



**FINANCIAL REPORTING COUNCIL**

**DISCUSSION PAPER**

**PROMOTING ACTUARIAL QUALITY**

**MAY 2008**



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## Foreword

This discussion paper has been issued by the Financial Reporting Council (FRC) - in conjunction with an accompanying paper by the Professional Oversight Board (an operating body of the FRC) on *Monitoring and scrutiny of actuarial work* - to describe current actuarial practice, and seek views on the drivers, threats, checks and balances relating to quality in actuarial work.

Although we hope this paper will be of interest and value to a wide range of our stakeholders, it is primarily motivated by the needs of the Board for Actuarial Standards and the Professional Oversight Board. As two of the FRC's operating bodies with new responsibilities relating to the professional regulation of actuaries, we need to understand the wider background to our work, and ensure our priorities are aligned to contribute positively to actuarial quality.

We are fortunate to have the precedent of a similar FRC exercise *Promoting audit quality*, involving collaboration between the Auditing Practices Board and the Professional Oversight Board, which considered the drivers of audit quality in 2006. However, this paper faces the further challenge of defining and describing what we mean by actuarial work. Our interest inevitably focuses on the three main regulated areas – life insurance, general insurance and pensions – but we are anxious not to constrain our approach. So we have tried to understand and develop descriptions and drivers of actuarial quality in the round, based on the development, use and interpretation of actuarial models.

This does not mean we have ambitions to expand FRC regulation to all areas of actuarial and related activity. Indeed the proposed *Conceptual framework* and *Scope and authority* documents issued as exposure drafts by the Board for Actuarial Standards limit the mandatory scope of technical actuarial standards largely to regulated work. The FRC is a market-led regulator, and we are keen to support market-based outcomes which do not require the imposition of technical standards or other regulation.

Above all we want the drivers of actuarial quality to be useful, and indeed we have already started to use some of our provisional findings in looking at our own work. However, we do not have a monopoly on insights and there are many interested bodies and individuals with potentially useful ideas and views. We are grateful to stakeholders who have already contributed to this paper, and now seek comments from everyone with an interest in actuarial practice. Given the wide-ranging nature of the issues we raise, we have chosen a longer timescale than usual for this consultation, until the end of September 2008. We will consider the views we receive before reaching conclusions on how to take these issues forward.

Sir John Bourn  
Chairman, Professional Oversight Board

Paul Seymour  
Chairman, Board for Actuarial Standards

May 2008

## Executive summary

Following the Morris Review of the Actuarial Profession, which reported in March 2005, the FRC took on responsibility for independent standard-setting and oversight of the Profession in the UK. This paper considers one of the FRC's key objectives which is to promote high quality actuarial practice.

As with other areas, such as audit, we have concluded that actuarial quality is difficult to assess directly, and that it is therefore important to consider the main factors or drivers which contribute to quality, and the threats to those drivers, in order to help actuaries, users of actuarial services, policymakers and regulators to assess the extent to which they can rely on the quality of actuarial work.

The FRC has therefore developed for consideration six main drivers of actuarial quality:

***Reliability and usefulness of actuarial methods*** – by reference primarily to the components of actuarial models:

- Threats include problems or uncertainties about underlying data and assumptions, poor or outmoded model design and controls, unforeseen risks and sensitivity of outputs to the assumptions used.

***Technical skills of actuaries*** – including relevant ability, actuarial training and industry knowledge:

- Threats include lack of experience and not keeping up to date with the latest academic developments.

***Communication of actuarial information and advice*** – including transparency and decision-usefulness, and the extent to which it explains the basis of the actuary's work and the uncertainties relating to it:

- Threats include complexity, particularly in communications to non-actuaries, and the thin line between giving clear and useful advice, and in effect directing the client in what decision to take.

***Ethics and professionalism of actuaries*** – including actuaries' integrity and courage, independence of mind, and willingness to act in the public interest:

- Threats include conflicts of interest, lack of clarity over the actuary's role, and unreasonable pressure to provide the answer sought by the immediate client, coupled with sensitivity of assumptions.

***Working environment for actuaries*** – including whether this encourages professional quality control:

- Threats include isolation without effective quality control of individuals or small groups of actuaries.

***Other factors outside the control of actuaries*** – such as regulation and the demands of non-actuaries:

- Threats include inflexible regulatory requirements, lack of challenge by non-actuaries, and the underlying uncertainty relating to contingencies on which actuaries may be asked to advise.

All these drivers are relevant to the work of the FRC and its operating bodies. However, *reliability and usefulness of actuarial methods*, and *communication of actuarial information and advice*, are of particular interest to the Board for Actuarial Standards; while *technical skills of actuaries*, and *ethics and professionalism of actuaries*, are of particular interest to the Professional Oversight Board.

To understand these drivers and threats in practice, we have considered the main areas in which actuaries and actuarial methods are employed, namely life insurance, general insurance and pensions, and seek views on the priorities the FRC and its operating bodies should be addressing in order to promote actuarial quality.

The existence of checks and balances can contribute to many of these drivers and address some of the main threats to actuarial quality. The Oversight Board's Discussion Paper *Monitoring and scrutiny of actuarial work* <http://www.frc.org.uk/pob/actuaries/reviewmonitoring.cfm> builds on the analysis in this paper by reviewing whether appropriate monitoring of actuaries' compliance with professional standards and independent scrutiny of actuarial advice are occurring through either direct supervision by the regulator, audit or external peer review.

## One - Introduction

1.1 This discussion paper is published by the Financial Reporting Council (FRC) in support of:

- its objective to promote high quality actuarial practice;
- its related strategic outcome that users of actuarial information should be able to rely on its relevance, transparency of assumptions, completeness and comprehensibility; and
- its wider aim of promoting confidence in corporate reporting and governance.

1.2 The FRC's purpose in publishing this discussion paper is to ensure that it is aware of the views of the constituencies that it serves, and that its policies and actions command support. The FRC issued a similar publication *Promoting audit quality* in November 2006, which led to the development of *The audit quality framework* in February 2008. Based on comments received to this paper, it hopes also to develop a new framework for assessing actuarial quality.

### FRC regulation of actuarial practice

1.3 Following the Morris Review of the Actuarial Profession, published in March 2005, the Government asked the FRC to take on responsibility for independent oversight of the UK Actuarial Profession - the Faculty of Actuaries in Scotland and the Institute of Actuaries - and the independent setting of actuarial technical standards. The FRC assumed this responsibility in April 2006 and agreed a Memorandum of Understanding with the Profession in May 2006.

1.4 The FRC's work is delivered through three of its operating bodies:

- **The Board for Actuarial Standards (the BAS)** – which sets actuarial technical standards in the UK, and has adopted many of the existing Guidance Notes made by the Profession;
- **The Professional Oversight Board (the Oversight Board)** – which oversees the way in which the Profession regulates its members acting in their professional capacity;
- **The Accountancy and Actuarial Discipline Board (AADB)** – which operates an investigation and discipline scheme in relation to matters involving members of the Profession that raise or appear to raise important issues affecting the public interest in the UK.

Further details of the work of these and other FRC bodies may be found on [www.frc.org.uk](http://www.frc.org.uk).



- 1.5 Through the new regime, the FRC and its operating bodies seek to promote high quality actuarial practice and the integrity, competence and transparency of the Actuarial Profession (the Profession) – to the benefit of all those who rely on actuarial information and advice or who are affected by it.

### **Promoting quality in actuarial work**

- 1.6 In support of these aims, the FRC is committed to promoting a debate on the drivers of actuarial quality. The FRC is therefore inviting stakeholders and commentators to comment on whether it:
- has identified all the relevant drivers;
  - has identified the threats to those drivers or should consider other threats; and
  - should be taking any additional action to improve the likelihood that actuarial practice will be of a consistently high quality.
- 1.7 Responses to this discussion paper will be analysed and a feedback document will be published. The FRC envisages holding meetings at which emerging suggestions can be discussed, including for the development of an actuarial quality framework. The FRC will consult on any proposals that it intends to take forward.
- 1.8 Responses will be of particular interest to the BAS in updating and developing standards on specific issues. They will also be of interest to the Oversight Board in reviewing the regulatory activities of the Profession and in considering responses to its publication *Monitoring and scrutiny of actuarial work* which seeks views on options for enhancing the effectiveness of monitoring and scrutiny. To the extent that the responses reveal a consensus for change or action which is outside the FRC's powers, it will raise them with those responsible.
- 1.9 Whilst the FRC believes that this initiative will contribute to an understanding of actuarial quality in its broadest sense, the FRC has focused its initial work, and this discussion paper, on identifying the drivers, and the threats thereto, of quality in relation to actuarial practice in the UK insurance and pensions sectors. However, because there may be other precedents for actuarial quality, the FRC is keen to receive the views of all those interested in promoting actuarial quality, wherever they may be located.

