

GUEST EDITORIAL

**THE DANGER OF BEST PRACTICE
OR
DON'T BE SATISFIED WITH WHAT MOST PEOPLE DO NOW**

BY S. GUTTERMAN

Best actuarial practice represents the most preferable technique or approach that can be applied to a particular problem or area of our practice — *the state of the art (science)*. Following such practice is quite appealing, both from the standpoint of its recipient, who can be assured that there is nothing better in the marketplace of ideas or applications, and from the standpoint of a service provider, to protect against legal liability as a safe harbour and to preserve personal pride. If every actuary followed such practice, the old saying that if you give the same set of information to ten actuaries you will get back at least ten different answers may no longer be valid. Greater consistency across professional practice would result, while also promoting up-to-date methods.

Then, if such practice is so good, what's not to like about it? What could be wrong with *the best*? As I will indicate: (1) it can be difficult to agree on what such practice is; (2) once determined, if not careful, its very existence can erode the incentive to improve on such practice and be innovative; (3) it can lead to a one-size-fits-all methodology that may not be appropriate for all cases; and (4) its existence could lead to reduced use of alternative approaches.

WHAT IS BEST PRACTICE?

Best practice is supposed to reflect the *current* state of the art. But what is the state of the art? Who gets to determine it? In some fields it is easy to tell what is a best practice through current consensus. In some cases it is whatever has been published somewhere recently, however refereed. In others, whomever is trying to sell something at the time defines it for themselves. In the fields of interest to actuaries, its identification can be controversial. There can be a wide range of acceptable practice, with each company/firm having its own opinion, possibly related to its own economic interest. Where an official standard of practice or regulation is involved, acceptable practice is by definition that of the standard setters, whether or not it is good actuarial practice.

Best practice has often simply meant the most common current practice,

sometimes limited by the technology then available. Practically, it is anything that produces reasonable results. But in some cases, even that can be difficult to determine. As my wife would say, what criteria can you apply to know something is reasonable? For example, does ignoring out-of-the-money risks constitute best practice when deriving a best estimate, or should the possibility of becoming out-of-the-money always be taken into account?

Because we live in a dynamic and constantly changing world, treating any practice as *best* for long can create significant problems, both to the individual practitioner and to the profession. Indeed, practitioners should always strive for further improvement, at least in part because, if each individual actuary doesn't continuously question whether current best practice is as good as it can be, others outside the profession certainly will. I contend that, although the identification and proper application of current best practice can reduce the likelihood of inadequate practice or a lawsuit, it can also reduce the incentive to enhance techniques and methods that could advance both professional practice in general and improve the general welfare of the users of our services.

This assertion should not be interpreted to mean that best practice or compliance with existing standards is not a good thing. It is, in large part, what makes professional practice professional. Often it is as good as can be done now. Nevertheless, it has to be remembered that some tried and true approaches, even those ingrained in regulation, are followed more due to the existence of a herd instinct, a *lemming* tendency, than due to their intrinsic merit, that is does anyone want to be seen as not using today's best actuarial practices?

NEW IDEAS AND CHANGE

If not careful, continued reliance on (however) designated best practice can result in a stagnant profession. How do we continue to reinvent ourselves in order to remain relevant to our users? John Maynard Keynes said: "The difficulty lies, not in the new ideas, but in escaping from the old ones." We have to admit to ourselves (and publicly) that we don't have all of the answers. In today's dynamic environment, current best practices can quickly become out of date tomorrow.

Does this mean that all our old ideas are, by necessity, bad? Of course not. Sound principles do not go out-of-date quickly, if ever. Nevertheless, a profession benefits from an environment in which it is accepted that new ideas should constantly challenge old ones. It is inevitable that certain current practices, even those that are now thought by some to be *best*, will become out of date soon. Indeed, as Popper (1990) indicated in a reference to scientific theories and models, equally applicable to their application:

“Our theories, our hypotheses, are our adventurous trials. Admittedly, most of them turn out to be errors: under the impact of our tests their falsity may be revealed. Those theories that we *cannot* refute by the severest tests, we *hope* to be true. And indeed, they *may* be true; but new tests may still falsify them. This method of bold, adventurous theorizing, followed by exposure to severe testing is the method of life itself.”

