

## ADDRESS

**BY THE PRESIDENT OF THE INSTITUTE OF ACTUARIES**

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## TURNING PROMISES INTO REALITY

### ABSTRACT

The Presidential Address gives a broad overview of the development of the actuarial profession's role in its principal areas of activity. Actuaries play important roles in life insurance and pensions, but there are some major new challenges facing the profession in these areas. General insurance has been slow to develop, but is now likely to be the fastest growing part of the profession with a steadily expanding role. Finance and investment also offer major fields where actuaries could be more influential. With continuing growth expected in the number of qualified actuaries, it will also be important to move into wider fields. The new President challenges the profession to give proper priority to the public interest and to ensure that actuaries are worthy of the trust which is placed in them.

### KEYWORDS

Actuarial Profession; Trust; Guidance; Life Insurance; Pensions; Investment

On the broad canvas of time the actuarial profession is still in its infancy. It is just over 300 years since Edmund Halley, better known to the world at large for his comet, became the first Englishman to apply actuarial methodology to a business problem — the pricing of government annuities, although this problem had been partially addressed by the Dutchman Johannes de Wit some 20 years earlier.

It is almost 220 years since William Morgan became the actuary of the Equitable Life Assurance Society and began the association of the word actuary with the management of risk and uncertainty in the finances of a life insurance company.

In 1819 the Friendly Societies Act broke new ground by requiring the involvement of an actuary to oversee the question of financial soundness. One wonders how widely it was known at that time what an actuary would contribute. It was almost another 30 years before the Institute of Actuaries was formed and any real process set in place for defining the qualifications necessary to become an actuary.

Nearly another half century passed before the formation of the International Actuarial Association and the occasion of the first

International Congress of Actuaries. The centenary of the IAA and the ICAs will be celebrated in Brussels in September 1995.

Three hundred years is a short time from a historical perspective, and much of the development of today's actuarial profession has taken place in the last 150 years, since the formation of the Institute of Actuaries. Indeed, looking back at the rapidly accelerating pace of change, we might be forgiven for thinking that almost all of what we now regard as important has been developed in the last 40 years or so — within the working lifetime of most of those present this evening. This seems to be an example of A. J. P. Taylor's dictum: "History gets thicker as it approaches recent times.

Of course, we still use the net premium method, from the early days of actuarial science, for statutory valuations of life insurance business, but in a much more active mode than envisaged in years gone by, with market valuation of assets, resilience testing and consideration of asset shares running alongside to assess terminal bonus. Discussions continue in the United Kingdom with a view to finding a suitable alternative to the net premium for insurance supervision purposes. It is interesting to note that Dr Sprague, a Fellow of both the Institute and the Faculty of Actuaries, argued strongly at the first International Congress of Actuaries in 1895 that the net premium method should be replaced by a gross premium approach. It is clear that the net premium method has stood the test of time — although that is no reason to suppose that it will always be appropriate.

Profit testing first seems to have been propounded in 1959 by Jim Anderson, and now underpins most pricing of life business. The cash flow modelling methodology is also increasingly used for valuation purposes and for investigating financial condition.

Assets have always been an important consideration for U.K. actuaries, but greater use of market values for reporting purposes has fuelled an

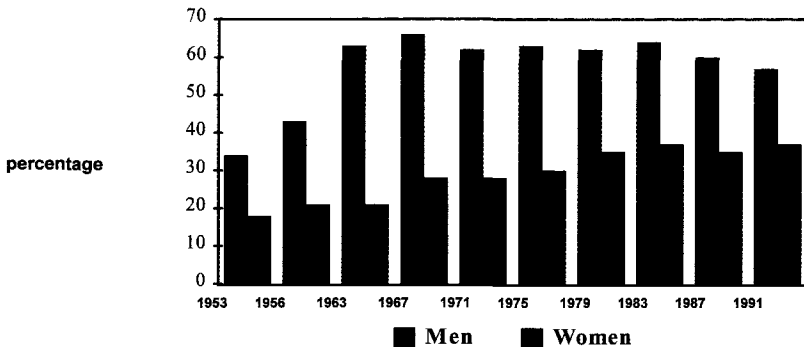


Figure 1. Percentage of employees who were members of pension schemes in the U.K., 1953–1991

increase of interest in asset allocation, starting with Frank Redington's immunisation paper in 1953 and moving on to today's stochastic asset/liability modelling.

Occupational pension schemes grew dramatically in the U.K. in the 1950s, as shown in Figure 1, with estimated numbers of members rising from 6.2 million in 1953 to 11.1 million in 1963 (and from 3.1 million to 7.2 million in the private sector). Actuarial involvement in pensions was already well established by the 1950s. Indeed, the problems of funding pension schemes were much discussed at that first Congress in Brussels, starting from a paper about the fund of a French railway company, the contribution rate for which had risen from 7% to 16% in the space of a few years. However, pension scheme valuation methods have developed markedly in the last 40 years, first in the move towards aggregate funding methods, then to cope with higher inflation and with substantial levels of equity investment, to respond to accounting standards for expensing pension costs, to Inland Revenue controls on maximum tax-free pension fund asset holdings and to increased concerns about the security of accrued rights.

The increasing maturity of many pension funds has focused attention on the suitability of the investment strategy being adopted. Emerging costs methodology, previously taught to trainee actuaries in the context of social security, and long since dropped from the syllabus, has resurfaced as an essential ingredient in asset/liability modelling exercises, together with sophisticated new tools, such as the stochastic autoregressive models of inflation and investment behaviour, first developed for the Maturity Guarantees Working Party at the end of the 1970s and moulded into a coherent and interrelated set of models by David Wilkie in the mid 1980s, in the context of Tony Limb's Working Party on the Solvency of With Profit Offices.

General insurance is not a new subject for actuaries, having featured in the deliberations of the Institute of Actuaries from its earliest days. In his Presidential address in 1888, William Sutton expressed the wish that insurance offices other than life offices should benefit from the practical application of the doctrine of probabilities. In continental Europe the mathematics of non-life insurance has formed a major part of actuarial studies in the universities, as it offers greater challenges for the mathematician or statistician than much of the more traditional actuarial work in life insurance or pensions. In North America, the Casualty Actuarial Society emerged in 1914 as a separate professional body in response to the growing need for actuarial involvement, at first primarily in workmen's compensation insurance, but subsequently in all branches of what we in the U.K. call general insurance.

In the U.K., actuaries stood on the sidelines of general business for too long. The profession (and the industry) owes a great deal to the pioneers of the 1960s and early 1970s, such as Bobby Beard, who gave a talk to the

Students' Society in 1963, Peter Johnson and Brian Hey, with their seminal paper to the Institute in 1971, and Hugh Scurfield in his visionary establishment in 1974 of the pattern of annual General Insurance Study Group meetings.

Since then we have taken great strides forward — in methodology, but perhaps more particularly in our understanding of the enormous range of general insurance — and have been able to contribute more and more to the sound financial management of this business, at a time when it has been facing greater challenges and threats to profitability and solvency than perhaps every before.

One area where actuaries have made an important contribution is in assessing the provisions necessary in respect of outstanding claims and quantifying the possible range of outcomes. The Institute published its Claims Reserving Manual in 1991, and this has had a wide distribution outside the actuarial profession.

In general insurance, as in life insurance and pensions, cash flow modelling has begun to assume some importance. During my own involvement as Chairman of the Solvency Working Party of the GISG in the 1980s, our research took us firmly in this direction, in response to the severe limitations of a balance sheet approach from the perspective of assessing security levels. It is good to be able to record the fruitful co-operation we enjoyed with actuarial colleagues from Finland, culminating in the publication at the end of last year of the book *Practical Risk Theory for Actuaries*, co-authored by Teivo Pentikäinen, Martti Pesonen and myself. In the last year or two there has been tremendous growth of interest in North America in cash flow modelling, as a form of dynamic financial analysis (as with dynamic solvency testing in life insurance), and it seems likely that there will be further major developments in this field within the next few years, including greater use of profit-testing techniques in the pricing of general insurance contracts.

#### WHAT IS AN ACTUARY?

With such rapid developments, it has been a challenge for any actuary to keep pace with and increasingly difficult to remain abreast of more than, one major subject area. Indeed, the pressure seems to be for more and more specialisation. We have waxed hot and cold over specialisation within the examination system, but have managed in the recent review to hold on to the principle that an actuary must have acquired a reasonable grounding in the four main practice areas of life insurance, general insurance, pensions and investment. However, we have acknowledged the need for some specialisation by allowing a choice of questions within Subject Q, otherwise known as the Fellowship Papers, without any thought that the choice of questions made by a candidate would ever be a matter of public record.

So, an actuary is an actuary in each of the four fields of activity, but further specialisation is clearly necessary in order to be able to practice, if only to be able to ensure adequate familiarity with relevant legislation, taxation, accounting standards, business practices, etc. This is increasingly being recognised through the development of practising certificates, first for Appointed Actuaries of life insurance companies, now for Appointed Actuaries of some friendly societies, and perhaps shortly for Appointed Scheme Actuaries of occupational pension schemes, in the light of proposals in the recently published Government White Paper.

