



SOCIETY OF ACTUARIES

Article from:

# The Actuary

November 1973 – Volume 7, No. 9

## Actuarial Training in Scotland

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of the burden of examining the earlier parts of the professional examinations. In North America, we call this the alternate route.

While Professor Gray is hoping for a closer link between universities and the actuarial profession in Scotland "such as exists in . . . the United States," it may be that the so-called alternate route in Scotland would be more easily controlled than in North America. The article suggests that there may actually be a stronger joint commitment between universities and the actuarial profession in Scotland than we at present enjoy in North America. While we do have several good actuarial schools in North America, these schools could not currently maintain the full input to the actuarial profession on this continent. Our five-year debate about the alternate route in North America is sufficient evidence to judge this as a very complex problem. However, without intimate knowledge of both situations, it is dangerous to comment on the relevant development in the two areas.

In any event, there are similarities on both sides of the Atlantic. High school and university courses have been extensively revised and increased use is being made of computer techniques, making parts of actuarial mathematics obsolete. Professor Gray does note that less time is now spent on developing manipulative skills, so important in actuarial mathematics, and that the actuarial profession must expect a future intake with a less well developed aptitude for algebraic manipulation. There is an increased need for students to develop a deep and continuing interest in their career rather than studying for the sole purpose of passing examinations. There is a basic need for the examination syllabus to be continuously reviewed, pruned of old material and updated with new techniques. The experience of our own Education and Examination Committee has generally been that pruning of material is done as a practical necessity and that there are more requests to add new material than to delete old.

In North America we have been talking about a common core of actuarial knowledge which, among other things, would include both life and non-life con-

## BASICS OF COST COMPARISONS

by James C. Hickman

On Capitol Hill in Washington and in almost every academic, professional, or trade association meeting that relates to life insurance, sessions are being devoted to cost comparisons. It is clear that this intensive activity could have a significant impact on the marketing of life insurance.

The Society of Actuaries has a special committee considering cost comparisons. Each of the recent meetings of the Society has had at least one session directed at some aspect of the problem of how to summarize cost information about life insurance for prospective purchasers.

Considerations for solving problems. The advent of joint sponsorship of the examinations administered by the Casualty Actuarial Society and the Society of Actuaries by the six recognized professional actuarial organizations in Canada and the United States creates the framework for further development.

In Scotland the development of non-life actuaries appears to be non-existent, with the field of non-life insurance being largely in the hands of non-mathematicians. Professor Gray states that this is strangely anomalous because in non-life insurance the problems are more complicated and more interesting than those faced in life insurance. In North America we have a number of non-life actuaries and the problems which they face are of a widely varying nature. Members of the Society of Actuaries also continue to be challenged by new developments in life insurance, health insurance, and pensions requiring the exercise of actuarial skills.

The big lesson for North American actuaries to be drawn from Professor Gray's address is that almost exactly the same forces pushing toward revision of actuarial education in North America are also working in the United Kingdom. What is more, the responses being developed on both sides of the North Atlantic are almost identical. The simultaneous appearance of the same set of problems and the same proposed responses in two different countries should remove any suspicions that the forces are illusory and the proposals for reform worthy only of dismissal. □

Consequently even actuaries not involved in marketing problems for individual life insurance should by now be aware of the outlines of the problem.

This short essay contains no technical suggestions for insurance cost indices. Instead the objective is to state and support two basic propositions:

(1) A highly developed information system is essential for the efficient operation of a market. If one adopts the premise that an open market provides the best mechanism for consumers to maximize the utility derived from their purchases, he is forced to support efforts to develop cost comparisons in life insurance and to make this information freely available.

(2) Because life insurance involves a balance between a stream of premiums and benefits and services extending into the future, any cost summary depends on a model and a set of assumptions about the future. A rational consumer may formulate a view of the future which is consistent with his preferences and state of information. Yet there is no theoretical or practical reason to expect a consensus among potential purchasers on the assumptions by which streams of future premiums and benefits are converted into a present ranking.

In our imperfect world no one has ever observed a realization of the perfectly competitive market of classical economics. This beautiful abstraction is inhabited by hypothetical buyers and sellers supplied with unlimited and reliable market information and controlling the market. Nevertheless, the notion that informed consumers, armed with common sense and a reasonable fund of information, can operate through an open market to regulate and direct an economy, is a powerful one.

Vast information systems have been organized within both the private and public sectors to promote efficiency in securities trading. A major objective of the federal regulation of the securities markets in the United States is to enforce the availability of comparable information. Several agencies within the Department of Agriculture operate to produce and disseminate information concerning the supply and demand for agricultural commodities. Markets in which information is too expensive or unreliable often behave capriciously and fail to fulfill their intended function.

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