It is easy to continue seemingly satisfactory work that has not been directly challenged — inertia is difficult to overcome.

Here are a couple of unrelated examples of change in practice or paradigms of thinking that can quickly undermine current practice, if stayed with too long.

Until the 1960s, the shipping industry handled individual pieces of cargo in a supply chain — from railroad car, to truck, to port operator, onto a ship and finally back again — loaded, packed, arranged, and unloaded separately. In addition to huge logistical problems, this method of handling cargo resulted in significant breakage and pilferage.

To overcome these problems, a simple technology called containerisation was introduced. All shipping supply participants — the railroads, truckers, port operators, and cargo ships, agreed to build an infrastructure for handling giant metal boxes of a single standard size which could be packed at the cargo's source and handed quickly and easily from one link in the chain to the next, a standard for moving cargo across the supply chain. Today, about ninety percent of the world's goods trade moves in containers, leading to huge efficiency gains and steep declines in costs across the entire shipping supply chain.

Containerisation's secondary effects were as significant, bringing other lasting and unexpected changes. For example, as shipping costs fell by two-thirds, many smaller overseas manufacturers suddenly found entirely new markets open to them. But this wasn't so good for existing domestic manufacturers, who suddenly had serious foreign competitors. As international trade skyrocketed, some carriers sought to leverage the economies of containerisation by buying longer railcars, larger truck fleets, and bigger ships. Those unwilling or unable to make such investments declined. And, since bigger ships carried more containers that could be offloaded quickly, ports soon required adjacent land to sort and stack the containers. Consequently, many older ports located in city centres were relegated to second-tier status as ports in outlying areas thrived. Such a change in status can also occur to an entire profession if it does not adequately prepare for change.

An example of a long-term paradigm shift is an area in which some have believed to represent absolute truths, the laws of physics. Centuries ago, the predictions of the early Greeks were obvious truths, that gradually gave way to the thinking of Ptolemy, that in turn gave way to those of Galileo, Newton, Einstein, Bohr, Hawking and Poppers' description of scientific progress has repeated itself in field after field.

Paradigm shifts in management seem to occur with regularity every couple of years. For instance, in the 1980s the indisputable superiority of Japanese management processes was a fact, and management consulting led programmes, such as re-engineering, zero-based budgeting, total quality management, restructuring and activity-based costing or activity-based management rose and fell quickly. In an informal survey that I conducted at a recent North American actuarial meeting of more than fifty insurance company actuaries, every one had gone through the introduction of at least three of these management techniques approaches (referred to by some as 'fads') over the last ten years, and some several times. One reason for this pattern is that no company wanted to be seen as not following best practice in this area. Interestingly, none of these programmes was still in use three years after implementation.

Other paradigm shifts happen all of the time too. 'Outside' (from outside the profession or from outside local practice) ideas in relevant paradigms should be considered in the development of local practice. These include fair value accounting, financial economics, behavioural economics through reflection of expected policyholder behaviour and optionality in general (through option pricing or stochastic modelling of such options as guaranteed annuity options or cash surrender values), avoidance of smoothing techniques that can hide more than reveal, discounting general insurance loss reserves, or actuarial loss reserves and the time value of money analysis applied to banks' loan loss provisions. Some traditional practice should be changed when warranted, net premium valuation techniques, ignoring the effect of policyholder behaviour with respect to (in- or out-of-the-money) options, deterministically determined and smoothed values that can mask underlying changes in experience and mislead users of actuarial information.

An example of actuarial practice sometimes relied on (or accepted) is the use of smoothing techniques to spread the effect of unusual (e.g., realised capital gains) or infrequent events through such techniques as the application of credibility. Are these techniques appropriate? I contend that each situation should be evaluated on its own merits to determine whether users of such results would gain or lose useful information. Smoothing can lead to a lack of transparency, used in some cases as if the users of this information cannot understand or will misuse it. Indeed, smoothing can sometimes hide underlying experience that relevant stakeholders should be aware of. In any event, disclosure of the effect of smoothing would seem desirable in most cases.