The FRC welcomes the views of those stakeholders and other parties interested in actuarial quality.

Although the discussion paper raises specific questions, commentators should not feel that they are constrained by those questions, or required to answer all of them. However, it will assist collation of views, if the questions are used to structure responses on this topic.

Comments, to reach the FRC by **30 September 2008**, should be addressed to:

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Financial Reporting Council  
5<sup>th</sup> Floor Aldwych House  
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London WC2B 4HN

E-mail: [actuarialquality@frc.org.uk](mailto:actuarialquality@frc.org.uk)

All responses will be regarded as being on the public record unless confidentiality is expressly requested. If you are sending a confidential response by e-mail, please include the word 'confidential' in the subject line of your e-mail.



## **Two - The nature and scope of actuarial practice**

There is widespread use of actuaries and actuarial information in insurance, pensions and investment

Mathematical models are a feature of actuarial work

Actuarial work is used by or for actuaries' clients in:

- pricing and other aspects of transactions between the client and its customers or counterparties
- financial management of the client's business
- reporting to stakeholders on the client's financial performance, prospects or condition
- ancillary matters relating to the above

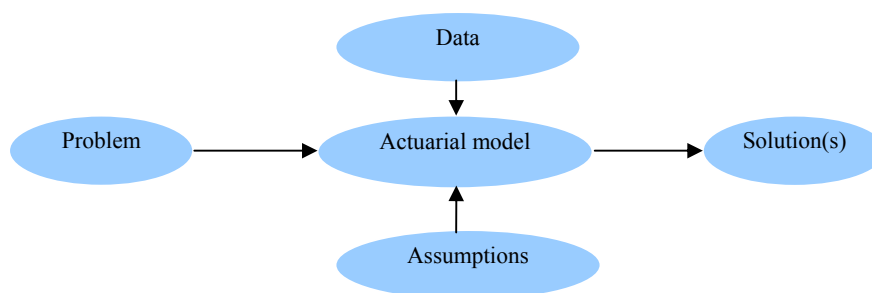
Actuaries are regulated as individuals, and may act as employees or external consultants

Regulation increasingly makes senior management and governing bodies responsible for the actuarial information they provide to stakeholders, based on advice from actuaries

## Two – The nature and scope of actuarial practice

### The nature of actuarial practice

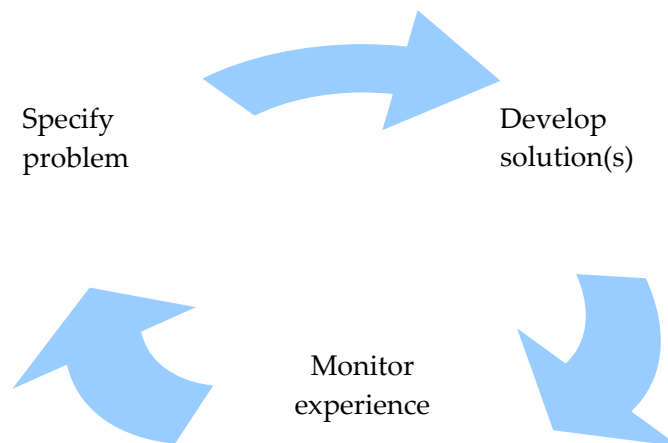
- 2.1 Actuaries are trained to apply mathematics, economics and finance to businesses involving the management of assets and liabilities, or where long-term planning or risk is a critical factor. Definitions of actuarial work differ because of the variety of work actuaries undertake, but often reflect the particular industries such as life and general insurance, pensions and investment in which they work.
- 2.2 Actuarial work is characterised by the use and interpretation of mathematical models to describe financial systems, portfolios and entities. In some cases the use of a model is implied, for example by an actuary's insight or in simplified cases by the use of a formula, but actuarial models are becoming increasingly sophisticated. Actuaries are not the only profession to use mathematical models, but they are distinguished by the way they have developed a professional discipline around the development, use and interpretation of models.
- 2.3 Models vary widely, but actuarial modelling typically involves the following components, each of which can significantly influence the quality of the actuary's work:



- *actuarial models* - are concerned with the time-based development of financial transactions, followed through often to completion over a period of years or even decades, as exhibited for example in investments and life insurance, pensions and general insurance risks;
- *assumptions* - actuarial models involve and increasingly recognise explicitly both economic and demographic statistical assumptions, based on observations of the general financial and business environment, characteristics of the risks and factors being modelled, and past experience;

- *data* - actuarial models are increasingly analytical, drilling down to the characteristics of individual risks (often representing human lives) and then generalising to a wider population, although some factors may remain purely empirical;
- *problems and solutions* - actuarial model outputs are primarily concerned with projection and measurement, taking account of the various contingencies and the time-value of money, although the actuarial information produced can inform management and other users' decision-making.

2.4 Actuarial models produce results which are often very sensitive to the assumptions used, in that a small change in the assumptions can have a dramatic impact on the outcome. Traditionally, actuarial models have been 'deterministic' based on a specific set of assumptions; increasing use is made of 'stochastic' models which use economic scenario generators and other mechanisms to incorporate randomness into the projections themselves, and produce an indication of the range of results. Also of importance to the end-result is the accuracy of the data modelled. Actuaries have developed methodologies to update their models in the light of experience. One such approach, called the 'actuarial control cycle', has been used as a basis for the current educational syllabus for qualification as an actuary in the UK and internationally. See Annex C for further references.



The Actuarial Control Cycle

## The scope of actuarial work

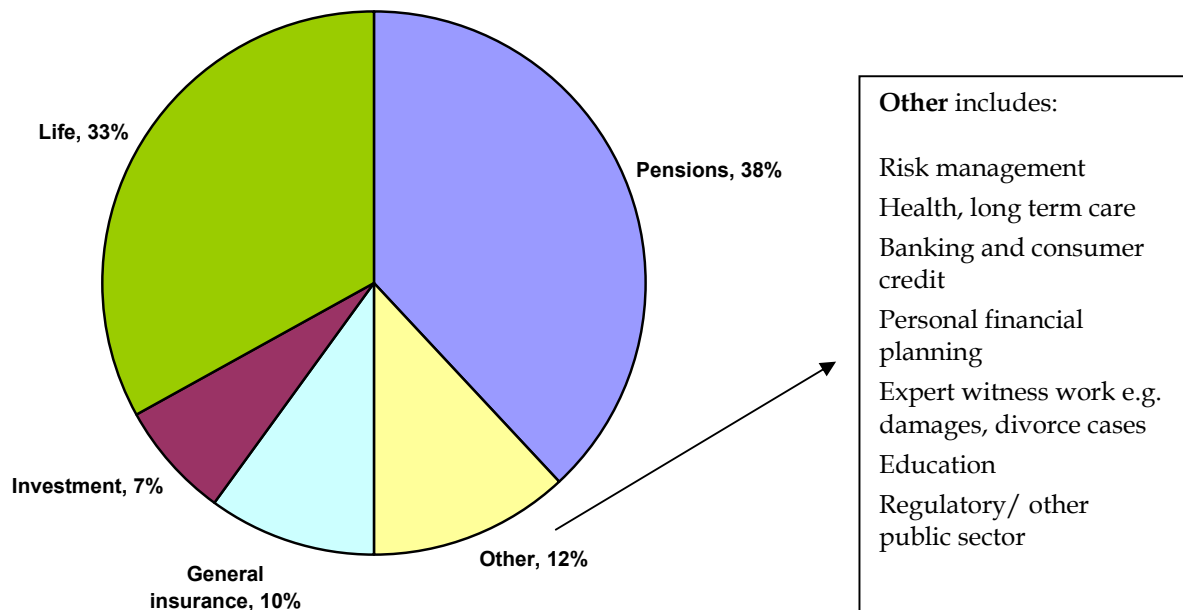
2.5 The inherent power and flexibility of actuarial models and modelling techniques mean that the scope of actuarial practice, if defined by the possible uses of such models, is in principle very wide indeed. Whether in the capacity of employees or external advisers, actuaries advise their clients ranging from individual investors to small pension schemes, multinational insurers and national social security schemes, in relation to:

- Customer transactions – for example pricing investments and risks, developing insurance products, premium rates, bonuses and surrender values, as well as pension scheme design, contribution rates, transfer values, illustrations, and risk warnings and analyses;
- Financial management - of the client's business, for example, investment strategy, reinsurance and risk management, planning and budgeting, analysing business performance, and corporate finance work;
- Reporting - to stakeholders on aspects of the financial performance, prospects and condition of entities such as corporate, regulatory and listing requirements, and taxation returns; and
- Ancillary matters – for example providing expert evidence to a court or to a regulator on a business transfer or insolvency or in a forensic investigation or assessment involving an insurer, pension scheme or other investment vehicle.

