

## TRANSACTIONS

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#### THE ACTUARY IN THE WORLD

ONE of the recurrent problems of an actuary's spouse is that of being able to explain to others what an actuary's function and responsibilities are. On the North American continent perhaps this is true because of the many different and far-ranging fields into which actuaries must delve. Here I should like to reflect on our developing responsibilities, both from the standpoint of how the actuarial profession operates in other countries throughout the world and with respect to the very considerable degree of uniqueness which applies to our conduct of the profession in North America as it relates to our fellow citizens.

Many different definitions of the term "actuary" have been developed in Canada and the United States, at least in part to make up for the well-known deficiencies in the definitions in standard dictionaries. Certainly included in the definition must be the qualities of mathematical ability, professional integrity, intellectual curiosity, and practicality. Furthermore, in North America, at least, one important element in the definition of an actuary is the general characteristic of being a businessman—that is, a policy maker and administrator. Nonetheless, we actuaries should not swing too far in this direction by placing primary importance on that desirable aspect of our profession. We should never stray too far away from the fact that a strong mathematical ability and background, with the inherent intellectual discipline, must be our basic foundation.

As I see it, in any type of insurance program (using the term broadly) the actuary can play three different roles. The first role, which only an actuary can fill, is to develop the necessary mathematical methodology and formulas underlying the financing of the program. The second role—one for which actuaries have unusual talent, although not uniquely so—is the development of the various coverage, benefit, and financing provisions of the insurance system after the general policy has been set forth. The third role, which actuaries can generally fill quite advantageously (although unfortunately the policy makers are not always aware of this), is

the basic development of the policy and philosophy underlying the insurance plan.

On the North American continent (defined here as including only the United States and Canada) actuaries generally, although not always, play these three roles so far as insurance companies and private pension plans are concerned. However, this tends to be much less the case in connection with large collectively bargained pension plans and with benefit programs developed in the political field, whether at the national level or at state, provincial, or local levels.

Now let us briefly look at actuaries as they operate in other parts of the world. Turning first to Great Britain, which to a very great extent was the source of the North American actuarial profession, it is not at all surprising that the role of the actuary is so similar to what it is in Canada and the United States. In fact, in some ways, British actuaries have extended their role somewhat more than ours—as, for example, in the investment field. In both geographical areas it has been possible for individuals to qualify as actuaries without formal university training. This seems a highly desirable and democratic approach, in that an individual can qualify if he demonstrates the necessary education and skills, even though he may never spend a number of years acquiring a diploma that is not necessarily of real significance. As a practical matter, in North America virtually all actuaries have had university training, while in Great Britain the trend is strongly in this direction, although many of the current actuaries are products—and quite successful ones—of what might be called an apprentice system.

With certain exceptions, actuaries on the continent of Europe are of a considerably different type. Much more emphasis is given to the academic side of actuarial science, and much more attention is paid to the mathematical basis of the insurance system—regardless of the limitations of the data to which the resulting elegant formulas are applied—than to its practical operations. There are no examinations designed to test actuarial qualifications. Instead, mathematical degrees, plus, in some cases, experience, are the qualifying conditions.

In other words, continental European actuaries tend to be confined much more closely to the first of the three phases of actuarial work mentioned previously. As a result, the actuary is more or less placed in an ivory tower as far as the actual operations of the insurance system are concerned. As with all generalizations, there are important exceptions to this description of actuaries in western Europe. For example, in Switzerland, the actuary generally calculates pension costs and recommends the appropriate contribution rates to the employer, but the test of tax de-

ductibility is whether the payments are irrevocable, and in this respect little attention is paid to the findings of the actuary. In contrast, in the Netherlands, actuarial certifications for pension plans are required at every stage. Then, too, in Scandinavia, it is common for actuaries to be found in insurance management—a situation unlike that in the remainder of western Europe but comparable to that in North America and Great Britain.

Special mention should be made of the actuarial profession in the Soviet Union. Most certainly there are actuaries in the U.S.S.R. who are engaged in the calculation of premium rates and reserves for the sizable individual life insurance business that is operated by the government monopoly, Gostrakh. Some Western students of the Soviet Union have met with high officials of this organization, but, to the best of my knowledge none has ever been able to make contact with the actuaries themselves, although their existence is mentioned by such officials.