Of course, it is often easier to observe paradigm shifts (either permanent or temporary) after they occur. There will always be sceptics of certain current beliefs. In the late 1990s many proclaimed, at least in the United States of America, that thanks to technology and the new economy the business cycle was never going to be seen again, e-commerce was the way

everything was going to be purchased in the future and that .coms could not fail, even though they may have not yet made any money. These have certainly convinced me of the ability of fads, taken as best belief or best practice, to take hold of an industry or business function (in other words, as earlier discussed, current practice or beliefs are not always good!). Intellectual ideas can be quite fragile, particularly in this age of almost-instant global electronic communication. With the massive amount of information that we now have available, the noise created by irrelevant or bad ideas makes all of our jobs more difficult. The distinction between current practice and good practice should be constantly validated.

New and 'hot' techniques should not be automatically accepted on blind faith. Take the example of financial economics, with its emphasis on the use and theory underlying financial markets. These useful tools can provide significant insight into a number of problems that actuaries are, or should be, addressing. However, to avoid misapplication, its limitations and weaknesses also have to be recognised, with their results subjected to rigorous testing, just like any other actuarial model. The normal financial economic theory assumption is that a perfect market exists and its participants have complete information. In many cases of interest to actuaries this is rare, and indeed there may be no market at all. It is up to each actuary, as well as further research, to determine the extent to which this produces unreasonable results. In any event, many insights can be gained through its applications, as economic reality should not be ignored.

HOW CAN THE PROFESSION PROGRESS?

In view of the difficulty in discerning, observing and enhancing good practice, as well as avoiding the problems associated with staying with past practice too long, how can our actuarial profession and its individual professionals keep advancing and truly represent itself as making financial sense of the future? We certainly have to maintain vigilance in aggressively challenging our current practice in preparation for the future. We should strive to continuously reinvent ourselves through revisions in our ideas, techniques and applications.

If we were the only financially oriented profession in the world, we would have more time to cultivate new ideas and to move our practice in an evolutionary manner. However, I believe that professional services will become even more competitive in the future. If we continue to practice as we have, we will certainly fall behind or, as John Plender (2003) has indicated, become 'antiquarians'. Conversely, if we change just to keep up with others without recognising the limitations of the new approaches used, we stand to lose even more. In addition, new and emerging practices in international

practice should be evaluated — we might find that our national practice isn't as much on the cutting edge as we had thought.

We should never become complacent and satisfied that current practice is really the *best* practice. There will always be a need for more theoretical and practical research to help lead us, and possibly more importantly, we need to better integrate research results into everyday practice. This research doesn't have to be all *new*, as it is hard to be original. There is no harm in *borrowing* or *stealing* ideas and applications from others where they can serve a purpose. When asked at a recent Institute discussion on financial economics (Whelan *et al.*, 2002) why it has taken so long for the developments noted in Modigliani & Miller's famous paper on corporate finance published in 1958 to get into the actuarial syllabus, let alone practice, A.M. Combie indicated that: "My suspicion is that the profession has not really got to grips with some of the practical applications in this area. It needs to do much more thinking." This type of concern is equally applicable on both sides of the Atlantic.

One way is for our standards/guidance setters to keep an ear open for emerging and potential changes in *best* and consensus practices. They should avoid embedding today's techniques into standards. If they do so, practitioners will tend to ignore cutting edge techniques and services.

It is usually difficult for an organised profession, as a profession, to develop new ideas, although it can and does provide education once these ideas have been effectively applied. More commonly it is the efforts of individual members that drive change. However, a professional association can provide support for maintaining minimum standards of practice, as well as the infrastructure within which individuals' ideas can flourish and be disseminated. We need to do more to encourage the application of new ideas by providing more opportunities and incentives to our members.

Large organisations are often viewed as being sluggish and tend to play it safe, while smaller and newer entities tend to search and adopt new directions. They often outperform their larger competitors in terms of efficiency and innovation, even without the advantage of size.

I appeal to actuaries and to our profession as a whole to continuously enhance our research dedicated to solving our clients' (either consulting clients or employers) needs in a practical way. We need to keep pushing the envelope from within our practice. Although science can be complex, it doesn't have, at the same time, to consist of black boxes that can't be understood by most of our practitioners, let alone by others. There are too many papers that have been published that almost no one reads because they include far too many formulae. Indeed, our practitioners have to understand what is being presented. If we can't explain the basis for our practice and methods to a non-actuary, we will not last long. Although a lack of transparency might at times provide a temporary advantage to the author or the author's firm, it is rarely of lasting value. Today's tendency

to keep something proprietary is rarely in anyone's long-term best interest.