2.6 In all these activities, the quality of actuarial work depends on the way actuaries and their clients develop, use and interpret actuarial models and their components including data and assumptions. However, the demands that are placed on actuaries as a result of their insights into these fundamental business activities for their clients also require them to be proficient in other skills. In particular, actuaries' clients need them to be in a position to communicate clearly the basis and implications of their findings to a variety of business, regulatory, professional and lay users.

2.7 There are nearly 6,000 active UK Fellows of the Institute or Faculty of Actuaries, working primarily in life and general insurance, pensions, investment and related areas of business. These include investment management, healthcare, social policy, risk management, banking and demography. While some actuarial roles in insurance and pensions are reserved to qualified actuaries, other work undertaken by actuaries can be and frequently is also performed by non-actuaries, often possessing alternative professional qualifications.

### UK Fellows - predominant area of work



Source: The Actuarial Profession - as reported in annual returns submitted by UK actuaries as at 31<sup>st</sup> January 2008

### Users of actuarial practice

2.8 The main users of actuarial information and advice include direct clients, represented by the management and governing bodies of financial institutions, the customers of those institutions (including a large proportion of the population of the UK), pension schemes, sponsoring business and their owners. The public interest is represented by the Government and regulators.

2.9 Many of the areas in which actuaries work exhibit considerable uncertainty, subjectivity and sensitivity to assumptions in the assessment of risks and other measures of performance and security. This can lead in turn to:

- information asymmetry between practitioners and consumers;
- lack of market transparency, even between practitioners;
- scope for mismanagement of risks, resources and opportunities by entities themselves.



2.10 These inherent defects (which are not of course necessarily attributable to actuaries) can then manifest themselves in:

- consumer detriment – mis-selling and other inappropriate transactions between financial institutions and their customers causing losses to individual consumers and often to the institution itself (for example through an obligation to make and administer compensation payments);
- financial mismanagement - losses and other underperformance for the institutions concerned, and consequently to their investors, sponsors and other stakeholders, due to mismanagement of risks, resources and opportunities;
- mis-reporting - losses to market players, including investors in the business, due to inaccurate information and reporting, including potentially fraud;
- corporate failures – mismanagement and unreported risks and losses can occasionally lead to catastrophic losses to investors, customers, creditors and guarantors, including potentially public funds, in the event of the failure, or near-failure of an entity;
- market disruption - general loss of confidence in the market and impacts on the wider economy.

2.11 As actuarial practice already addresses many of these features, actuaries are well-placed to help mitigate these risks, by providing reliable information, and where appropriate advice, for the benefit of entities, their customers, other practitioners, current and potential investors and the market, and Government and regulatory bodies. However, the risks are too great for reliance to be placed on individual actuaries alone, particularly given the uncertainties involved, the sensitivity of outcomes to the assumptions used, and the competing interests to which actuaries may be subject.

2.12 In most areas where actuaries are employed, their clients are regulated entities, subject to risk-based supervision or monitoring by the regulator. The governing bodies of those entities, rather than actuaries, are being made increasingly responsible for the actuarial information they produce, albeit invariably with the help of actuaries, and often subject to audit by firms with their own actuarial expertise.

## **Providers of actuarial services**

- 2.13 Like other professionals, actuaries can serve their clients both as employees and as external advisors. Historically, there was a need for key actuarial advisors to be employees so that they could be close to their work, particularly in life insurance companies. Actuaries continue to be regulated by the Profession as individuals, and statutory roles in all sectors continue to be restricted to individual Fellows of the Faculty and the Institute. However, many actuaries now work for consultancy firms, so that for example most pensions advice is provided through external advisors.
- 2.14 The providers of actuarial services and the regulatory environments in which they operate vary with the industry sector concerned. Further details are therefore included in the sector-specific sections which follow. A summary of the professional regulatory requirements imposed by the Profession is included at Annex B.

### *Questions*

*Q2 (i) Do you agree that the use and interpretation of mathematical models to describe financial systems, portfolios and entities is an underlying feature of actuarial work?*

*Q2 (ii) What other features describe and distinguish the nature and scope of actuarial practice?*



### **Three - The challenge of actuarial quality**

There is an inherent difficulty in assessing actuarial quality by reference to outcomes, because of the long-term and contingent nature of the subject-matter, and because actuarial models can be extremely sensitive to the assumptions used

Actuarial practice uses scientific and mathematical methods, which are susceptible to some objective assessment of their quality, but the analysis of the problem, the choice of data, the design of the model, the choice of underlying assumptions, and the interpretation, presentation and use of the resulting actuarial information are ultimately subjective

End-users and even some governing bodies have no or only a limited role in the appointment of an actuary and the terms of engagement

The 'understanding gap' identified by the Morris Review creates a dependency and restricts the ability of users to assess actuarial quality. Survey work on the needs of the principal users of actuarial work suggests that insurance directors are more confident than pension trustees in challenging actuaries

## Three – The challenge of actuarial quality

3.1 As indicated in the Introduction, actuarial quality is a concept that falls squarely within the remit of the FRC, including the BAS and the Oversight Board. To undertake their work effectively, it is important that they should have clarity as to the concept of 'actuarial quality' and the factors that are determinants or 'drivers' of actuarial quality. This section describes the challenge we face in tackling this subject.

### Assessing actuarial quality

#### *(a) The nature of the market for actuarial services*

- 3.2 In most circumstances, the performance of a product, or the outcome of a service, provides an effective and visible measure of the quality of that product or service. In other circumstances, purchasers and users can assess the quality of the product or service based on their knowledge of the work undertaken and the reputation of those responsible for it.
- 3.3 The continuing demand for the services of actuaries, and the high salaries and fees they are able to command, might be seen as an indicator that actuarial practice is assessed by users as being of high quality or at least of high value. Although some institutions are required to take the advice of actuaries, this feature is usually regarded as a consequence rather than a cause of the value that is placed on actuarial information and the work of actuaries (as well as its difficulty).
- 3.4 However, the high cost of actuarial advice might simply be a function of the limited supply of individuals with the required skills, or to market failures in the supply of actuarial services. The long-term and contingent nature of the underlying subject matter means it will often not be possible to assess the quality of actuarial information, or the actuary's underlying work, rapidly against subsequent outcomes. Furthermore, as discussed in section 2, actuaries undertake a variety of tasks, reflecting the specific needs and circumstances of a wide variety of clients; and there is no common understanding of quality across, or even within, the sectors in which actuaries work.
- 3.5 This lack of transparency could allow a situation to develop where poor quality actuarial work is performed but the actuary and the actuary's firm are not penalised financially or reputationally. It is therefore incumbent on the regulator (the FRC) to assist stakeholders in their understanding of the quality of actuarial work being performed and the actuarial information being produced in order to promote high standards.

*(b) The subjective nature of actuarial practice*

- 3.6 Actuaries use scientific and mathematical methods, which are open to some objective assessment of their quality. However, other components of actuarial models, such as the analysis of the problem, the choice of data used, the design of the model, the choice of assumptions, and the interpretation, presentation and use of the resulting actuarial information, are ultimately subjective. Different views may be held as to the approach that should be taken for each of these components of actuarial models.
- 3.7 Furthermore, actuarial information is often very sensitive to the assumptions used, including both explicit assumptions and assumptions that may be implied in the model design and even the choice of data. Without sufficient technical and professional discipline over these factors, for example through ethical and technical standards and independent scrutiny, actuarial models can be used to support a wide range of propositions.
- 3.8 Any assessment of quality based on outcomes therefore needs to be supported by an objective assessment of the technical inputs and processes representing the components of actuarial models described in section 2, and the associated disciplines over conduct, communication and scrutiny.

*(c) The ability of users to assess the quality of actuarial information*

- 3.9 All these factors, together with an ‘understanding gap’ identified by the Morris Review (see below), mean that non-actuaries can rarely rely on a detailed assessment of the actuarial work that has been undertaken. They are reassured by other factors – such as the actuary’s professional qualification, the reputation of the actuary’s firm and the regulatory regime that applies to actuaries and actuarial information.
- 3.10 In principle, actuaries can make their work more transparent and accountable through the disclosure of assumptions and other aspects of the context of their work, follow-up analysis of subsequent experience, and illustrations of how these affect the resulting actuarial information. Users with financial or business knowledge or experience, such as the actuary’s client management and non-executive members of the client’s governing body, will often be in a position to take responsibility for the actuarial information they are asked to supply to end-users.
- 3.11 Actuarial quality will be less transparent for lay users, such as retail investors, scheme members and insurance policyholders, who will not be privy to these disclosures, or to the implications of the concepts and language used. They will have to place additional reliance on the regulated individuals with responsibility for the actuarial information, such as non-executive directors and

trustees. They will further rely on the work of auditors and actuarial firms in providing additional external opinions, and statutory regulators, such as the FSA, the Pensions Regulator, and the FRC to establish a system of safety through rules, standards, reporting and scrutiny.

