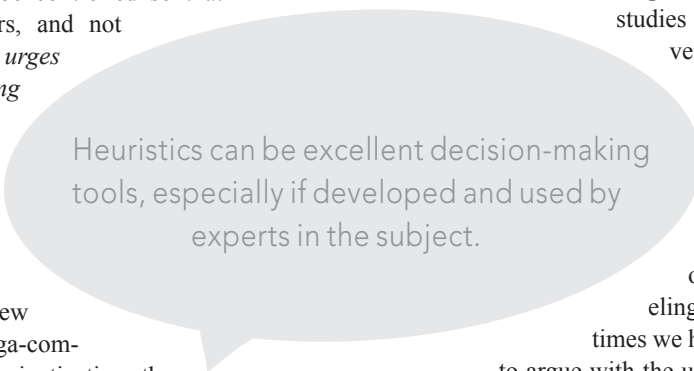
create a free market and not help build unnecessary barriers to entry.

An article by Bruce Bower, “Less is More,” appeared in the Sept. 20, 2014 issue of *Science News* (SN). He compared decision-making with complex computer models and heuristics. That seemed familiar and led me back to Dave Ingram’s article “The Evolution of Thinking,” appearing in the February/March 2012 issue of *The Actuary*. Ingram described the history of research into two (or three) competing methods of making uncertain, complex decisions: heuristics, clinical opinion and computer models. (A heuristic may be roughly defined as a rule of thumb. Ingram’s second method, “expert judgment”

or “clinical opinion” was the subject of earlier studies of decision methods. It seems very close to advanced use of heuristics as he uses it.) We actuaries can enjoy some pride in that the researchers have long considered us to be on the forefront of the modelers. In fact, some of the researchers called modeling “the actuarial approach.” At times we have used our data and models

to argue with the underwriters or marketers who were armed only with heuristics. However, Ingram goes on to note that actuaries also use heuristics. Heuristics can be excellent decision-making tools, especially if developed and used by experts in the subject.

Ingram notes some research that favors the modeling approach over the heuristic and/or clinical opinion approaches. Heuristics and expert opinion must be updated with new information just as models are updated. However, in practice, the clinical psychologists (that were the subjects of the study) tended to stay with their heuristic without updating for new data or research. Ingram also notes that modeling can have the opposite problem—over-fitting to the new data. Ingram



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says a clash between modelers and experts relying on their judgment was behind the financial crisis of 2008. I wish he had elaborated on that.

I am a modeler, of course. When setting or updating my assumptions I am as hungry for more data as anyone. However, I know some of my assumptions fit good data well while other assumptions are set by my judgment or heuristics. Ingram says the actuary must be modeler, expert, and a wielder of heuristics. And that might be especially true of the small company actuary.

Bower's SN article more clearly favored the use of heuristics. "Simple rules of thumb may be best for complex financial decisions." "Yet heuristics can outperform number-crunching exercises in fields such as business, where many interconnected, often unknown factors can trigger unpredictable perils." "Given gigabytes of data, bankers and business managers want to use as much of it as possible to make crucial financial forecasts. Studies suggest, however, that less mental effort produces better judgments than complex calculations do in comparably uncertain situations...."

He goes on: "Bank of England economists have conducted simulations based on historical data. Their findings indicate that, when calculating how much money to keep in reserve to cover potential loan defaults, simple measures may be the way to go." "Several simple measures of banks' financial strength from 2006 ... slightly outperformed complex calculations in predicting which of the 116 international banks ended up failing during the global financial crisis in

2007-2009." "That crisis, partly fueled by bad bank loans justified by complex risk formulas, did much to inspire the bank's interest in simpler approaches."

Finally, friend and past chair of the Smaller Insurance Company Section Council, Jerry Enoch, shares this wisdom for discussing principle-based reserves (PBR) with state regulators and legislators: "PBR is designed to accommodate the most complex products available today or imaginable in the foreseeable future. It is not necessary for simpler products and not practical for smaller volumes of business." Tirole would appreciate that.

PBR may also lead to poorer decision-making than current, or other, simpler approaches. ●

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## Get Ready for the Best Survey Ever

By Jerry Enoch

Well, that's what we're trying to make it. To help us know how to best meet the needs of our members, the Smaller Insurance Company Section (SmallCo) is preparing a survey of our members. We need your responses so we can improve, and we're trying to design the survey to make it easy for you. Our last survey was in late 2009—when people didn't expect interest rates to stay low and principle-based reserving (PBR) was going to be effective around 2013—so we're due for an update. We're even going to wait until spring to send it out, and we're going to give out \$10 gift cards to 10 randomly chosen people who complete the survey. There may not be a pot of gold at the end of the rainbow, but there may be a joke at the end of the survey. If you send a joke to [jenoch@alfains.com](mailto:jenoch@alfains.com), and we use your joke in the survey, we'll send you a \$10 gift card. So watch for our survey, and please complete it. We're working to make it a good experience for you.

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