Practising certificates imply a higher standard of knowledge and experience specific to the relevant subject area. They also imply the highest standards of professional behaviour and a commitment to the maintenance of excellence through continuing professional development.

Nowadays we in the U.K. can readily define an actuary as being a Fellow of the Institute of Actuaries or a Fellow of the Faculty of Actuaries. We are fortunate that our U.K. legislation is entirely clear on this. In the autumn of 1993 we put in place jointly with the Faculty, an agreed syllabus of objectives to define what we expect someone to be able to do in order to become a Fellow — to be treated as an actuary. The first fully joint examinations of the Institute and the Faculty took place in April. The results for subjects A to D were published 10 days ago and the remaining results will be available on Friday, when we expect to have a significant number of newly qualified Fellows approved, for the first time ever, by a Joint Board of Examiners. These new actuaries will be Fellows of the Institute, or of the Faculty, but, as time goes on, new Fellows will be increasingly indistinguishable, as they will have sat the same examinations to acquire the designation. I hope that this will lead to the Institute and the Faculty working ever more closely together.

Within the European Union we now have mutual recognition of actuarial qualifications. Under the Groupe Consultatif agreement, which builds on the Higher Education Diplomas Directive, a fully qualified actuary from another member state can be recognised as FIA after a year's period of adaptation. Within the Groupe Consultatif a process has begun to agree a common syllabus for educating the European actuary of the future. The normal route to qualification in continental Europe is by means of a university course or through a similar higher education institution. These qualifications are essentially academic, although in some cases experience working as an actuary plays a part in the qualification process.

An historic meeting took place at Staple Inn on 29–30 November 1993, at which 47 senior representatives of 28 associations of actuaries around the world (including 18 current Presidents) met to discuss whether the time was now ripe to establish an International Federation of Actuarial Associations.

Following a further meeting in Orlando, Florida on 19 April 1994, a proposal is to be put to the next meeting of the IAA Council, in September,

to create a new section of the IAA, dedicated to the promotion of high standards of professionalism within the world's actuarial associations.

The proposed new IFAA section would provide a forum for discussion of matters relating to the initial and continuing education of actuaries, professional conduct and discipline, the role of actuaries in matters of government regulation and public policy and the setting of standards of practice in relation to particular national and international jurisdictions.

It is intended that the section will establish criteria to accredit associations as full members, covering matters such as codes of professional conduct, appropriate disciplinary procedures, the process for setting standards (guidance notes) and educational requirements for qualifications as an actuary.

If all goes well, the new section could be launched at the International Congress of Actuaries in Brussels in September 1995, a fitting step forward in the direction of a greater emphasis on professionalism to mark the centenary of the founding of the IAA.

One of the objectives of the IFAA will be to come to a common understanding of what an actuary is. Does it matter whether an actuary is educated solely within a university or by means of sitting professional examinations? Can the core of actuarial training be made the same all over the world? What is an actuary?

The Institute and the Faculty are the first actuarial organisations to have defined in detail what a trainee actuary is required to be able to do in order to become a qualified actuary (other than by defining a course of reading). This was a very substantial task and the syllabus is certain to need some fine tuning. Indeed, it may require some more significant changes as time goes on. One of the benefits of the objective-based approach is that it can easily be kept under more or less continual review, giving the profession the capability to respond quickly to a perceived need for new material or a change of emphasis.

We hope that the pioneering work which we have done will lay the foundations for agreement at the Groupe Consultatif level on a common core of actuarial education, and ultimately enable the IFAA to come to a similar agreement world wide.

## MAINTAINING OUR DISTINCTIVENESS

Most definitions of the word actuary are quite general. After all, it is not easy to explain to the average enquirer that a qualified actuary is someone who has demonstrated that they can meet the requirements of the 1000 or so objectives in the syllabus. An Actuary is someone who is qualified to evaluate the risks and probabilities and their financial consequences and applies those skills in the solution of business and social problems,

particularly those involving future uncertainty. The motto of the Institute of Actuaries — '*Certum ex Incertis*' or 'Certainty out of Uncertainty' — characterises our role in the management of uncertainty.

However, there are many ways of interpreting this. Another profession, with whom we recently organised a joint seminar, calls itself the Institute of Risk Management. Are not actuaries in the business of managing risk? We are certainly well trained to be able to handle quantitative risk assessment, although in many non-traditional fields of application we lack practical knowledge of the risk environment. How much do we contribute to the management of risk in our increasingly complex society? Should we not be looking to apply our skills in the widest possible range of contexts, not necessarily replacing those with other skills, but seeking to complement them as part of a team, to the greater public good?

Some of the concepts of risk with which we deal in the investment area have been the subject of active consideration by financial economists in recent years. They have fumbled because of lack of understanding, or even awareness, of actuarial thinking, and the need to relate asset risk to the underlying liabilities or commitments of the investor. Actuaries, on the other hand, have, for the most part, failed to recognise the challenges of modern financial economics and have sadly lost ground to this rapidly developing discipline. More and more quantitative investment specialists are being employed in financial institutions, and actuaries are no longer seen as being at the forefront of developments.

Should we not see ourselves as mathematicians applying our skills in the business world? The roots of our profession are in the application of scientific, mathematical models to insurance. Should we not focus on these mathematical skills, by strengthening the academic base of our work and training mathematicians to apply their skills to business problems? Should we not seek to strengthen our training in the highly mathematical field of modern financial instruments and financial engineering and try to regain our status as leaders in the application of quantitative skills in investment?

At the other end of the spectrum, there are those who would argue that very little complex mathematics is needed by the average actuary. Problem-solving ability is all important, and a good understanding of the business, be it insurance, pensions or investment, together with the ability to communicate well. The argument is not new. Indeed, at the very first International Congress of Actuaries there were disagreements between those who wanted to focus on business and legislative issues and those who wanted the emphasis to be on actuarial science.

If we are lured by the siren of generalism we may lose our distinctiveness. We need to reassert that the actuarial profession is a mathematical discipline. It is the rigour of mathematics and the immense potential of mathematical modelling which give flavour to the role of the actuary. We should affirm and strengthen the mathematical basis of all that we do. We

must keep pace with the sophisticated mathematics of financial economists and be able to evaluate critically what they are saying and the assumptions they are making, so that we can offer a more soundly based alternative.

However, we must also affirm clearly that we are not only mathematicians. We are specialists in the application of mathematical skills to problems in the real world of business and finance. We must understand the very different disciplines of economics and law. We must comprehend the workings of the market, where price is determined by the interaction of many players and not by mathematical formulae. We must be skilled communicators so that we can advise and inform our target audiences. Above all, we are members of a profession committed to serving the interests of our clients and principals — the wider public interest. We operate in an ethical context where our behaviour and the use we make of our skills are as important as the skills themselves. We are much more than technicians.

#### EDUCATING THE ACTUARY OF THE FUTURE

A major objective for the Institute within Europe must be to secure a strong actuarial education process for the future. We believe that we have much to offer with our long-established system for professional examinations, but we can also learn from the way in which actuarial topics are taught elsewhere in Europe, and work together with European colleagues to develop a route to become a European actuary. This needs to be without prejudice to our Fellows, Associates and student members outside Europe. To cater for the wide range of situations we might need a more flexible and modular system. There could be a role for partial qualifications, although this is a controversial area and we need to look carefully at the implications of any move in this direction. Council has recently given approval to work to develop alternative Fellowship papers (e.g. appropriate to conditions in Ireland, South Africa, India, Singapore, Hong Kong or China), still leading to FIA. We plan to offer a Diploma in Actuarial Science for those who complete Subjects A to D, and, if the Privy Council permits, allow such people to use the initials Dip. Act. Tech. after their name. Consideration might also be given to further qualifications, e.g. in European actuarial studies, advanced finance, additional applied statistics and risk theory or advanced general insurance. There are plans to develop an actuarial MBA.

Further developments along these lines would present many challenges. Foremost among these would be to maintain the Fellowship as the key qualification. There is constant pressure to fit more and more into the syllabus for the Fellowship. This pressure will increase if we want to develop our role in non-traditional areas of activity. We can only resist these pressures by emphasising continuing professional development. Specific additional qualifications will always be welcome, but should not be seen as a requirement for performing particular tasks.



Acceptance internationally of a core set of subjects, with a flexible Fellowship paper, could facilitate mobility of actuaries, with a licence to practise in another territory being granted either automatically, subject to a period of experience before practising without supervision, or a requirement to pass a single country-specific Fellowship paper.