*(d) Accountability of actuaries to users*

3.12 The Morris Review identified five ways in which an actuary might be accountable to one or more stakeholders in undertaking a particular task or role:

1. *Appointment* – being appointed to perform the role and liable to removal from it, by that stakeholder;
2. *Remuneration* – being subject to terms of engagement by that stakeholder, controlling the work to be done and the basis of remuneration;
3. *Duties* – owing duties (contractual, tortious, fiduciary, professional, regulatory) to particular stakeholders in the way the role is performed;
4. *Scrutiny* – being subject to scrutiny or approval of the work that has been performed;
5. *Liability* – being liable to pay compensation or to face discipline for errors, omissions, or other misadventure caused in performing the role.

3.13 The terms on which an actuary's work is undertaken are normally negotiated with the client's management and confirmed under the supervision of the relevant governing body. Regulation can increase the accountability of actuaries, for example by requiring greater transparency and making trustees and directors take responsibility for actuarial information. However, although the trustees and non-executive directors will have regard to the interests of investors and beneficiaries, end-users will have limited ability to influence the choice of actuary or the focus of the actuary's work.

### **General concerns about actuarial quality**

3.14 Many of the current concerns about actuarial quality are sector-specific and are considered in the sections which follow. However, the Morris Review identified some general concerns arising both from the Penrose Inquiry into Equitable Life and from its own work, which are worth considering at this stage:

*(a) Threats identified by the Morris Review from its assessment of the Penrose Inquiry:*

- a lack of comprehensive professional standards;
- an over-reliance on the role of the appointed actuary (then the reserved role in life assurance);
- a lack of scrutiny and audit of actuarial calculations;
- reactive disciplinary procedures;
- a reluctance to challenge fellow actuaries.

*(b) Further threats identified by the Morris Review's own work:*

- a degree of insularity in the profession's methods and approach;
- insufficient emphasis on the uncertainties inherent in long-term financial planning;
- too little transparency in actuarial advice;
- concern about reserving certain roles to actuaries;
- a perception that the Profession had not responded as effectively or as fast as might have been expected to major changes in demographic and economic conditions;
- an 'understanding gap' inhibiting the exercise of choice by users of actuarial advice.

3.15 The FRC has supplemented its understanding of these concerns by undertaking a survey of the needs of the principal users of actuaries in a fiduciary or other regulated role, namely trustees and non-executive directors. This survey suggests that non-executive directors of insurers are more confident in challenging their actuaries than pension trustees. References to this survey and other relevant material may be found at Annex C.





## Four - Drivers of actuarial quality

Given the challenge in assessing actuarial quality directly, the FRC proposes to tackle this subject by:

- identifying drivers of actuarial quality
- considering whether there are threats to those drivers
- assessing the need for action by the FRC to reinforce those drivers

The FRC believes it is useful to consider six main drivers of actuarial quality:

***Reliability and usefulness of actuarial methods*** – by reference to the components of actuarial models

- Threats include problems or uncertainties about underlying data and assumptions, poor or outmoded model design and controls, unforeseen risks, and sensitivity of outputs to the assumptions used

***Technical skills of actuaries*** – including relevant ability, actuarial training and industry knowledge

- Threats include lack of experience and not keeping up to date with the latest developments

***Communication of actuarial information and advice*** – including transparency and decision-usefulness, and the extent to which it explains the basis of the actuary's work and the uncertainties relating to it

- Threats include complexity, particularly in communications to non-actuaries, and the thin line between giving clear and useful advice, and in effect directing the client in what decision to take

***Ethics and professionalism of actuaries*** – including actuaries' integrity and courage, independence of mind, and willingness to act in the public interest

- Threats include conflicts, lack of clarity over the actuary's role, and unreasonable pressure to provide the answer sought by the immediate client, coupled with sensitivity of outputs to assumptions

***Working environment for actuaries*** – including whether this encourages professional quality control

- Threats include isolation without effective quality control of individuals or groups of actuaries

***Other factors outside the control of actuaries*** – such as regulation and the demands of non-actuaries

- Threats include inflexible regulatory requirements, lack of challenge by non-actuaries, and the underlying uncertainty relating to contingencies on which actuaries may be asked to advise

To understand these drivers and threats in practice it is important to consider the main areas in which actuaries and actuarial methods are employed namely life insurance, general insurance and pensions

## Four – Drivers of actuarial quality

### Introduction

- 4.1 Given the challenge identified in the last section, the FRC believes that the most appropriate approach to the subject of actuarial quality is to define those key factors, or drivers, that determine whether actuarial practice is of high quality, and assess the way in which actuaries and their firms and teams, and outputs in the form of actuarial information, perform against them. This involves:
- identifying those factors, or drivers, that determine whether actuarial practice is of high quality;
  - considering whether there are threats to those drivers; and
  - assessing the extent if at all to which the FRC (through one or more of its operating bodies) should take action to reinforce the effectiveness of those drivers.
- 4.2 In *Promoting audit quality*, the FRC identified five main drivers of quality as follows:
- the culture within an audit firm;
  - the skills and personal qualities of audit partners and staff;
  - the effectiveness of the audit process;
  - the reliability and usefulness of audit reporting; and
  - factors outside the control of auditors.
- 4.3 While these headings may be a useful starting point for consideration of the drivers and threats to actuarial quality, it is readily apparent that we cannot simply take these drivers and substitute actuaries and actuarial work for auditors and audit. Particular differences are: the much wider variety of actuarial work, which corresponds to accountancy generally rather than more narrowly to audit; the sector-specific characteristics of actuarial work in life insurance, general insurance and pensions; the current professional and regulatory focus on individual actuaries; and the variety of environments and capacities in which actuaries are employed.

### The drivers

- 4.4 The FRC therefore proposes for consideration the following drivers of actuarial quality separately in respect of the three main industry sectors:

- *reliability and usefulness of actuarial methods* – including the reliability and usefulness of the data used, the model design, the assumptions, the relevance to the problem and interpretation of the outputs, and the processes for their assessment and evaluation, and where applicable the related technical actuarial standards set by regulators and the Board for Actuarial Standards (BAS);
- *technical skills of actuaries* – the ability of actuaries to use appropriate actuarial methods and meet the standards expected by users of their services, and their knowledge and understanding of the business sectors in which they work;
- *communication of actuarial information and advice* – including its transparency, reliability and decision-usefulness, and the extent to which it discloses and explains the key assumptions and uncertainties, together with the related technical and conduct standards;
- *ethics and professionalism of actuaries* – including the extent to which actuaries can be expected to act with integrity and courage, comply with regulatory requirements and standards, and exercise judgment objectively, and with independence of mind, having regard to the challenges they face, for example conflicts of interest, and the public interest;
- *working environment for actuaries* – including the culture and processes such as quality control within actuarial consultancy firms, or within the actuarial teams in financial institutions, as appropriate;
- *other factors outside the control of actuaries* – for example legislation, regulation, and the skills and other characteristics of the users of their services.

4.5 These drivers are briefly discussed in turn below.

*The reliability and usefulness of actuarial methods*

4.6 As discussed in section 2, actuarial work is concerned with the development, use and interpretation of models, and the reliability and usefulness of actuarial methods can be considered by reference to the following components of these models:

- Data – the quality and reliability of the data used – external actuaries may have less opportunity to review client-specific data, but a better feel for industry-wide data and trends;

- Model design – actuarial models may be developed and derived by individual actuaries or teams, with or without external input, from proprietary packages, or based on an element of adaptation of existing models. The use of models in a particular situation may be dictated by custom, design, educational materials or as a result of regulatory or professional requirements, including technical actuarial standards set by the BAS;
- Assumptions – the extent to which these are explicit and understood, as opposed to being implicit in the data or the design of the model itself;
- Understanding of the problem and interpretation of the results – the model needs to be a sufficiently fair representation of the portfolio of risks being modelled, which properly interprets and takes account of the problem, time, resources and uncertainty involved;
- Assessment and evaluation processes – established methods for checking models and their results, including the use of audit trails, analysis of outcomes and reproduction of known results.

