EDITORIAL

The dimensions of ASTIN

What do you actually do? What does an actuary do?

Such questions are often asked not only by market research interviewers who may find some difficulty in categorising an actuary, and even more a non-life actuary, but on occasion more seriously by employers attempting to slot this particular type of individual into their prearrangeed organizational structure.

For the editors of the *ASTIN Bulletin*, the question takes a slightly different form in relation to submitted material: it is actuarial? Or is it likely to be of interest to actuaries? By actuaries of course we understand those with a special interest in non-life insurance.

The point is often made that just as the world has been changing at an ever increasing rate in recent decades, so has this change been reflected in the activities of insurers, and in the structure of the insurance market place. To what extent is actuarial research as represented in the *ASTIN Bulletin* representative of current patterns?

In any attempt to comprehend an area as complex as actuarial involvement in, or relationship to, present-day insurance, it is natural to try to identify certain axes or dimensions which will be reflected at the extremes by possibly opposing tendencies or polarities. It is not difficult to list a collection of dimensions — to which no doubt more could be added — according to one's own predilections.

The most obvious axis might relate to the dimension of abstraction, or distance from the real commercial world. At one extremity we would have an 'academic' approach, leaning towards comprehending the underlying business concept and with possible reliance on the precise language of mathematics. At the other extremity we have the actual world of trading, complete with whatever process of decision making, reporting and implied process of inference may be associated with it. Conscious of a tendency to polarisation in this dimension, Astin has recently taken explicit steps to stimulate a wide range of submitted articles by designating part of the *Bulletin* a 'Workshop' section.

An apparent further dimension may be defined relating to notional 'distance' from the risk. In many ways the interests of the insurer and reinsurer are coincident, but differences may exist which can be of considerable significance for actuarial science — not least in the degree to which detailed information relating to a risk is accessible. It may be the case that the reinsurer — through paucity of information — is relatively free to choose classes of, for example, claim distribution, with which to construct models. The actuary of the direct insurer, on the other hand, may be so immersed in data as to have great difficulty in deciding which are the relevant features of the operation he wishes to model, and which of many possible measures of these features he should use.

Degree of closeness or involvement with the business may differ along a further axis. This axis would range all the way from once-off external consultancy through to in-house line management. Clearly the specific type of involvement and methodologies used might be expected to vary across this dimension.

Diversity of interest may arise between the demands of the authorities, who consciously or unconsciously may be fulfilling an 'actuarial' role, and management, who may find the authorities provide a constraint on freedom to operate the business.

Conflict of a somewhat different nature may arise along a further dimension which represents, at one extremity, the need for a cohesive, 'orderly' market, but, at the other, competition and the associated need for commercial privacy. This axis has been of considerable interest to actuaries, impacting as it does on the general availability of hard information.

We should not forget the ideals of elegance and mathematical tractability, which may motivate part of actuarial and earlier training, but which may conflict with the requirements of the real world, where problems tend to be 'dirty' and complex, and where to reach actual answers use of computers is often unavoidable.

To all of these dimensions the initiation of AFIR crystallized another which has been latent since insurance began. This axis stretches from insurance *per se* to investment; from the reduction of uncertainty to the substitution of a degree of certainty with somewhat less.

If we consider 'actuarial' science and its application to be constrained by these limits, it is clearly not a simple matter to define in what direction a move can be regarded as a move forward. If ASTIN is involved with the propagation of actuarial research, we need consider whether any research is 'good' research, or whether — as is increasingly the subject of query in the field of scientific research — there is a direction in which actuarial research 'ought' to proceed. This must be all the more the case if only because so many actuaries are involved with 'doing', and have little time for research. Is the available resource of the actuarial community being employed to best advantage, or is there a mismatch between tasks requiring actuarial treatment and the availability of methodologies for this purpose?

At this point I must recall the many numerate professionals playing an active role in the operation and development of non-life insurance. They include accountants, economists, statisticians, operational researchers, data processing specialists, etc. What is the specific nature of the actuarial contribution which distinguishes it from the output of these specialisms? Is it progressively to be the case that actuarial territory becomes more limited and specialized?

Is it too simplistic to imagine that the actuary supplies the background understanding or culture against which each of these activities can play its role? If this is to be the case, we increasingly require the development of an all-embracing background model, or set of coherent models, against which the operation of non-life insurance can be viewed.

Such models will need to reflect the enormous diversity of activity classed as

non-life insurance. They should provide a background against which the profession can contemplate more efficient framing of regulatory and fiscal environments, whether at national or supra-national level.

The situation at present is in some ways analogous to that existing at the time Newton or Maxwell carried out their epochal unifying work. In the lack of such giants, how is actuarial science to proceed?

It seems to me that there profession has a choice to make. If it is to enhance further its impact on the business environment, then the development of a strategy to this end is necessary. The formulation and pursuit of this strategy might well provide the challenge to carry the profession into the 21st century.

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