Another significant difference exists between actuaries in North America and Great Britain and those in western Europe with respect to the relationship between those in the private sector and those in the public sector. Fortunately, in my opinion, in the former countries very close relationships exist, and many actuaries easily and desirably move back and forth between the two sectors. But in western Europe in many instances, although by no means in every case, there is a sharp chasm between social insurance actuaries and private insurance actuaries, and this seems most unfortunate in many ways.

Virtually all actuarial activities in Africa are confined to the Republic of South Africa, whose actuaries closely follow the British pattern, although with a certain element of the North American style. In some of the former British colonies in Africa (and elsewhere throughout the world), British actuaries continue to serve as consultants to social insurance programs, insurance companies, and pension funds; frequently the laws affecting these activities specifically require actuarial valuations to be made by a Fellow of the Institute of Actuaries or a Fellow of the Faculty of Actuaries. Some years ago there were a number of well-qualified actuaries in Egypt, but many of these have left the country.

When we come to Asia, three widely differing areas can be considered. In the west, Israel has a relatively large actuarial population, made up of older immigrants from western Europe and young actuaries coming from a university program developed by several distinguished North American actuarial educators. Also, several actuaries practice in Lebanon, which has an important role in the field of international finance, but they generally are foreigners.

In the central part of Asia, India has many well-educated actuaries who obtained their qualification through the Institute of Actuaries. In general, the Indian actuaries tend to be extremely strong on the theoretical, mathematical side, more so perhaps than on the practical administrative, applied side of the insurance business. At the present time, as a result of the nationalization of the insurance business in India, there is probably here the only instance throughout the world where there is a superfluity of qualified actuaries. As a result, many Indian actuaries have been compelled to go into the administrative side of the business. Pakistan presents somewhat the same actuarial picture as does India, although in a smaller way because of the relative size of these two countries.

In the east of Asia, Japan has always had a very flourishing actuarial profession and insurance business. To a considerable extent, Japanese actuaries have patterned their professional education and training along North American lines. We can hope, therefore, that for this reason the International Congress of Actuaries to be held in Japan four years hence will be such as to have significant professional appeal to North American actuaries.

The Republic of the Philippines has a very extensive and flourishing insurance and pension system. As a result—or perhaps as a cause—there are many actuaries in the Philippines, most of whom were educated in the United States, and some are members of our Society. There are also a few actuaries, most of whom were educated in North America or Great Britain, in Hong Kong, Singapore, and Thailand.

Last, in our view of Asia, we come to mainland China. Among many mysteries surrounding this country is the fact that little is known about the current practice of the actuarial profession there. Before the Communists took over the government several decades ago, there were a few Chinese actuaries, but the present situation is unclear.

In Australia and New Zealand actuarial education has, in the past, been predominantly through the examinations of the Institute of Actuaries and the Faculty of Actuaries. These two nations have a joint actuarial organization, the Institute of Actuaries of Australia and New Zealand, which has some interest in actuarial education and qualification. The actual operation of the insurance business in this area has tended somewhat toward North American lines, so that some elements of our professional actuarial approach are present.

Finally, completing our trip around the world, in South and Central America most actuaries have had their basic professional training in Spain or from Spanish-trained educators. Thus the Latin American actuaries tend to follow the western European patterns of actuarial practice.

Having discussed the geographical aspects of my topic "The Actuary in the World," let me turn to the moral and ethical side of the subject. It is certainly a difficult matter to define what constitutes a profession. Some would take the restrictive view that the only professions are those three ancient and large ones—law, medicine, and theology. There are others who define almost any occupation as a profession as long as it involves some elements of education and experience—and perhaps even a code of ethics.

The essential elements of a profession certainly include extensive education, significant practical experience, integrity in practice, and a considerable degree of intellectual independence. The actuarial profession embodies these characteristics, in some respects to a greater extent than do most other recognized professions. I think that one of our really unique characteristics as actuaries is our independence of thought and action, coupled with our burning desire to seek scientific truths and to utilize them. This holds true, I believe, not only for the many self-employed actuaries but also for those who are employees of insurance companies and other organizations.