- 4.7 Because of the long period of projection in many actuarial models, the results can be extremely sensitive to the assumptions used. The complexity of many actuarial models also means that they can be difficult to interpret, review and check, particularly under time pressure; and documentation of those models may not be good.
- 4.8 A particular threat to the quality of actuarial models is unforeseen risks, especially operational risks, expenses and mis-selling costs, which may not be allowed for at all. There may be unrecognised correlations between risks or time-based developments such as mortality improvements, particularly where these may affect the costs of options and guarantees. These risks may be less well recognised in new areas where actuarial methods are less well developed.
- 4.9 Problems in the past have arisen because of prescriptive regulatory requirements and technical standards, which have limited the development of actuarial methods. In addition, there have been concerns that, despite (or perhaps even because of) high practitioner participation in their development, actuarial methods have lost touch with developments and research in related professional and academic disciplines, such as financial economics and demography.
- 4.10 Key aspects of this driver are therefore the technical standards set by regulators and the BAS, which need to encourage the use of relevant methods and avoid inappropriately restricting the methods used, as well as the links between actuarial work and academic and other research.

### *Technical skills of actuaries*

- 4.11 This driver determines the ability of actuaries to use appropriate actuarial methods and comply with the technical standards expected by users of their services, and their knowledge and understanding of the business sectors in which they work.
- 4.12 The main sources of technical skills are as follows:
- the abilities of the individuals who join the Profession;
  - the Profession's own education and training processes – which are tested through its examinations and review of other requirements;
  - established reference material including regulatory standards;
  - on-the-job experience including work-based training for students, and other training organised by firms and individuals themselves; and
  - continuing professional development (CPD) organised by the Profession and other external bodies.
- 4.13 The supply of high quality individuals may be limited if, as used to be the case, professions primarily attract and draw their membership from a privileged ethnic and social background. The Profession's emphasis on testing mathematical ability is merit-based, but this can be at the expense of other skills, and has led to a membership that is predominantly male.
- 4.14 Although the Profession does not require its students to be graduates, and trainees are comparatively well paid, most employers in practice expect applicants to have a good degree in mathematics, economics, science or actuarial science. Students and new qualifiers are now more diverse, in line with wider developments in education and wider recognition of the Profession as an attractive career option, but this is taking time to become apparent at senior levels because of long qualification times and the high proportion of actuaries who stay active in the Profession.
- 4.15 The specialist training of actuaries means that they are comparatively well prepared for work in particular sectors, compared with other professionals such as accountants who receive a more general training. However, newly qualified actuaries or actuaries converting from another specialist area may be at some risk. Actuaries may be asked to work outside their areas of competence.
- 4.16 To some extent the technical skills of actuaries are determined by the actuarial methods available and vice versa. As identified by the Morris Review, problems in the past have arisen because of concerns that the Profession's education and examinations have not always kept up with developments, particularly in related fields such as financial economics.

- 4.17 Work-based experience for in-house actuaries working for one financial institution can be relatively limited, although it will give them a deeper understanding of the operations of their own organisation. In addition, experienced actuaries may not have kept up with the latest technical methods being used and tested through the examination system outside their immediate work area. So CPD can be important.
- 4.18 Key aspects of this driver are therefore the education and training methods established by the Profession and links with academic and other disciplines, including CPD arrangements for qualified actuaries. These need to have the effect of encouraging the development of appropriate skills without being unduly restrictive.

*Communication of actuarial information and advice*

- 4.19 This driver includes transparency, reliability and decision-usefulness and the extent to which the advice or information discloses and explains the key assumptions and uncertainties, together with the related technical and conduct standards.
- 4.20 The complexity of actuarial concepts, models and outcomes poses a particular challenge in the area of communication. Actuaries and other entities communicating actuarial information need to be in a position to communicate their findings and the associated risks clearly so that they will be understood by the non-actuaries who need to act on them. Another quality that is sometimes sought is for sufficient information for another actuary, given the same data, to produce the same results – the so-called Tiner principle (named after Mr John Tiner, former Chief Executive of the FSA). However, the inclusion of such data may not help non-actuaries.
- 4.21 Actuaries are sometimes perceived to be poor communicators. This is partly a function of the material they are asked to communicate. The Profession has taken steps to improve communication skills, including a communications module in the examinations and training sessions at actuarial conferences. There may also be scope for further improvements as part of work-based training.
- 4.22 This driver in turn depends on the regulatory reporting requirements, including any standards set by the BAS. Standards can have beneficial effects through greater consistency and comparability, and by encouraging good practice on disclosures. However, excessive requirements can themselves undermine the quality of communication by making reports long and opaque.
- 4.23 With governing bodies increasingly being made responsible for setting actuarial assumptions and taking decisions based on actuarial information, a particular skill that actuaries will need in communicating actuarial advice and information effectively is the ability successfully to give clear and useful advice without in effect taking decisions for the client. The Morris Review expressed a concern that actuaries had in the past been too willing to provide certainty when this could not be

justified, and needed to be encouraged to communicate uncertainty. However, the FRC stakeholder group survey of users identified concerns that actuaries were now often unwilling to give advice.

- 4.24 Key aspects of this driver are therefore reporting standards, set by both regulators and the BAS, and the appropriate education and training processes which are overseen by the Profession. This driver also depends on the ability of users to challenge the reporting and communication of actuarial information, which is dealt with more under the final driver (other factors which are outside the control of actuaries) and in the Oversight Board's paper *Monitoring and scrutiny of actuarial work*.

#### *Ethics and professionalism of actuaries*

- 4.25 This driver includes the extent to which actuaries can be expected to act with integrity and courage, comply with regulatory requirements and standards, and exercise judgment objectively and with independence of mind, having regard to the environment in which they work, for example any relevant conflicts of interest, and the public interest.
- 4.26 Actuaries may need to challenge the opinions of others: be robust in the face of unreasonable pressures to take short cuts, when under time pressure, to change their judgments over matters such as actuarial assumptions; be willing to accept individual and collective responsibility for advice and to make appropriate reports to regulators, having regard for the public interest; and be able to recognise when an issue lies outside their area of expertise, such as legal or tax issues. The Morris Review also recommended that the Profession should work with regulators to develop consolidated guidance on reporting concerns to regulators and the Profession itself.
- 4.27 The ethical and professional behaviour of actuaries will be guided by the ethical code developed for them by the Profession, including any guidance on how to handle conflicts of interest. The Profession is currently developing a new principles-based Actuaries' Code, which will be supported by standards on issues such as conflicts of interest, as well as standards for particular roles. Requirements set by regulators will influence the work of actuaries who advise regulated entities.
- 4.28 These conflicts of interest may in turn arise from the actuary's working environment, or from other factors beyond the actuary's control (see below). Another threat is a misunderstanding by actuaries themselves about their role and function, and duties to different stakeholders, legal matters and perceived confidentiality restrictions, and the reliance they can place on others.
- 4.29 Key aspects of this driver are therefore the clarity of the Profession's ethical standards, the incorporation of ethical and professional training in the Profession's examinations and post-qualification training, and the degree of compliance monitoring.



### *Working environment for actuaries*

- 4.30 This driver includes the culture and processes such as quality control within actuarial consultancy firms, or within the actuarial teams in multi-disciplinary organisations, as appropriate, having regard to the public interest. Actuaries need to work in an environment which promotes actuarial quality through appropriate incentives and professional quality assurance arrangements.
- 4.31 Most of the institutional clients which actuaries advise are regulated entities such as insurers, pension schemes and other financial institutions, with the result that the culture and quality assurance arrangements are established in a regulatory context. Inevitably these are sector-specific.
- 4.32 Consultancy firms are not regulated as such. However, they are influenced by the regulatory context of their clients, and individuals who undertake reserved roles are subject to some regulation. Many consultancy firms are regulated in another capacity, for example because they provide regulated investment advice or other financial services, and this can impact on all their services.
- 4.33 The professional quality assurance arrangements established by actuarial firms have been reviewed by the Oversight Board in its discussion paper *Monitoring and scrutiny of actuarial work*.

### *Other factors which are outside the control of actuaries*

- 4.34 These factors include legislation, regulation, and the skills and other characteristics of the users of actuarial services. They can promote actuarial quality through:
- effective governance and challenge of actuarial work, including by third parties such as auditors;
  - the culture and norms within the sector more generally; and
  - the role and requirements of the various regulators, and the effectiveness of their monitoring.
- 4.35 A particular issue is the ability of users of actuarial work to challenge the information and advice they receive. This can vary considerably between sectors and is considered in subsequent sections.
- 4.36 As mentioned already, regulation can promote quality through standards, but if it is prescriptive it can also stifle innovation and the taking of responsibility for decisions. The principles-based approach being taken by regulators, which also places actuaries in an advisory rather than a decision-making role, will help here. Again these factors are largely sector-specific, and are considered in more detail in subsequent sections. Many of these factors are considered in the Oversight Board's discussion paper *Monitoring and scrutiny of actuarial work*.