### THE FUTURE SUPPLY OF ACTUARIES

I have already mentioned the results of the new examination process. Unfortunately, we will not know until next week how successful our students have been with the later parts of the examinations. It will be several years before we can quantify the impact of the new system on what the North Americans call the 'travel time'. Figure 2 shows the progress towards qualification of a typical cohort — the year of 1984. After 10 years we observe that about half of the original entrants have withdrawn and are no longer maintaining student membership. About 40% have qualified and 10% have completed the earlier parts of the examinations (what used to be known as Subjects 1 to 6), but have not managed to complete the later examinations.

The fallout of unsuccessful students is probably inevitable, although we might hope to reduce the fallout to less than 50%. There would be some benefits, both to students and to the profession, if we could assist those who find the examinations too demanding to make a career change earlier rather than later. However, a key objective of the examination reforms was to increase the proportion completing Subjects A to D in 2 to 3 years and to increase the proportion completing all of the examinations in 3 to 5 years.

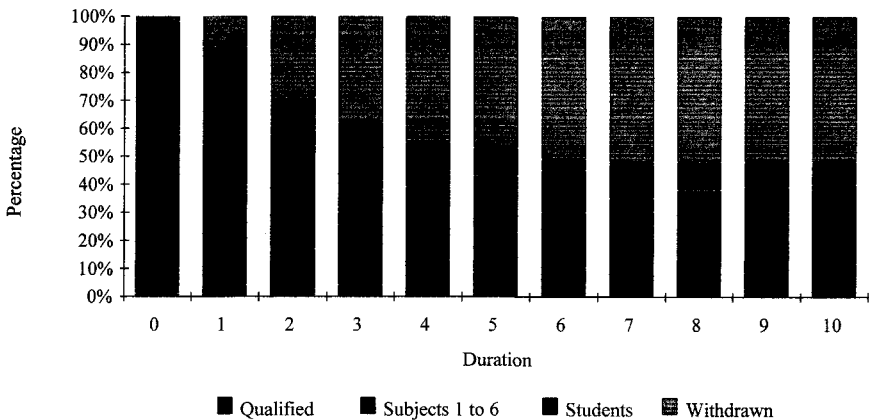


Figure 2. Proportion completing the examinations, year of entry 1984

Figure 3 shows what the picture might look like if these objectives were realised for the year of 1994.

Figure 4 shows the numbers completing the examinations in each year since 1970, with projections which have been made up to 2002. These projections assumed no significant change as a result of the new examinations, and a continuing relatively low level of recruitment into the profession, following the dramatic decline in new entrants which there has been since the peak in 1988. The large numbers completing the examinations in the last 3 years cannot be expected to be maintained. It reflects the relatively high levels of recruitment of trainee actuaries in the period 1987 to 1991. The numbers of new entrants have dropped dramatically since then.

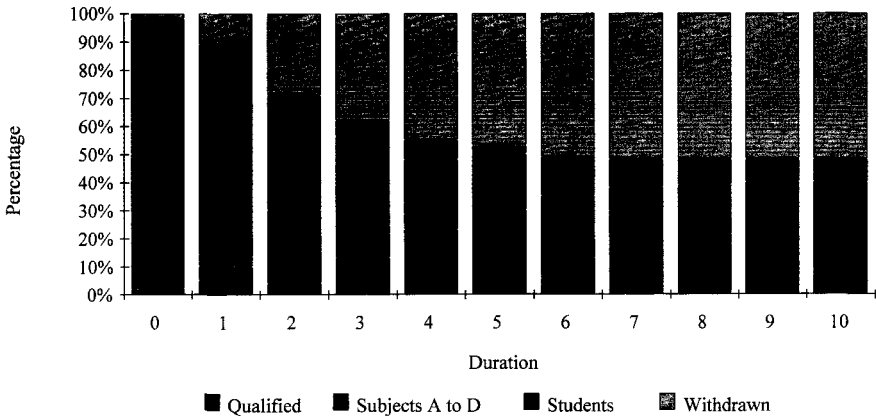


Figure 3. Assumed proportion completing the examinations, year of entry 1994

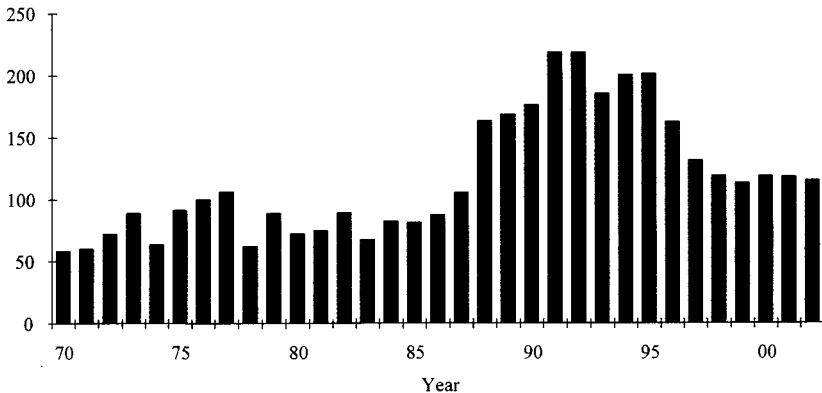


Figure 4. Numbers completing all the examinations, 1970 to 1993, and projections to 2002

Even if they increase again soon, and the new examinations prove to be highly successful in accelerating progress towards qualification, numbers completing the examinations can be expected to fall, at least until 1998, as indicated in Figure 5. Thereafter, we might, on the more optimistic assumptions, see an increase. It seems reasonable to anticipate somewhere in the range of 1,300 to 1,800 new qualified actuaries over the next decade.

Allowing for retirements, this will represent a significant growth in total numbers, which should help to ensure that actuaries move to many new areas of employment. This serves to emphasise the importance of the wider fields initiative for the future of the profession.

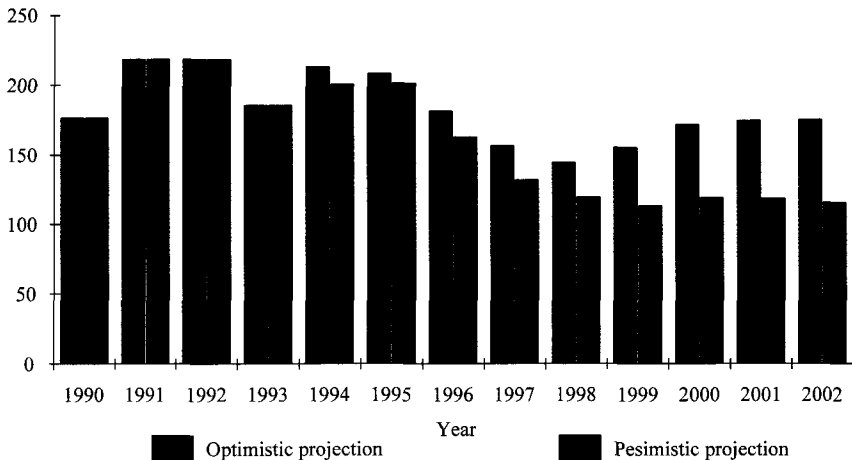


Figure 5. Numbers completing all the examinations, 1990 to 1993, and projections to 2002

### DEMOGRAPHIC CHANGES

There are, of course, changes taking place in the age structure of the U.K. population, resulting from the falling number of births each year from 1964 to 1977, after a long period of increasing births after the end of the Second World War. There is no particular reason why this should have any direct impact on the demand for actuarial recruitment, although it has certainly been affecting the supply. Economic factors, coupled with influences from legislative and other changes in the insurance and pensions fields, are perhaps the most significant determinants of the actual level of recruitment. Nevertheless, as a profession we need to be fully aware of likely future demographic changes and their possible consequences for the businesses with which we are involved.

The population of the U.K. has risen dramatically over the last 200 years. Figure 6 illustrates the growth from 11.9 million in 1801 to an expected 59.7 million in 2001. However, the Government Actuary’s official projections now indicate that the population will attain a maximum in about 2030, and that thereafter total numbers will begin to decline. This is likely to occur on any reasonable set of assumptions about the level of births and net migration from now on.