I have always been very pleased and proud that, with possibly only minor exceptions, the practice of the actuarial profession does not require us to place ourselves in an adversary role. We can do our work and draw our conclusions as we best see them. We do not have to "prove a point" or ignore or obfuscate other points.

We may have differences of opinion with other actuaries, but these will invariably tend to arise over the choice of assumptions, not the accuracy or validity of the methodology. In this respect, it is interesting to observe the current international controversy over standard actuarial notation, which for many years was a dormant subject. Hopefully, this matter is now in the process of resolution.

We recognize that our computations of what may happen over some long-range future period cannot hope to be precise, no matter how accurate they may be. Our computations are based on our best thoughts and efforts, and they are not performed to yield the answer we or someone else might desire.

This brings me to what I consider to be both a great strength and a great challenge of the actuarial profession. Actuaries quite properly, in my opinion, are free to question the actuarial results produced by others. Naturally, this should be—and almost always is—done in a scholarly and gentlemanly manner. I have always viewed with considerable dismay those professions which endeavor to cast a cloak of silence around their members, so that no member is able to criticize the others.

As actuaries, we are fortunate to be engaged in work that is of an extremely beneficial nature to our fellow men. The insurance business—using this term broadly to apply both to private insurance and pension plans and to social insurance—is of an extremely complicated nature. Thus the average person (or, in fact, virtually any layman) is not possibly able to determine for himself the equity of the financial arrangements and the soundness of the long-term commitments involved.

Actuaries working for private insurance companies have, for decades, played a dual role that is really unique—and perhaps unbelievable to some persons in these days of skeptical consumerism. Such actuaries, whether they are employees or outside consultants, would appear on the surface to owe their loyalty to the management of the company. Of course, in the case of a mutual company, one might say that in theory the actuarial responsibility is entirely to the policyholders, although the skeptics might assert that, in fact, the practicalities of the situation would call for basic loyalty to the officers of the company. In actuality, it has always appeared to me that actuaries under these circumstances have had at least equal loyalty to the policyholders. Truly, actuaries have been the watchdogs for the policyholders.

As an actuary, I am quite proud of the fact that my colleagues in the private insurance business have had such great dedication over the years to the interests of the policyholders, whether in stock or mutual companies. This is evident from the equitable construction of premium rates, reserve and nonforfeiture values, and dividend schedules.

It may be possible that the growth of the consumerism movement, which has had many beneficial results (although not in every case, since change for change's sake does not always produce desirable results), will change this situation. Although actuaries may be convinced that policyholders are being treated equitably as a result of the actuarial watchdogs in the insurance companies and the relatively limited supervision in this respect rendered by state insurance departments, the question may not be for us to decide. We may be compelled to have much more so-called "independent" actuarial review of our insurance operations, whether or not it is really necessary. Almost certainly, the net effect of this would be an increase in the cost of insurance to the general public.

A somewhat similar situation exists in the area of pensions and other employee benefits. The actuary most certainly has a great responsibility to the members of the plan, even though his compensation may come from their employer. And I think that there is no doubt that this responsibility is adequately exercised in actual experience, where the actuary has significant independence of action. Certainly it is most definitely in the

public interest that this actuarial expertise should be widely recognized by all parties concerned and, in any regulatory measures, should be required to be present.

Likewise, in the governmental area, actuaries should have—and generally do have—a considerable degree of independence. When cost estimates are required for an existing program or, more importantly, for proposed changes, the actuary must develop the best figures that he can and not merely those that will please his superiors. In this way the actuary is properly performing his function of serving the members of the plan and the taxpayers as well as his own employer.

So, to sum up the situation, we as actuaries have tremendous and challenging opportunities in the provision of economic security for our fellow men. Although at times we may become immersed in the day-to-day routines of our business activities, we should always try to keep in mind the truly unique professional role that we play, and we should always strive to do more and more for the real financial welfare of the people of the world. We can all then be really proud to be called actuaries.

We should strive to assert our professional independence at all times—and to utilize it properly. But we should not take false pride in our independence, and we should not be reluctant to lean over backward a bit in this respect when others simply cannot understand this aspect of our professionalism. We may quite correctly believe that peer review of our work by an outside “independent” actuary is not necessary, but we should neither fear nor vigorously oppose such action.