## Relevance to the FRC's work

4.37 All these drivers are relevant to the work of the FRC and its operating bodies. However, *reliability and usefulness of actuarial methods*, and *communication of actuarial information and advice*, are of particular interest to the Board for Actuarial Standards; while the *technical skills of actuaries*, and the *ethics and professionalism of actuaries*, are of particular interest to the Professional Oversight Board.

## Sector-specific considerations

4.38 The drivers proposed above need to be considered together and in context, since it is the application of the actuary's judgment in respect of aspects of the assignment, and the assignment as a whole, which will impact decisively on the quality of the end-product. We believe that it is therefore instructive to consider the drivers and the threats to those drivers individually in respect of each of the main industry sectors – life insurance, general insurance and pensions – in sections 5 to 7 below.

4.39 We have not specifically dealt with other areas in which actuaries work, such as investment, banking, project management, healthcare and risk management, but would be interested to hear about the application of drivers in these areas to the extent that they or the associated threats are different. Many such activities, such as investment, risk management and long-term care insurance are undertaken in connection with one or more of the main industry sectors. However, the drivers of quality in areas not associated with actuaries – and in which actuarial methods and professional disciplines are less developed - may be significantly different.

## Questions

Q4 (i) *Have we identified the key drivers of actuarial quality? How can they be added to, re-defined or re-structured?*

Q4 (ii) *Do other drivers apply in sectors apart from life insurance, general insurance, and pensions?*



## Five - Life insurance

There is a wide range of long-term protection and savings products, with funds invested of over £1 trillion which includes life assurance and insured pensions.

The main regulated actuarial role for life insurers is the actuarial function holder; additional roles cover with-profits, transfers, financial reporting, friendly societies and pure protection business at Lloyd's

*Reliability and usefulness of actuarial methods* – actuarial methods in life insurance are characterised by relatively reliable data, sophisticated models, and heavy regulatory influence

- Threats include sensitivity to long-term assumptions, treatment of investments and operational risks

*Technical skills of actuaries* – these are often very specialised and may need updating in times of rapid change

- Threats include rapid obsolescence of methodologies, limited experience base within insurers

*Communication of actuarial information and advice* – set by FSA but market demands realistic reporting

- Threats include too many reporting requirements

*Ethics and professionalism of actuaries* – these are influenced by the FSA as well as the Profession

- Threats include the risk of unreasonable pressure on the actuary from the insurer's management to produce a particular result

*Working environment for actuaries* – this is regulated, with many in-house actuaries and some consultants

- Threats include insularity and absence of effective professional quality controls

*Other factors outside the control of actuaries* – FSA regulation, responsibilities of boards

- Threats include the extent to which others (the sales force, for example) may heighten risks in areas primarily of actuarial involvement

The FSA's risk-based supervision already provides significant checks and balances, including audit requirements with actuarial support (the reviewing actuary), increased responsibilities of governing bodies and governance of with-profits business

## Five – Life insurance

### What is the public interest in life insurance?

- 5.1 Life insurance (sometimes called life assurance or long-term insurance) includes any financial contract (known as a policy) which is contingent upon life, whether through death or survival. This includes most personal pension contracts, and life insurers often write other forms of long-term insurance, contingent upon sickness, disability or long term care needs.
- 5.2 According to recent Association of British Insurers (ABI) figures, the UK life insurance industry is the largest in Europe and the third largest in the world. It employs over 300,000 people, almost 1/3<sup>rd</sup> of all financial services jobs. Life insurers invest over £1 trillion and control 17% of investment in the London Stock Exchange. In 2006, they paid out over £150 million a day in life and pension benefits.
- 5.3 There is a wide range of contracts available. However, all long-term business involves payment of premiums to the insurer; the investment by the insurer of those premiums after allowance for its selling and other costs; payments of claims whether on death, some other contingency or survival to an agreed age, or as an annuity or pension, or in some cases payment of a surrender benefit in the case of earlier termination by the policyholder.
- 5.4 This range and flexibility mean long-term insurance contracts have many uses to the public, such as:
- security for dependants on the death (or sickness) of a breadwinner;
  - security for lenders, for example in relation to a home loan or equity release arrangement;
  - security for employers (key person insurance) and a benefit for individual employees or an entire workforce;
  - security in old age, e.g. annuities and pensions, long-term care;
  - tax planning for wealthy individuals, such as pensions (e.g. SIPP's) and inheritance tax;
  - saving for education, a wedding or other major ceremony;
  - investment in pooled or specialised investments, sometimes with investment guarantees, or a share of the insurer's own profits (with-profits business);
  - pensions – for individuals and entire schemes.
- 5.5 Under the Financial Services and Markets Act 2000 (FSMA) and European legislation, with a very few exceptions such as Lloyd's syndicates, only authorised firms with permission to effect and

carry out long term insurance business may undertake this activity. The Financial Services Authority (FSA) regulates the insurers, the individuals who run them, whether as directors or managers, and intermediaries who sell and market insurance (including life insurance). The EU is expected increasingly to drive policy on future regulation, although the FSA will remain responsible for monitoring and supervision.

- 5.6 There are over 200 UK long-term insurers, including proprietary companies, mutual companies (owned by their with-profits policyholders) and friendly societies, as well as a few Lloyd's syndicates for pure protection business. Until the 1990s, mutual companies represented a large part of the market and included some of the largest insurers. Following a wave of demutualisations, there are now very few mutual companies, although a number of insurers constituted as friendly societies remain.
- 5.7 Insurers may seek to manage their risks by reinsuring their portfolio of policies with specialist reinsurers. Reinsurance can offer insurers risk transfer, financing, some tax benefits, stronger balance sheets, and specialist underwriting expertise. There has been a great deal of consolidation in the reinsurance industry, to the extent that the market is now dominated by a handful of very large, global reinsurers. Some banks also offer finance to insurers through 'subordinated loans' which rank after payments to policyholders. The scope for such financing to be used for balance sheet presentational purposes has caused problems for regulators in the past.
- 5.8 The range and complexity of life insurance contracts makes them difficult to understand and in the past this has led to problems in a number of areas:
- *Mis-selling and maladministration* – consumers can find it difficult to understand the risks that they run when they invest in life contracts. Recent cases of widespread mis-selling include the incorporation of high yield bonds (with payment from capital) within personal pensions, imprudent pricing assumptions in endowment mortgages, precipice bonds, and reviewable rate long-term care contracts;
  - *Mismanagement by insurers themselves* – life insurers need to manage significant long-term investment, business, regulatory and mortality risks, and they and their stakeholders can make significant losses when experience is unexpectedly adverse;
  - *Misreporting of results* – often in the past both regulatory reporting and financial statements were of limited value, and financial engineering through techniques such as reinsurance have been used by some to improve the presentation of results and apparent financial strength;

- *Solvency concerns* – no major life insurer has become insolvent recently although amalgamation with a stronger life office has often been the way of averting a crisis. Additionally the ability of insurers to provide acceptable returns to policyholders, particularly in respect of with-profits business, has been significantly curtailed in a number of cases;
- *Wider impacts* – life insurers are a major source of funding for public and private institutions. That said, the impact of rigid solvency rules on life insurers during significant falls in equity markets has been blamed in the past by some for exaggerating those falls as insurers were required to sell further shareholdings. Life insurers can also have significant social and economic effects through their underwriting for example on smoking, obesity, AIDS, genetic testing and discrimination.