The past pattern of births (and to a lesser extent migration) has had a marked effect on the age of structure of the population (Figure 7). The current bulge centred on the age group 25–29, and the trough centred on the age group 10–14, will clearly move up through the ages. As a result, we can

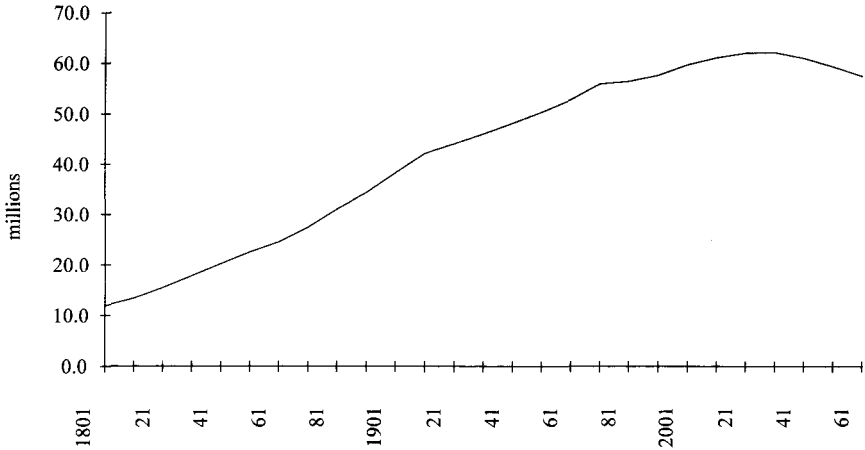


Figure 6. Population of the U.K., 1801 to 2061

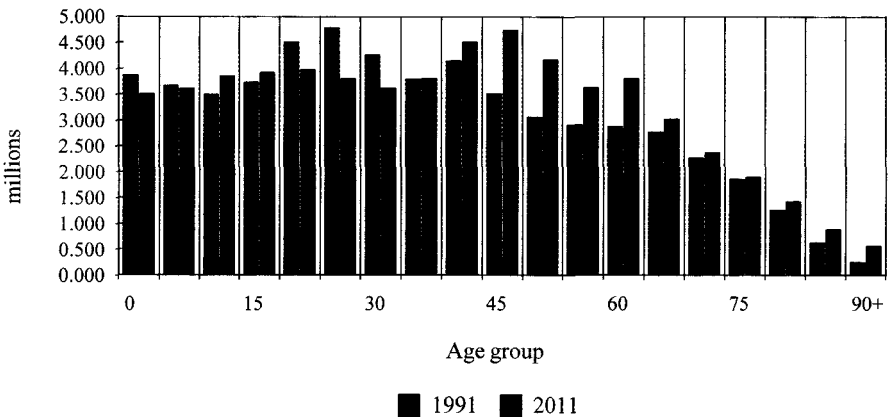


Figure 7. Age structure of the U.K. population, 1991 to 2011

expect, over the next 20 years, to see significant falls in the numbers aged 20 to 34 and significant increases at all ages over 35. Figure 8 shows the large percentage increases which can be expected in the older working ages, up as far as the age group 60–64. There will also be very large increases over age 85 and particularly over age 90, albeit from a relatively small base. Nevertheless, a rise in the population aged 90 and over from a quarter of a million now to more than half a million in 2011 and more than three quarters of a million in 2031 can be expected to have a significant impact on costs of long-term care and the health services. Figure 9 shows the increasing numbers of elderly likely over the next 70 years, as the total population increases and then begins to decline.

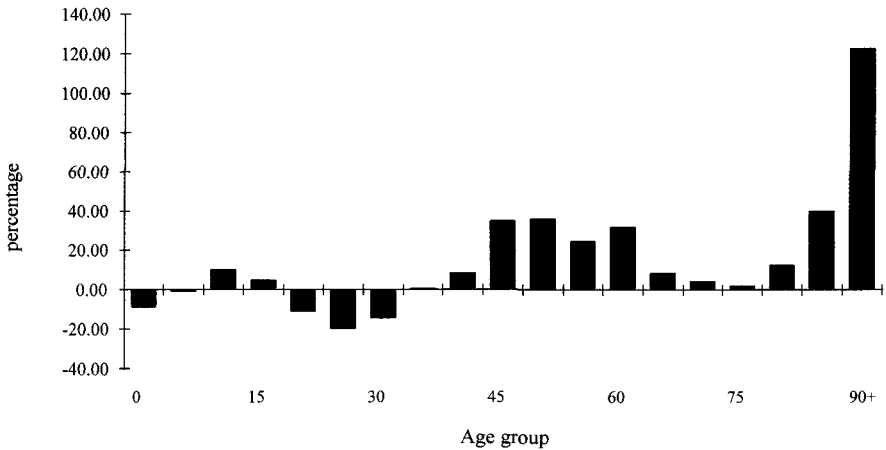


Figure 8. Percentage increase in the U.K. population, 1991 to 2011

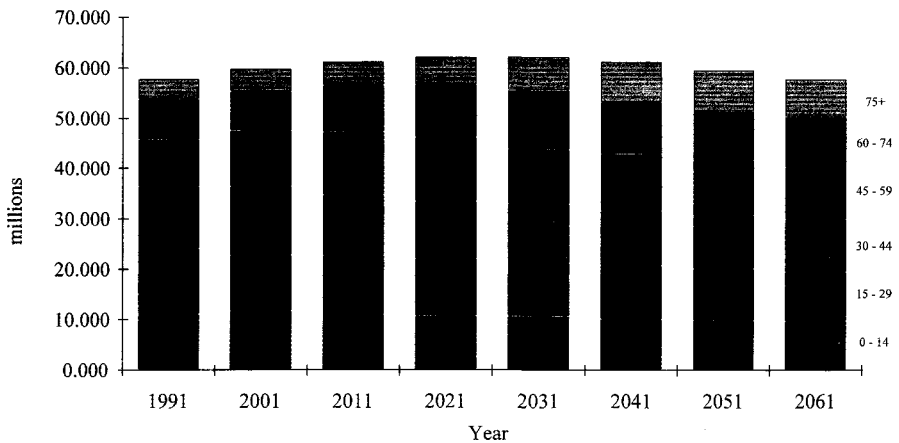


Figure 9. Projected population of the U.K., 1991 to 2061

There will also be an increasing strain created by the need to transfer resources from a diminishing number in the ages creating wealth to a rising number of more senior citizens. Figure 10 shows the projected development of the elderly support ratio, defined here as the ratio of numbers in the population aged 15 to 59 to the numbers aged 60 and over. This is of particular importance for the future of pension provision, an issue to which I will return.

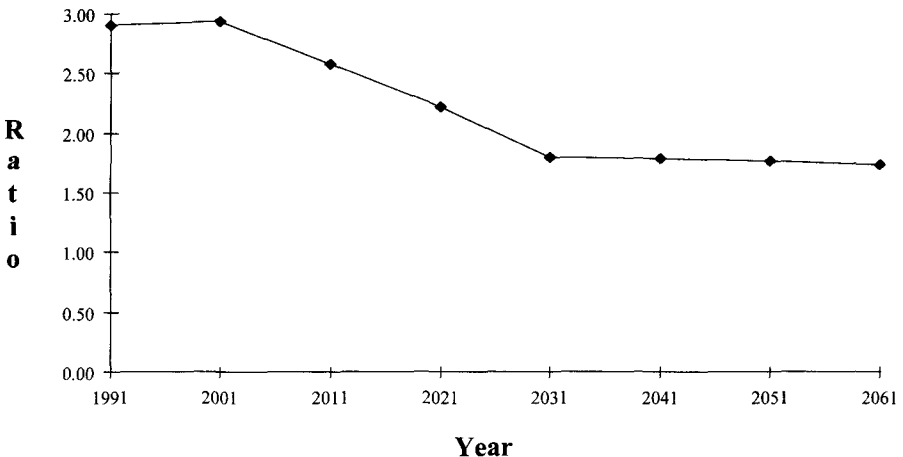


Figure 10. Elderly support ratio, U.K. population, 1991 to 2061

### CONTINUING PROFESSIONAL DEVELOPMENT

Our objective to be seen as the architects or engineers of the financial world, the solvers of business problems and the managers of financial risk, implies a heavy commitment to continuing training and personal development. No one would maintain that an initial set of examinations, however rigorous and demanding, could cover all the ground necessary for practising as an actuary, even in the mainstream subjects, and any detailed knowledge of legislation, tax and current practice would very rapidly become out of date if not continually regenerated and built upon.

In order to keep the initial examinations to a manageable size, the Education Joint Committee deliberately set the target on completion of the examinations to be the 'embryo actuary', complete and perfectly formed, but with a long period of growth still ahead to reach maturity and independence. The examinations will still be highly demanding and will test all essential skills and competences, in many cases more specifically and thoroughly than previously. However, the process should be more efficient, both in teaching

and testing, as it is in nobody's interests simply to extend the qualification process for its own sake.

An essential concomitant of the new examinations is a properly structured system of continuing professional development (CPD). It is satisfying to see this getting into place. The Institute and Faculty Councils have recently approved a CPD strategy which is designed to encourage widespread commitment to CPD within the profession, not as a narrow, legalistic fulfilment of the conditions of the CPD scheme, but as an essential process of developing personality, professional competence and wider skills.

The strategy envisages that CPD will:

- help actuaries to do their current jobs better;
- prepare actuaries to cope with change;
- expand the skills available to actuaries; and
- develop personal (not necessarily strictly actuarial) skills.

I have touched on some possible CPD initiatives in the context of the question "what is an actuary?" However, much CPD will take the form of attendance at conferences, conventions, seminars and meetings, rather than working towards specific additional qualifications. Personal study should also play a major part. In a vibrant profession there should be a constant thirst for knowledge and personal development.

