



SOCIETY OF ACTUARIES

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## A FUTURIST'S TECHNIQUE IN PRICING

by Claude Chau

In our rapidly changing world, it is becoming hopeless to try to arrive at a satisfying description of future conditions, even in the short run. Yet prices for new life insurance must somehow reflect one's view of events even in the far distant future. It has become so hazardous to base financial decisions upon a single view of what lies ahead that preference is developing for examining a variety of possibilities, some favorable, others distinctly unattractive.

A second reason for making calculations on a range of possibilities is that the door is thus opened to relating profit loadings to the risks undertaken. Profit, after all, is the compensation for taking risk as well as for giving service. It is reasonable to aim for a basic profit for services, supplemented by an additional return related to risk of loss, defined as the difference between the outcome considered today as most likely, and that perceived as the most adverse.

### Scenarios

Historically the word "scenario" has meant a plot in theatrics; futurists have appropriated it as their label for each member of an array of outcomes considered within the range of practical possibility. Each of these possibilities is a hypothetical sequence of events intended to illustrate a point. Perhaps none of the scenarios is necessarily to be taken seriously by itself, but together they serve to help us understand what might happen.

A difficult but essential requirement of this approach is that each of the outcomes be internally consistent. Grotesquely unhelpful results emerge if any scenario is inadvertently permitted to combine events that cannot conceivably all happen together. It is surprisingly easy to fall into the trap of introducing this form of irrationality.

When examining for internal consistency, it is usually discovered that even the most favorable portrayals must incorporate unfavorable elements; for example, unfavorable mortality increases the likelihood that healthy policyholders will replace their term insurance, and high investment returns are frequently coupled with rising costs and excessive policy loan usages.

Finally, it is necessary to do one's best to place a numerical probability or weighting on the relative likelihood of each selected set of events being the one that occurs. One of the most valuable, and exciting, sessions is that in which company management is presented with a set of possibilities and is asked to help establish these comparative weights.

### Competitive Considerations

The approach outlined here does not, of course, free the actuary in the slightest from the constraints of competition, which are severe. Skeptics may even say that after price competition has been taken into account, premiums will turn out about the same as they would have under traditional methods of calculation. This may largely be true, but the alternative futures system helps a company to decide where it is worthwhile for it to be strongly competitive, and where it is prudent to be less so.

Pricing is far from being the only use for the system described here. It is helpful in such diverse activities as product design, tax planning, response to regulatory proposals, retention limits, and acquisitions of other companies. □

### Actuarial Society of India

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of the development of pension plans in a free competitive climate such as that of the U.S., is the equation of the market place."

Mr. Sharma went on to describe ERISA, its significance for actuaries, and the role of our Academy. His closing comment was this:

"Unfortunately, to accommodate the changes brought about by ERISA, the Academy relaxed its high standards for admission to membership and adopted the federal requirements for enrollment as one of the alternative means of satisfying membership requirements. However, it is to be hoped that by acting in an advisory capacity to the Joint Board for the Enrollment of Actuaries the Academy recovers in the future by bringing back the previous level of excellence through an upgrading of the enrollment requirements."

Most of the members of the Actuarial Society of India are F.I.A.s. □

### Actuarial Meetings

Dec. 4, Boston Actuaries' Club  
Dec. 16, Chicago Actuarial Club  
Jan. 14, Chicago Actuarial Club

Please let us know when your meetings will be held so that they may be publicized. □

### Actuarial Liverymen

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The procedure for admission to the Worshipful Company of Actuaries is that one is first admitted as a Freeman and then application is made to Guildhall for admission by redemption as a Freeman of the City of London which involves appearing before an appropriate City dignitary and making declarations of loyalty to the Sovereign and protection to the Lord Mayor. One is then "clothed with the Livery" at a meeting of the Court of the Company. The membership of our Company is now approaching 100.

Liverymen are entitled to attend at Guildhall and to take part annually in the election of the Lord Mayor and the Sheriffs. This again is an impressive ceremony, following a tradition unchanged for hundreds of years.

Our new Company, like all other Livery Companies, has a charitable function. Ours is to set aside monies under a covenant to be used for encouragement of actuarial research and education in its very widest aspects.

*Ed. Note: Mr. Heywood's name now goes into actuarial history as the Founder Master of the Worshipful Company of Actuaries of the City of London. A handsome booklet, a copy of which is now in our Chicago headquarters and available for reading by any one requesting it, commemorates the Mansion House ceremony of last January.* □

### UNGARBLING

The third line of the verse, "Actuarial Perry" in our October issue should have appeared thus:

Here's a query almost merry,

We weren't bowdlerizing; we tried to transmit the item from N.C. to N.Y.C. by phone, with less than perfect results. □