### What do actuaries do in life insurance?

- 5.9 Actuaries may be asked to provide advice in almost all aspects of life insurance. However, certain roles are required by regulation to be undertaken by a Fellow of the Institute or Faculty:
- a. *Actuarial function holder (AFH)* – the actuary who must advise the insurer’s governing body on the actuarial investigation of its liabilities and surplus and must undertake the calculations using the assumptions selected by the governing body. The AFH cannot be the chief executive, but may be a member of the governing body - in which case the AFH cannot also be the WPA (see below);
  - b. *With-profits actuary (WPA)* – the actuary who advises the insurer’s governing body on the exercise of discretion in relation to with-profits policies, and who must report on the extent to which the insurer has had regard to the interests of with-profits policyholders. The WPA can also be the AFH, but cannot be a member of the insurer’s governing body;
  - c. *Appropriate actuary* – the actuary who must prepare a report every three years for the members of a non-directive friendly society under the Friendly Societies Acts;
  - d. *Reporting actuary* – the actuary who must compute the long-term business liabilities in an insurance company’s returns under the Companies Acts. The role is not regulated by the FSA and the actuary need not be individually identified, but the work will usually have much in common with work on the regulatory returns and is generally undertaken or reviewed by the AFH;

- e. *Reviewing actuary* – the actuary from whom the auditor of the FSA’s regulatory returns for an insurer is required to take advice under FSA rules. The reviewing actuary must be independent of the insurer and cannot therefore be its AFH or WPA;
- f. *Independent expert* (who need not always be an actuary but generally is) – an actuary appointed by or with the approval of the FSA or the court to provide a ‘skilled person’s report’ on the insurer or on a business transfer or in relation to the insolvency of an insurer, or as part of an insurer’s with-profits governance arrangements. The independent expert must demonstrate a high degree of independence from the insurer and, in particular, would not be the AFH or WPA.

5.10 Other areas on which actuaries are typically asked to advise include:

- *customer transactions* - premium rates, bonuses, surrender values, charges, illustrations, risk disclosures;
- *financial management* - restructuring and mergers and acquisitions (M&A), including valuation of shareholder interests, reattribution of orphan estates, investment strategy and asset-liability modelling, risk management and reinsurance;
- *corporate and regulatory reporting* - including regulatory returns, individual capital assessments (ICAs), a published statement of the Principles and Practices of Financial Management (PPFM) of the insurer, accounts prepared under International Financial Reporting Standards (IFRS) and on a Modified Statutory Solvency Basis (MSSB), embedded values (EVs); and
- *one-off or review advice* – in other areas not specifically provided for by regulation.

5.11 Many governing bodies and most with-profits committees include at least one actuary, because these bodies often benefit from the skills and experience of an actuary as one of their number. However this is not a regulatory requirement and lay bodies may buy in actuarial advice instead.

### **Who does it?**

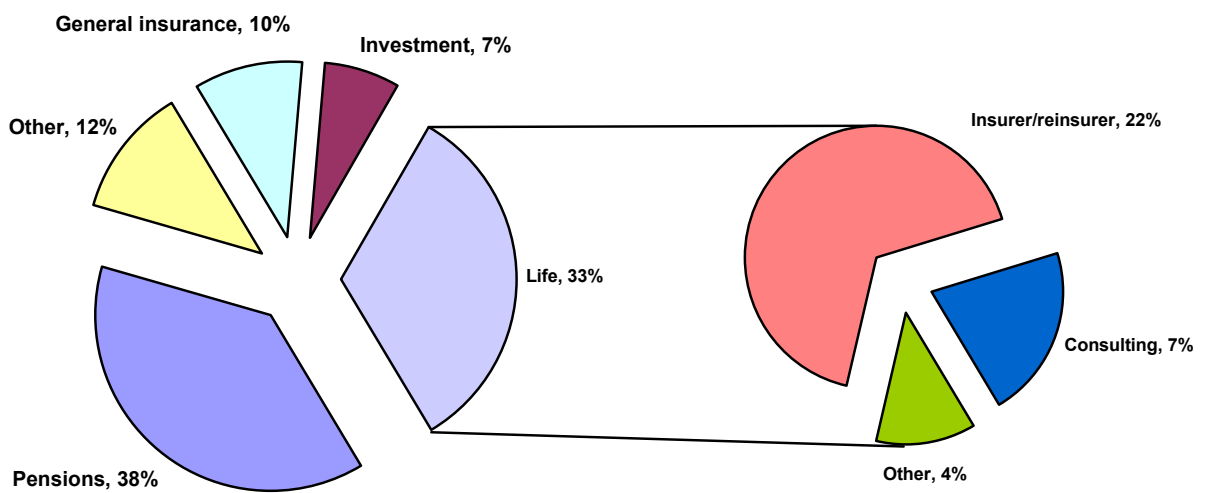
5.12 Most actuaries employed in the sector are life specialists, although life insurers will often employ actuaries with other specialisms as well, for example:

- pension specialists to advise the insurer’s pension clients or help with product design – advice to pension clients is dealt with in the section on pensions;



- investment specialists to act as fund managers and in other investment roles, primarily on the basis of specific investment skills and training, although the actuarial qualification and understanding of the related liabilities can be an advantage in asset-liability modelling – the role of investment specialists is not specifically considered in this paper;
- specialists in other areas such as finance and risk management – the role of these specialists is not specifically considered in this paper.

*UK Fellows - Life insurance - Employers*



**Source: The Actuarial Profession - as reported in annual returns submitted by UK actuaries as at 31<sup>st</sup> January 2008**

5.13 As discussed above, actuaries employed to perform reserved roles must be Fellows of the Institute or Faculty of Actuaries. The Profession also requires such individuals to hold a practising certificate, which means they must have three recent years of relevant life experience and up-to-date CPD. The Profession provides two types of practising certificate in life insurance: one for actuaries who perform roles in relation to with-profits business (whether as WPA or as AFH) and one for actuaries who do not.

5.14 All but the smallest life insurers employ their own in-house actuaries, although reserved roles may be held by external actuaries even in larger insurers. Many life insurers have a combined finance/actuarial function, and the role of finance director may be performed by an actuary or an

accountant. Traditionally, many life insurers employed actuaries in other senior management positions, where they were not using actuarial skills on a daily basis, but where their actuarial training was considered to be a suitable background; however, this is less common today. In a large financial services group, for example offering life, pensions and other investment services, the actuaries together with all the other staff may be employed by a services company, or outsourced. Direct insurers can obtain actuarial input to their product development and pricing, through packages or tailored products developed by reinsurers with help from their actuaries.

- 5.15 Consultants offer a full range of actuarial support to all sizes of insurer. As well as the major firms, there are a few niche consultancies which cater for friendly societies and smaller life insurers, sometimes in conjunction with small or mid-tier audit firms. Sole practitioners and small firms provide advice in areas where independent or specialist advice (such as mortality expertise) is at a premium, for example expert witness work or where the actuary has an existing relationship with the client or one of its advisers. Consultancies also arrange fixed-term secondments of actuarial staff to insurers, and there are agencies that specialise in arranging short term contracts for actuaries, in competition with more broadly based recruitment agencies.
- 5.16 Accountancy firms (other than the insurer's auditor) compete actively with larger actuarial consultancy firms, so that life insurers have a reasonably wide choice of external actuarial advisers. The largest accountancy firms have substantial in-house life actuarial expertise to provide both audit support and general actuarial consultancy for life insurers, although because of independence requirements they cannot provide both audit and full consultancy services for the same insurer or its group. They will generally use their own reviewing actuary to support an audit, but will not then provide other actuaries to perform functions such as with-profits actuary or to peer review the other actuarial functions. Smaller accountancy firms without their own actuarial resource will tend to have arrangements with independent consultancy firms to provide a reviewing actuary in relation to their audit of life insurers.

### **What are the drivers and threats in relation to actuarial quality in life insurance?**

- 5.17 As discussed in section 4, we have proposed six main drivers of actuarial quality for consideration:
- reliability and usefulness of actuarial methods;
  - technical skills of actuaries;
  - communication of actuarial information and advice;
  - ethics and professionalism of actuaries;
  - working environment for actuaries; and
  - other factors outside the control of actuaries.

- 5.18 These drivers and the corresponding threats have been discussed generally in section 4. However, specific features relating to life insurance are set out below.

*Reliability and usefulness of actuarial methods*

- 5.19 Data for individual policyholders are generally good, because of the detailed underwriting checks that are undertaken by life insurers. Consequently, life insurers are able, and expected, to build sophisticated models of their businesses for a wide range of purposes, derived from their policy database. However, because of the long period of projection, the results are extremely sensitive to the assumptions used.
- 5.20 Typically, life insurers develop a 'model office' representing their portfolio of individual policies. This is used for a range of functions including valuation, profit-testing of products and new business, projections and budgeting, regulatory and individual capital assessment, scenario testing and asset-liability management, corporate finance and embedded value work. The financial management of with-profits business requires retrospective assessment and projection of each policy's 'asset share', which is then used for determining bonuses, surrender values and market-value adjustments.
- 5.21 These models are developed in-house or from proprietary packages offered by the main consultancy firms and others. Investments are generally modelled by sector, using economic scenario generators to derive assumptions for use in stochastic modelling.
- 5.22 One-off calculations may be required for unusual investments and products, typically those with guarantees or options, group policies for which the insurer is reliant on the client for data on individual lives, reinsurance contracts, taxation, and the pricing of some annuities and investment-linked products. These may support the analysis of the insurer's experience in order to develop and update demographic and other business assumptions including expenses.
- 5.23 The main actuarial methods for valuing the liabilities of a life insurer for regulatory purposes are determined by the FSA, with some additional standards derived from professional guidance notes which have now been adopted by the BAS. Before 2004, regulatory requirements were fairly restrictive, which tended to stifle innovation and led to implicit allowances and netting off of margins in assumptions. The FSA's new market-consistent approach, which is similar to that proposed under Solvency II, places much greater responsibility on insurers to adopt an approach which explicitly reflects the risks inherent in their business. Insurers and their governing bodies are expected to have a sophisticated understanding of their lines of business, including an

understanding of the threats and sensitivities, based on stochastic modelling, particularly of the long-term economic and investment assumptions. The FSA's supervisory approach is then one of challenge rather than prescription for the insurer's financial management and reporting.