The European, and wider international, dimension should play a part. As we work towards creating the European actuary, CPD at a European level will be an essential ingredient. In the U.K. we have a particular responsibility to develop our commitment to the Europe of the future. Every FIA should commit himself or herself to learning at least one other language other than English, so as to be able to read papers and understand presentations in that other language.

## RESEARCH

One of the most fulfilling ways of achieving personal professional development is through active involvement in a research working party or personal research. The General Insurance Study Group has shown this at its best, by encouraging a large proportion of those who attend the annual convention to participate during the year in one of the many working parties.

It was hoped that a similar momentum could be achieved through FIMAG, but the organisation is more diffuse and so far lacks the cohesion which made such a success of GISG. Nevertheless, we must try to breathe more life into the FIMAG structure through creating a tighter link between research working parties and annual FIMAG conventions.

Research is also going on in life insurance and pensions, often driven by

the requirements of discussions with government departments or the need for the profession to fulfil statutory duties. However, the research needs to be co-ordinated, given strong direction, and then opportunities found for the results to be promulgated. In some cases it may be necessary for the profession to spend money to get research completed professionally and in a timely fashion. The Society of Actuaries (in North America) has just embarked on a project to raise \$500,000 to establish a research foundation, in order to give a higher priority to essential research.

As a first step, I would like to see the Institute appointing a member of staff as Director of Research. Although the job description would be to stimulate, encourage and direct research essential to the healthy future development of the profession, rather than to carry out research, the person appointed would ideally be an actuary, preferably with a track record in research activity. The Director of Research would report to the Chief Education Executive and might also have a role in relation to assisting with other aspects of CPD.

#### PROFESSIONALISM AND THE PUBLIC INTEREST

It is easy to take for granted the educational and ethical basis of our profession. Perhaps we are too comfortable in knowing what we are — or thinking that we know what we are. However, such issues are brought into sharp relief when we try to create an international actuarial profession or establish a new actuarial profession in a country such as Russia or China. Concepts of professionalism may differ greatly from country to country. An ethical basis for behaviour cannot be taken for granted. Whose interests are we serving?

In the U.K. the profession has laid considerable emphasis on the protection of the policyholder or the pension scheme member. Even when the actuary is advising the directors of an insurance company, we expect him or her to have regard to the reasonable expectations of policyholders, to equity and fairness and to issues of security and value for money. We expect the Appointed Actuary of a life insurance company or friendly society to act in some sense on behalf of the supervisor, as a guardian of the public interest. Similarly, an actuary advising the employer sponsoring a pension scheme is expected to have regard to the interests of the members and the security of the pension promise.

Some find this strange and argue for a strictly commercial relationship, where loyalty is owed only to the one who pays the fee, or to the employer who pays the salary. Such a concept would undermine the moral and ethical stance of the profession and would deny any concept of wider public responsibility.

Of course the law itself extends our responsibility more widely than this.



Third parties may expect to rely on the advice of a professional person and may sue if their interests have not been properly taken into account. However, we should be motivated by concern for the public interest rather than by fear of being sued.

The Canadian Institute of Actuaries has recognised the centrality of the public interest in its code of conduct. In new draft Consolidated Standards of Practice, the CIA explicitly requires objectivity in all reports which might be used by someone other than the client. Are we prepared to follow this lead; or do we want to argue that the client is pre-eminent, regardless of the wider consequences of our advice? Are we afraid of being regarded as the conscience of the financial services industry; or can we regard this as our privilege?

Can we justifiably be seen as the protectors of the interests of policyholders, pension scheme members and the financially unsophisticated wider public, when they find it increasingly difficult to know whom to trust? Is this not the least that society can expect of us as a privileged group with skills which should be used to contribute to the benefit of all?

Does this apply to actuaries in my situation, or only to those fulfilling a special statutory role, such as Appointed Actuary to a life insurance company or actuary to the trustees of a pension scheme? I believe that our public interest role needs to be seen in the widest possible context. Any dilution of this concept will put us at risk of developing into little more than a trade body. The profession exists for the protection of others, not for the protection of its members.

### PROTECTING THE PENSION SCHEME MEMBER

Issues of security in relation to occupational pension schemes have been highlighted by the unseemly activities of Robert Maxwell in relation to the Mirror Group pension schemes. Hitherto millions of pension scheme members in the U.K. had been confident about the security of their pension rights. Our U.K. system of trust funds, with assets normally invested independently of the sponsoring employers' business, provides some assurance that the pension promise will still be fulfilled, even if the employer goes out of business. However, up to now there has been very little public supervision of pension funds. Instead, pension scheme members have been entitled to the disclosure of information about their scheme, including valuation reports and statements by the scheme actuary.

To a large extent, therefore, the actuary has played a role as guardian of the security of members' accrued rights, advising the trustees on the appropriate level of funding to make it probable that the promised benefits will be able to be paid.

Not all actuaries have seen their role in quite the same light. Sometimes

the focus of advice is more on the employer, as sponsor of the scheme and holder of the purse strings. Meeting the benefit promises is clearly also an objective for most employers, but company cash flow and resources for the development of the business may rank as immediate concerns above the security of accrued rights in the pension fund.

The proposed new legislation for occupational pension schemes will extend the role of the pension actuary by introducing the concept of the Appointed Scheme Actuary. This will clearly be an appointment to advise the trustees, it will be a continuous appointment and it will entail some degree of regular monitoring of the financial situation, with a view to advising the supervisor if the minimum solvency requirement is not being met.

The Institute has welcomed this enhanced role for the actuary. It is a natural extension of current responsibilities. However, it is clear that the Appointed Scheme Actuary will be seen in some sense as an arm of the supervisor — an early warning system to avoid the need for frequent and detailed monitoring of schemes by the supervisor's own staff. Some actuaries will be uneasy about the implications of reporting directly to the supervisor, particularly if the problem relates to incompetence, negligence or malfeasance by trustees, scheme managers or employers. We hope that it will not be necessary too often for the actuary to have to 'blow the whistle' in this way. Clear guidelines will need to be laid down as to what circumstances might trigger such action.

On questions of solvency, there is no reason, in principle, why the Appointed Scheme Actuary should have any concerns about reporting to the supervisor. Similar arrangements have been in place for many years in respect of life insurance companies. It is clearly important, before the profession accepts such responsibility, to ensure that the minimum solvency requirement is sensible and not perverse in its effects. It is a fundamental principle of our externally funded pension schemes that the risk to members and pensioners of insolvency of the employer is reduced to an acceptable level by maintaining assets at least sufficient to cover the accrued liabilities. Only the Scheme Actuary can satisfactorily monitor the position and advise the trustees on what should be done. Self-investment should be entirely excluded from assets counting towards meeting the minimum solvency requirement, unless protected by well-secured insurance against the risk of the employer's bankruptcy.

The profession will need to prepare guidance for the Appointed Scheme Actuary, as it is unlikely that the duties will be very fully specified in the legislation. Consideration will need to be given to what form of regular monitoring should be required. Should the actuary carry out some form of dynamic financial analysis to identify the risks to which the pension fund might be particularly subject and to help in a monitoring process which would alert the trustees, and perhaps the supervisor, to a deteriorating situation?

The minimum solvency requirement will continue to exercise the profession over the coming months. Care will need to be taken to avoid having situations where large numbers of employers are forced to inject cash into pension funds to restore solvency, when the problem is only a temporary one arising from market fluctuations. In similar vein, we must try to avoid forcing trustees into massive shifts of investment policy, unless, of course, the policies currently being pursued are inappropriate for the nature of the liabilities. Since the objective is simply to protect the accrued rights of members *in the event of the employer being unable to continue to stand behind the promises*, other solutions may be possible, such as insolvency insurance, increased use of collateral, or the development of a central discontinuance fund.

There will be a continuing debate over how prescriptive the minimum solvency requirement should be. On the one hand, too wide a discretion for the actuary might lead to an uneven playing field, as some actuaries may adopt more cautious assumptions than others. On the other hand, too rigid a standard could diminish the Appointed Scheme Actuaries to pension mathematicians, and discourage the use of professional judgement in advising the trustees. It was Sir Karl Popper who wrote: "We must plan for freedom and not only for security, if for no other reason than that only freedom can make security secure."

Inevitably there is a balance to be struck between raising the implied level of security and avoiding unreasonable burdens on plan sponsors. As things stand, there is still likely to be a mismatch between the emerging minimum solvency standard and the assets required to secure the accrued benefits in a buy-out with an insurance company. We need to be aware that we may find ourselves in the position of certifying schemes as having a solvency level of more than 100% whilst knowing that, in the event of scheme closure, the accrued benefits could not be fully secured. A few dramatic failures of pension schemes in this position could bring the concept of a minimum solvency standard, and the actuarial profession itself, into disrepute. Unfortunately, a solvency standard based on buy-out terms would be a severe standard to require all schemes to meet for the sake of the small minority for which the enhanced security is likely to be an important issue. What we need is the possibility for terminating schemes to secure accrued rights through buyout with a central discontinuance fund, which would operate in the same way as a pension fund. To avoid creating unwarranted guarantees, the central discontinuance fund should have the possibility of reducing benefits in the event of financial distress, or the option of raising a levy on pension providers. In practice, the contingent liability on surviving schemes or members would be small in all but extreme circumstances.