We must first identify important areas of needed practical research. Once identified, actuarial organisations, firms and individual actuaries must proactively seek solutions. In addition, more systematic studies should be undertaken in both traditional and non-traditional areas in which users of our services can benefit. Although professional committees certainly can help in some instances, in any event actuarial organisations must provide fora, co-sponsored with others where possible, to encourage new ideas and new applications.

Not only is there a need for practical research to enhance practice, but results must also be transparent and be available to the public. There is an increasing tendency to keep advances as the property of the company/firm for whom it is produced and to classify such advances as proprietary. We have to overcome this trend. For example, when I worked in an insurance company my group of research actuaries wrote a significant number of published papers (still referred to) that described what was then used in our everyday work. I was confident that by the time those results were published we would be way ahead of what was included in those papers. Over the long term this approach benefited the firm, the profession and the insurance industry. I believed that the better the industry's financial health, the more likely it was that the individual firm would be able to remain strong. I wish that this spirit of sharing ideas was more widespread.

HOW CAN THE INDIVIDUAL ACTUARY PROGRESS?

New developments that contribute to our knowledge and future practice arise from a wide range of sources, from the individual actuary, teams of actuaries (grouped either within a firm/company or a professional organisation), and ever more often multi-disciplinary teams.

Nevertheless, based on my observation that most active professionals can't afford the time, can't make the time or aren't capable of unaided development of new and better practices, actuaries need to take a conscious effort to go beyond doing their job, to contribute to our library of ideas and techniques.

One of the most compelling characteristics of many actuaries is their intellectual curiosity. How can something that has been acceptable be done better now? How can current practice in one area enhance practice in others?

As a consultant, I will typically ask actuaries of clients a series of journalistic-style questions that I learned long ago — what, when, where, etc. I usually receive satisfactory answers to my questions relating to what was done and how it was done. However, when I move to the question of *why* things are

done the way they are, the answers at times become weak. I have received a response of: “Well, that’s the way we have always done things,” while at other times I receive logical well-thought out reasons — we need to promote more questioning attitudes, more striving for excellence. We need to establish a professional culture of intellectual curiosity, of continuously searching for something better. Otherwise, our intellectual relevance will wither.

This doesn’t mean that our current ideas and practices are bad. On the contrary, most of our principles are important and will remain sound, although at times we only look at one set of users of our services and do not concentrate on society’s best interests. We need to question whether they will remain as relevant to the direct and indirect users of our services.

We also have to remember that our models aren’t meant to be crystal balls, but only first steps in an analytical process of further exploration and application. They may not be perfect at developing best estimates, but they can be effectively used as a basis for predicting sensitivities to changes in what they are supposed to model and developing ranges of possible effects and ways to manage them. We shouldn’t delude ourselves — our models don’t always predict the future well. Nonetheless, our models can provide insight into the range of financial effects in the future, so that appropriate risk management techniques can be developed and effectively applied.

In addition, each actuary needs to be up to date in his or her area of speciality. And, consistent with the rest of this paper, each actuary should strive to push ahead, through continuing professional education and conducting their own research to enhance his or her practice.

A SUMMATION

Does this mean that I don’t believe in best practice and actuarial standards? Of course not. Does this mean that an actuary shouldn’t strive to apply current practice that is recognised as the best available? Of course not.

Nevertheless, I believe that it does point out that individual actuaries and the profession as a whole should strive to continue to examine themselves and their practices, reinventing both when appropriate. We should not be complacent with current practice. As described, there are significant dangers to slavish reliance on a given set of rules; each set of rules should be periodically revalidated. Actuarial science as currently practiced is quite different from the science I learned when I went to school — this is great. I hope that this process of change continues.

The essence of this discussion involves how actuaries can promote the public interest by best meeting the needs of their customers. I hope that we will continue to do this in the future through further evolution and revolution in actuarial practice.

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Sam Gutterman is a Past President of the Society of Actuaries, and is Chairman of the International Association of Actuaries Committee on Insurance Accounting. He is an Honorary Fellow of the Institute of Actuaries.