Satisfying the expectations of pension scheme members is not only a matter of solvency, although clearly the security of accrued rights should be a pre-eminent concern. Expectations in defined benefit schemes are usually

formulated in terms of a proportion of final salary. Absolute levels are not predictable, as nobody knows what their final salary will be, but the relativity can be envisaged, and this is one of the major advantages of defined benefit schemes from the point of view of members. Few pension scheme members take stock of what this will mean 10 or 20 years after the pension comes into payment, if the pension is not revalued to keep pace with the cost of living. Many private sector pension schemes rely on discretionary increases to maintain real value above a low guaranteed rate of increase. Whilst this avoids a commitment to maintaining the value of pensions if inflation is high, it implies that real value would effectively be maintained (with the associated costs) if there were little or no inflation.

If the Government goes ahead with the commencement of the limited price indexation (LPI) legislation which is already on the statute book, as proposed in the White Paper, the extent of the reliance of many schemes on purely discretionary increases will reduce. Indeed, a large number of schemes have already implemented LPI. The latest Government Actuary's Department Survey of Occupational Pension Schemes indicates that a substantial level of price protection was achieved by most schemes in recent years.

Whether or not the pension increases are guaranteed or discretionary, many actuaries, with the agreement of trustees and employers, recommend funding rates which implicitly support future pension increases to protect against loss of value resulting from inflation. To the extent that increases are planned and provided for in this way, it seems appropriate that they should also be reflected in cash equivalent transfer values, which are, in principle, intended to transfer the value of accrued entitlements.

The issue of discretionary increases is one aspect of the concerns which have arisen over transfers to personal pensions. Cash equivalents are assessed, under the relevant legislation and GN11, as the value of the alternative preserved benefits in the occupational pension scheme. This does not automatically mean that it will be good value for the scheme member to take such a transfer value and invest it in a personal pension. Complex issues are involved here, and it seems that, in the rush to encourage personal pensions, some advisers may not have treated the problem with sufficient respect.

It is appropriate that pension scheme members should have a range of choices available with regard to their accrued rights. However, it is essential that the differences between the alternatives be properly explained, so that members can understand the risks and benefits associated with each. Actuaries are well placed to assist in this process. The profession needs to work with the regulatory bodies, with pension scheme trustees and with personal pension salesmen and independent financial advisers to ensure that the issues are properly disclosed and understood.

The same issues of disclosure and explanation arise with the choice

whether or not to contract out of the State Earnings-Related Pension Scheme (SERPS) by means of an appropriate personal pension (APP). Under the new proposals for age-related rebates, the amount payable into the APP will be designed to be sufficient on average to produce a similar level of benefits to SERPS, but through the APP route. This is rather different from the cash equivalent transfer value, in that the cost of providing the benefits through the personal pension will be explicitly taken into account. However, the nature of the benefits on offer under a personal pension is very different from SERPS, and the individual needs to understand what the choice really involves.

The Pension Law Review Committee wrestled with the concept of the pensions promise. As with many other financial transactions with which actuaries commonly deal, the payments have to be made long before the benefit emerges. The future pension is only a promise. It is the task of the actuary to turn the promise into reality.

One of the issues on which the actuarial profession should be prominent, both in research and in public pronouncement, is in regard to the overall pattern of pension provision in the long term. The amendments to SERPS introduced in the Social Security Act 1986 and the change to revaluation of the basic pension in line with prices, enacted in 1980 have created a social security system with a more stable real cost level than any other in the industrialised world. However, the price of this is a gradual devaluation of the level and scope of public provision. A basic pension increased in line only with prices will maintain its so-called real value, but can be expected to decline steadily relative to national average earnings, from 17% today to 9% in 2034 with  $\frac{1}{2}\%$  a year real earnings increases.

The upper and lower earnings limits for SERPS are also being revalued in line only with prices. This hardly seems appropriate for an earnings-related scheme, and will gradually devalue the earnings band on which earnings-related additional pension accrues, bringing more and more of the low paid into the scope of additional pension, but covering a less and less realistic proportion of earnings for those earning more than the national average.

For those contracted out of SERPS through a contracted-out salary-related scheme (COSR), the diminishing value of the basic and additional pension will become increasingly irrelevant. The main issue will be the generosity of the pension scheme's own benefit structure.

Personal pensions based on the minimum contribution will become too small to be economic. The concept of contracting out by means of an appropriate personal pension (or COMP) can only survive if the Lower and Upper Earnings Limits (LEL and UEL) are increased to bear a sensible relationship to national average earnings, or to the extent that APP holders invest substantially more, by way of voluntary additional contributions, than the SERPS minimum contribution.

Of course, it may be easy for a group of actuaries to sit down and to

devise an ideal future scenario for pension provision in the U.K. We should certainly carry out research in this area and debate the conclusions throughout the profession. Now is the time to do this, as the independent inquiry into the Provision for Retirement under the chairmanship of Sir John Anson, will be actively considering these issues over the coming months and will expect to receive a positive contribution from the actuarial profession.

Should the basic pension be revalued in line with earnings, or allowed to dwindle away with RPI revaluation? Should SERPS stay at its current level, with earnings revaluation of the UEL and LEL, or should it be increased or cut back? Should occupational schemes continue to be largely on a final salary basis or should they move to money purchase? Will occupational pension schemes be able to adapt to changing employment patterns? Would a better compromise be the career average revalued structure of SERPS, as for example in the scheme for general practitioners within the NHS Superannuation Scheme? Might this be a better balance between the interests of employers and members, avoid many of the potential abuses of the final salary scheme, whilst still not leaving scheme members entirely to the mercy of the market? I look forward to seeing these issues widely debated.

#### POLICYHOLDERS' REASONABLE EXPECTATIONS

The Appointed Actuary of a life insurance company has a professional duty under GN1 to have regard to the reasonable expectations of policyholders. This highly actuarial phrase first appeared in legislation in the Insurance Companies Act 1973 as a ground for intervention by the Department of Trade and Industry, having been coined by Ronald Skerman in his paper to the Institute on the five principles of valuation. The meaning of the words has yet to be tested in the courts, and debate has raged in the actuarial profession over what is envisaged. Part of the strength of the relevant DTI power lies in the uncertainty — the actuary can use this to good effect in adopting a professional approach to ensuring equity and value for money for the policyholders.

Part of a policyholder's expectation is clearly that the guaranteed benefits will be delivered. The Appointed Actuary's responsibilities for continual monitoring of the financial position of the company are central to this. The Appointed Actuary system has stood the test of time, and is now being adopted in many other countries around the world, although with different shades of meaning. Fundamental to the approach is the direct responsibility of the Appointed Actuary to the Board of Directors of the company, explicitly covering the overall financial condition of the business, with some degree of continuous monitoring. Liabilities can only properly be considered in the context of the assets held to back them, and a truly actuarial job on

financial condition can only be done in relation to examining the adequacy of the overall resources of the company to cope with the potential liabilities.

From the point of view of financial strength, the distinction between provisions and reserves is unimportant, although it matters to the accountant and it affects the reporting of profit to shareholders. The original U.K. approach of a long-term fund, controlled by the actuary, had much to commend it. Explicit solvency margin requirements set on an arbitrary basis, without regard to the strength of the underlying mathematical reserves, or the risks to which the business is subject, were a step backwards, although not necessarily inappropriate for markets where the actuaries were not accustomed to a role in overall financial control.

The main advantage of the E.U. solvency margin régime for life insurance companies was in establishing clear intervention levels for the supervisor — an operational need for regulators which has led to the introduction of risk-based capital (RBC) requirements in North America in recent years, although it remains to be seen whether the apparent sophistication of the RBC calculation has anything to commend it as compared to the U.K. approach of crude overall solvency margin, risk-related asset valuation regulations and responsibility on the actuary to take account of other aspects of risk in the reserving basis.

The whistle-blowing role of the Appointed Actuary is significant, but most effective if it does not ever have to be used. The Appointed Actuary acts, not so much as an arm of the supervisor, but instead of a supervisor, by providing the management of the company with an internal control mechanism which obviates the need for heavy regulatory intervention. Surprise is sometimes expressed outside the U.K. as to how the Appointed Actuary can perform a quasi-regulatory function without destroying the relationship which he or she might wish to have with the senior management of the company. Clearly the relationship is not a simple one, but the role is as much to the benefit of the company as the supervisor. There should rarely be a true conflict of interest.

One of the most successful recent applications of the Appointed Actuary concept has been in Canada. There, a strong emphasis has been placed on the role of the Appointed Actuary in reporting to the Board of Directors on the future financial condition of the company. Professional standards of practice require the Appointed Actuary to carry out dynamic solvency testing (DST), under which the resilience of the company's financial condition to a variety of plausible future scenarios is tested. This is an invaluable tool in exposing weaknesses in the company's financial condition and in focusing management attention on strategies to reduce risk and increase resilience. It also provides the Appointed Actuary with a basis for discussing strategy with the Board and senior management, in a way which is dynamic and relevant to the business decision-making process, rather than being defensive or regulatory in its emphasis.

DST, or, more generally, dynamic financial analysis, is a natural extension of the Appointed Actuary's role, and is a technique which the U.K. actuarial profession should pursue as a matter of urgency. The Life Assurance Joint Committee is examining the issue further, in the light of the report of the JAWP Working Party on Dynamic Solvency Testing, which reported at the Blackpool Life Insurance Convention in November 1993. The Appointed Actuary should report regularly to the Board on the future financial condition of the company.

Many of the current concerns of life actuaries are not related to solvency or financial condition issues, but to the marketing of products and the new developments in relation to disclosure of expenses. New roles have emerged for the Appointed Actuary as the demands of the regulators have increased. There are advantages of consistency in such additional roles being assumed by the Appointed Actuary. However, there could easily be a risk of overload on a single individual, and there might be merit in developing a separate compliance actuary role relating to the design, pricing and marketing of products within the parameters of the Financial Services Act 1986 and the corresponding disclosure and policyholder relationships.

Appointed Actuaries of proprietary with-profits offices can sometimes find themselves with a severe conflict of interest, particularly when asked to advise on changes to a long-standing balance of interests between shareholders and policyholders. It is important that the Appointed Actuary is not kept on the sidelines in relation to such issues, but should play an active role in ensuring that the interests of policyholders are fully taken into account.

A proprietary with-profits insurance company is a most unusual concept. It is probably unique in having two separate constituencies, policyholders and shareholders, who each have a right to participate in profits. This is reflected in traditional profit distribution formulae of 90:10 or similar. In many cases almost all of the capital for the development of the current level of business has been supplied by the policyholders and not by the shareholders. In the context of changing the distribution formulae, even on a temporary basis, careful consideration needs to be given to which constituencies have contributed to the current position. Few of these cases are straightforward, and the Appointed Actuary can be at the centre of the conflicting claims to ownership. This is, perhaps, an area where the profession should discuss the issues with the DTI, and consider some further guidance to support Appointed Actuaries in this position so as to enable them to balance the interests in a way which the profession would find acceptable.

#### THE GENERAL INSURANCE PROMISE

Actuarial involvement in general insurance, both in companies and at



Lloyd's of London, has increased dramatically in recent years. General insurance encompasses a whole range of different businesses, exhibiting different characteristics. Although the cover provided is usually for no more than a year, the settlement of claims can take many years. Some lines of general business have a longer duration in practice to final settlement of claims than most life insurance business.

The underlying insurance process is more complex than life insurance, since both the occurrence of claims and their amount are uncertain. The same policy may frequently be subject to the risk of more than one claim for any given period of cover. Very large claims can (and do) occur on certain lines of business.

These and other characteristics led many in the general insurance industry to believe that actuarial techniques, formed and honed in life insurance, could offer little assistance. Nothing could be further from the truth. The techniques required are, of course, often very different, but actuaries are ideally equipped to work in this field.

To a greater extent than in other practice areas, it is important that the general insurance actuary becomes familiar with the nature of the contracts, the underwriting process and philosophy and often with relevant court judgments which may affect the extent of, and the amount of, the insurer's liability. Modelling the general insurance process requires a judicious mix of mathematical skills and pragmatism. To give advice in this area, it is essential to know the business, to talk to the underwriters and claim managers and to understand the many facets of what is going on, rather than simply to apply actuarial techniques.

The level of uncertainty is often great, and actuaries need to define very clearly the scope of their advice, what they can do to assist and what they cannot do. It is certainly not possible, in most cases, to provide any sort of forecast of the outcome.

Notwithstanding all the problems, however, this is one of the fast growing areas of actuarial work and one of the most interesting and challenging. It is an area where the profession has an enormous amount to contribute and has only just started to scratch the surface. Actuaries can help the underwriters to make sound pricing decisions, assist in the establishment of proper provisions, carry out asset/liability modelling exercises, devise reinsurance programmes, test reinsurance security and advise companies and syndicates on the appropriate level of capital and reserves for the sound and prudent management of the business.

These are all aspects of advice to management, which are valid whatever the supervisory structure. Of course, a statutory role for actuaries in general insurance companies should also be a goal for the profession. In the United States of America, outstanding claim provisions now have to be certified by an actuary. In Canada each general insurance company is required to have an Appointed Actuary, a role which corresponds very closely to our U.K.

Appointed Actuary of a life insurance company, with the additional requirement of having to carry out dynamic solvency testing.

Although provisions for outstanding claims and unexpired risks in general insurance should certainly be established only after taking actuarial advice, actuaries may feel uncomfortable about certifying that these provisions are adequate. Precision of estimation is normally out of the question, and it is not usually possible even to develop a statistical model which would enable a satisfactory estimate to be made of the mean or the median. The degree of uncertainty places the certifying actuary (or, for that matter, any other expert) in a difficult situation in stating what the provisions really represent. The accounting approach to general insurance provisions means that they will often not be prudent in an actuarial sense, and hence descriptions such as 'adequate' or 'sufficient' are not appropriate. An opinion by the actuary might still be possible, but great care will be needed over the wording of such an opinion.

A more satisfactory role for an actuary would be in relation to the overall financial management, either as Appointed Actuary, or with responsibility for certifying a reasonably prudent level of total assets for the management of the business as a going concern (or on a notional run-off business). This would encompass both provisions and free assets, would cover both sides of the balance sheet and would permit reasonable allowance to be made for the uncertainty of the outcome.

As the profession suggested in response to the consultation document from the Department of Trade and Industry on the implementation of the framework directives, seeking actuarial advice on the total resources necessary to run the business could be introduced as a requirement of 'sound and prudent management', thereby obviating the need for a complex risk-based capital formula such as might be envisaged to supplement the rather crude mechanism of the E.U. solvency margin.

The North American formulae for risk-based capital (Minimum Continuing Capital and Surplus Requirement in Canada) are designed to identify areas of uncertainty in the balance sheet and in the profitability of the ongoing business, and to require a suitable level of free assets relative to that uncertainty. The risk with which supervisors are concerned, in this context, is the risk that the proceeds from the assets may not be sufficient to enable all valid claims to be met. The approach of the supervisor is usually to consider this in relation to assets currently held and liabilities arising from contracts already entered into (including as assets a prudent evaluation of any income still due in respect of those contracts, e.g. from premiums, reinsurance or other recoveries). Proper assessment of this risk requires a holistic approach to all elements of the balance sheet, having particular regard to the underlying future cash flows which the balance sheet items represent. Effective management of the risk requires a full understanding of the uncertainties of the cash flows, so that strategies can be adopted which

reduce instability and facilitate feed-back control mechanisms.

Company management may argue that a further source of support will come from future premium income. In principle this could be true in a monopoly market where the company could increase premium rates as much as it wanted to in order to maximise available resources. In a competitive market this is not a practical possibility, and there must always be a risk that the new contracts associated with future premium income will give rise to losses rather than profits, and to an effective worsening of the overall financial situation.

The result is that supervisors expect to see free assets adequate to reduce to a low level the risk that the existing contractual liabilities will not be fully met and, in addition, sufficient capital to support future new business. Insurance legislation can prescribe rules to give effect to these requirements, but only an actuary with a good knowledge of the company's business can make a sound assessment which is really appropriate for that company's current situation.

Lloyd's presents even bigger challenges because of the preponderance of difficult risks underwritten. However, there has recently been a steady growth in the demand from individual syndicates for actuarial involvement, and two formal tasks have been given to actuaries by the Lloyd's regulatory authorities. The first of these was to certify that it is reasonable for an underwriting year to be left open after three years' development. The second, most recent, role is to certify the reserves of a syndicate for solvency reporting purposes, if they wish to use a figure less than that given by the so-called Lloyd's audit percentages.

Perhaps the biggest challenge yet for the actuarial profession at Lloyd's will be the assessment of the initial provisions and necessary capital for Equitas, the proposed authorised insurance company, which will be set up to reinsure the pre-1985 liabilities of syndicates.

As a profession, we need to develop further our skills in the general insurance field and continue to seek to convince company managements, the supervisors, accountants and industry bodies that greater actuarial involvement in the financial management of general insurance business will be to the benefit of both policyholders and shareholders.

## INVESTMENT

One of the great strengths of the actuarial profession in the U.K. has been the emphasis on both sides of the balance sheet and the positive involvement of actuaries in relation to all aspects of investments. We have recently been able to export this emphasis to many other countries, as Appointed Actuary systems are introduced which require the actuary to monitor the adequacy of the assets to meet the liabilities. The actuary must not be concerned only

with calculating the liabilities, as though the rate of return on investment was a given item of data.

Because of the Institute's emphasis on investment in examinations and professional standards, many actuaries have made their career in purely investment activities. Concepts of immunisation, now widely applied, began in the actuarial profession, the most important U.K. stock market indices were developed by actuaries and remain closely associated with the profession, gilt-edged securities switching techniques were perfected by actuaries, portfolio performance measurement techniques were largely developed by actuaries, and actuaries have been at the forefront of modern stochastic asset/liability modelling techniques.

Why then are actuaries becoming less and less dominant in investment circles? The massive expansion of financial engineering using modern financial instruments seems to have largely by-passed the profession — with a few notable exceptions. We have failed to keep pace with the techniques required, even in our most recent syllabus revision. We have allowed financial economists and mathematical recruits to the City to take the high ground. Only a handful of actuaries are maintaining our profile in an area where we could and should be market leaders.

One of my greatest concerns is to support our advanced guard in the field of modern financial instruments, to help them to feel a key, strategically-placed wing of the profession, and to equip our newly qualified actuaries to take their place in this brave new world. To this end we will have to strengthen considerably the material on modern financial instruments in Subject E. We will also need to develop an advanced finance and investment course. Rather than making this an obligatory part of the examinations for all actuaries, we might make the Certificate of Finance and Investment into a really valuable qualification by requiring Subjects A to C, E and an advanced finance and investment examination.

### A WORLD-WIDE PROFESSION

One of the most exciting developments of the last five years has been the rebirth of the actuarial profession in a number of countries of central and eastern Europe and a new stirring of interest in the establishment of the actuarial profession in other parts of the world.

The Institute of Actuaries has a long tradition of being an international examining body, with 44 examination centres in 26 countries outside the U.K. and members in 45 countries. Almost 30% of FIAs live outside the U.K. Over the years, the need to maintain the highest standards among actuaries practising in the U.K. — still a substantial majority — has led to examination requirements which are exceptionally challenging for those working in other environments, in particular if English is not their first

language. Our subscriptions, examination fees and tuition costs are also very expensive for members in many other parts of the world.

In spite of these hurdles, many students outside the U.K. continue to sit the Institute's examinations. In fact, in the last year or two, there have been more new student enrolments outside the U.K. than in the U.K. Many outside the U.K. who have successfully completed the examinations are proud to belong to the Institute, with its history, its traditions, its standards and its positive, forward-looking approach.

For some years we have adopted too much of a 'take it or leave it' attitude to our overseas members. We have taken an important step with the new examination syllabus and the CPD strategy to make the examinable material less U.K. specific. As I have indicated, I believe we should go further and develop Fellowship Papers (Subject Q) for non-U.K. situations where there is a strong local actuarial society willing to co-operate in the process. Council has decided that these alternative Fellowship Papers should lead to an undifferentiated FIA, but with a clear understanding that relevant knowledge and experience will always be essential to practice in any jurisdiction.

Council has recently agreed to tailor subscriptions to affordable levels in countries where the cost of living is substantially lower than in the U.K. This should make a material difference for our members in the Indian sub-continent, Africa other than South Africa, China and some other parts of the Far East, Eastern Europe and Central and South America. We need to do more to address the needs of our overseas constituency, particularly in terms of communication channels, making increased use of *The Actuary*, and CPD. Relevant CPD will normally have to be obtained locally, for reasons both of content and economics. However, the resources of the AES and of our U.K. members could be made more available to help local initiatives. Consideration of the CPD needs of our overseas members has been high on the agenda of the CPD Joint Committee and will be given detailed consideration later this year.

How often do our members travel on business to locations where a meeting could be held to encourage the development of local actuaries? Can we make available CPD material in distance-learning form, which could be used around the world (as well as in the U.K.)? Can we develop a distance-learning professionalism course for those for whom it is impractical to come to the U.K., perhaps with some elements of the standard U.K. course on video? Could actuarial employers consider offering bursaries for study visits to the U.K.; or should we consider other means of financial support, such as a charitable foundation?

Whilst our overseas members must be given higher priority, we must also face up to our wider international responsibilities. We can be proud that members of the Institute, working with members of the Faculty, and in some cases with actuaries from other countries, have played a leading role in the

establishment, since 1990, of actuarial professional bodies in Hungary, Poland, the Czech Republic, Bulgaria and Siberia. We have organised actuarial education courses in Budapest, Warsaw, Prague, Bratislava, Sofia, Kemerovo, St Petersburg and Beijing, have assisted mathematical graduates from Croatia, Albania, Ukraine, Latvia and Lithuania who wished to participate in such training, and have laid plans for further courses in Moscow, Vilnius and Minsk.

This should not be seen in any sense as expansionism on the part of the Institute. It has never been the aim to recruit new student members for the Institute, or to suggest that aspiring actuaries in these countries should sit the Institute examinations and become FIAs. The aim is rather to assist in the establishment of indigenous professional bodies with, ultimately, an indigenous education and qualification process for actuaries. Naturally we will encourage a wide definition of what constitutes an actuary, with an emphasis on assets as well as liabilities, general insurance as well as life, pensions and social security and, where possible, other fields of application such as financial engineering, banking and investment management.

It has been necessary to take some short cuts, and, as a result, the formal actuarial education which the new actuaries of these countries will receive will not compare in the early years with the full FIA qualification. With a whole new insurance industry coming into being over two or three years, they cannot wait five or six years for an actuary to be trained. Those who have received some actuarial training are rapidly given heavy responsibilities.

A number of our members have participated in these activities, which are invariably challenging, enjoyable and satisfying. As the process gathers pace in more and more countries, further volunteers will be needed, both for initial teaching and for developing continuing professional contacts. Commercial opportunities may open up, and more U.K. actuaries may be able to find occasions to visit and to make contact with local actuarial societies.

A considerable amount of actuarial literature has been supplied to establish new libraries. However, further donations of unwanted recent textbooks, journals, conference papers, etc. will be welcomed by Sally Grover, the librarian at Napier House, who will be able to find homes for them.

### PROMISES, HOPES AND EXPECTATIONS

Promises are the stock-in-trade of the financial services industry, of which we actuaries are a part. Policyholders entrust their money to insurers, and pension scheme members entrust their retirement savings to a pension fund, in return for a promise of future benefit. The precarious nature of such promises, from the point of view of the financially unsophisticated and, for all practical purposes, powerless consumer (be they policyholder or pension

scheme member), provides the public interest rationale for regulation and supervision. However, it also provides an opportunity for actuaries to be, and to be seen to be, the profession that helps to turn these promises into reality.

More often than not, however, the promise is not wholly specific or prescriptive. The customer has an expectation of future benefits, which may be more or less reasonable, depending in part on what he or she has been led to expect. Insurance companies and pension funds can sometimes fulfil the promise, whilst denying the expectation. An expectation should be more than just a hope, in the commonly used sense, which could be purely wishful thinking. On the other hand, it is not a certainty, and will depend, in part, on the outcome of events. Expectations cannot be defined by formulae or prescribed in regulations. It is the task of actuaries to bring them to pass.

What of our hopes and expectations for the actuarial profession itself? We can look back to great achievements in the past, but our vision must never be restricted to hindsight or based on beatification of a previous era. Our hopes and our yearnings are for the future; and for a future as different from the past as the present is from the world of our forebears who established the profession in the middle of the last century.

As the 16th century Portuguese poet Luís Vaz de Camões mused in one of his sonnets: “what do you want of me — perpetual yearning? With what hope are you still deceiving me? For time past will never return, and if it did, I should no longer be the age to enjoy it.”

The world moves on — and the actuarial profession with it. We must adapt to the changing environment, turning our skills of problem solving and managing financial and demographic risks to the current and future challenges. We must retain our distinctive world view, based on a rigorous mathematically-oriented education combined with broader skills of analysis, synthesis, critical evaluation and communication. We must ensure a commitment among all members of the profession to continuing professional development — an enduring thirst for knowledge, for broadening and for challenge. We must take hold of the international opportunities and challenges which face us as we approach the end of the second millenium — opportunities to create a truly international actuarial profession. Above all, we must maintain the highest standards of professionalism with a clear perception of serving the wider community in the public interest.

The immediate past President of the Society of Actuaries, Walt Rugland, launched a publicity campaign during his presidential year based on the catch-phrase “Ask an Actuary”. This is a message which members of the Institute also need to get across, as there are still far too many situations where actuarial advice should be sought, but no one thinks to ask an actuary.

My own vision goes beyond this, as I would not want us to be seen as professional answering machines, or as computerised encyclopaedias that

display the appropriate answer when you have found your way through the nested menus. We must build the confidence of our clients, our employers and the ultimate consumers of our services, so that we can fairly say “You can trust an actuary”. We are the profession that turns financial promises into reality.