- 5.24 Additional methods are derived from educational materials, international influences, and from research carried out in-house or by the consultancy firms which develop proprietary models. The IASB, the ASB and the ABI set standards for corporate reporting, and the European CFO (Chief Financial Officer) Forum sets principles for the calculation of embedded values with strong actuarial input.
- 5.25 The complexity of the models used creates its own risks, particularly when spreadsheets are used, although most life companies develop much larger programs, and the proprietary packages will have been tested on a number of institutions. Audit teams can test the systems or run their own parallel models to check the reasonableness of the results.
- 5.26 A particular challenge is in modelling operational risks, such as expenses and mis-selling, which can lead to substantial remedial costs including administration and compensation. Compensation calculations can require a tailored actuarial calculation for each case. The FSA's Treating Customers Fairly (TCF) requirements may restrict some of the management actions assumed in actuarial models in response to a particular event such as a fall in asset values or the closure of an insurer to new business.
- 5.27 Given the importance of economic and business assumptions, it might be thought that the demographic assumptions were of secondary importance. However, there are significant uncertainties relating to mortality improvements, particularly in annuity portfolios, which the BAS has been reviewing in conjunction with the Profession, the FSA and industry bodies. Other risks such as medical expenses and the cost of long-term care are very difficult to predict, and actuarial concerns were frequently behind attempts by insurers to limit their exposure through contractual limitations and premium review clauses. However, these contractual provisions run the risk of being held to be unfair, or to have been inadequately explained with the result that the policy may be found by the FSA, the courts or the Financial Ombudsman Service to have been mis-sold.
- 5.28 Reinsurance is available to address mortality risk, including exposure to non-proportional risks such as pandemics, and also to provide financial and technical support to insurers. However, the modelling and reporting treatment of reinsurance packages requires careful consideration.

### *Technical skills of actuaries*

- 5.29 Actuaries' expertise in financial aspects of life insurance means they continue to be in high demand from insurers. Actuaries are expected to have the technical skills to develop, use and interpret the sophisticated models now in use, and the general business knowledge and insight – particularly in relation to the investment and operational risks mentioned above - to exercise appropriate judgment on the reliance which can be placed on those results.
- 5.30 To support these skills, the Profession's core examinations to Associate level have a significant life insurance content, with relevant modelling, financial economics, business awareness and other material for candidates to be able to interpret the economic assumptions and asset dependency. For the Fellowship level, students take two specialist technical subjects such as life insurance and one of health or general insurance, pensions, finance or investment. There is then a specialist applications subject in life insurance. Students must also complete three years of relevant work-based training, covering a range of activities and competences. Actuaries who have specialised or trained in another discipline such as pensions may transfer to the life sector but are subject to a professional requirement to ensure they are competent for the work they are asked to do.
- 5.31 In order to maintain and develop their competence, members of the Profession who carry out actuarial work in life insurance are required to undertake a minimum of 15 hours' verifiable relevant continuing professional development (CPD). The Profession publishes a list of current relevant areas in relation to life insurance. The FSA also has competence requirements for staff who undertake significant roles for insurers. Recently qualified actuaries face the challenge of gaining relevant experience, while more experienced actuaries face the challenge of keeping up with the latest actuarial methods, which have been transformed over the last 20 years.
- 5.32 The value of work-based training can vary and is scrutinised by the Profession. In-house actuaries may have limited day-to-day exposure to the methods used by actuaries in other life insurers and other disciplines and, particularly if they work in a large team, may gain limited experience of the wider business environment. External consultants gain broader exposure but may not experience techniques to the same depth.
- 5.33 To be eligible for a practising certificate, actuaries - including those with foreign qualifications who qualify under mutual recognition arrangements - must pass a 'practice module' in life insurance which tests knowledge of relevant UK professional and regulatory requirements. They must also have three years of recent relevant work experience, as well as continuing to meet the relevant CPD requirements. The Profession provides two practising certificates for life actuaries,

depending on whether the life insurer carries out with-profits business. Work experience requirements for the with-profits certificate include a need for relevant with-profits experience.

#### *Communication of actuarial information and advice*

- 5.34 Actuaries and entities which produce actuarial information need to be able to communicate findings and the associated risks clearly so that they will be understood by non-actuaries who act on them. Actuaries also need to be able to give clear and useful advice to their clients, without in effect taking their clients' decisions for them.
- 5.35 The complexity of the models used and the issues discussed by actuaries in life insurance make clear and comprehensive reporting and communication a significant challenge, particularly when dealing with the public but even when dealing with other experts. Junior actuaries employed by insurers may have limited exposure to non-technical audiences and to governing bodies.
- 5.36 Many of the reporting requirements and matters on which actuarial advice must be sought by life insurers are set by the FSA. As well as the generic standard on reporting planned by the BAS, there will be specific standards on reporting and the specific advice required from actuaries undertaking reserved roles. One of the challenges in this area will be to ensure that appropriate disclosures are made without overburdening the user with information.

#### *Ethics and professionalism of actuaries*

- 5.37 Actuaries working in life insurance need to be able to handle a number of difficult ethical issues typically involving conflicts between the life insurer's various stakeholders, including the interests of different classes and generations of with-profits and non-profits policyholders, shareholders, staff and advisers, intermediaries, private and market counterparties such as lenders and reinsurers, potential investors, analysts and regulators.
- 5.38 In-house actuaries in particular risk coming under implicit pressure to adjust their professional recommendations for the assumptions used in order to produce the results that senior managers want. These pressures apply not only to financial management and reporting decisions, but also to the actuarial information that underlies customer transactions such as premium rates, policyholder information, and discretionary decisions relating to with-profits and other types of business on which policyholders rely on the insurer.
- 5.39 In addition to the Profession's ethical and conduct standards, FSA requirements impose regulatory requirements on firms and approved persons to comply with requirements relating to

integrity, compliance and professionalism. Whistle-blowing requirements apply to the actuarial function-holder, the with-profits actuary and other significant roles, and to insurance companies themselves, and broad protections apply to these and other disclosures to the FSA.

#### *Working environment for actuaries*

- 5.40 Actuaries need to work in an environment which promotes actuarial quality through appropriate incentives and professional quality assurance arrangements.
- 5.41 Most life insurers employ their own actuaries who therefore work in an FSA-regulated environment, which requires there to be adequate systems and controls. The AFH and WPA must be approved by the FSA, and are subject to whistle-blowing and other duties, as are actuaries who are also directors or other key employees. The FSA considers internal actuarial systems and controls as part of its assessment of life insurers' systems and controls, and expects the life insurers' governing bodies to do the same. The FSA has published findings on insurers' actuarial systems and controls, and their with-profits governance arrangements.
- 5.42 External or consulting actuaries tend to be used by small life insurers such as friendly societies and for specific transactions. A number of life insurers employ an external AFH or WPA, or other external actuaries as part of their with-profits governance arrangements.
- 5.43 Actuaries employed by accountancy firms, whether in relation to audit support or general consultancy, are subject to the firms' internal cultures and quality assurance disciplines.
- 5.44 The professional quality assurance arrangements established in firms have been reviewed by the Oversight Board in its discussion paper *Monitoring and scrutiny of actuarial work*.

#### *Other factors outside the control of actuaries*

- 5.45 External factors which can promote actuarial quality in life insurance include:
- effective governance and challenge by governing bodies of insurers and other interested parties such as with profits committees;
  - culture within the wider life insurance industry, such as the principle of utmost good faith, and industry guidance developed by the ABI;
  - ability of third parties such as auditors and their reviewing actuaries effectively to challenge the work of actuaries;
  - the role and requirements of the FSA, and the effectiveness of its monitoring; and
  - regulatory requirements imposed by the BAS and the Profession.

- 5.46 A number of steps have been taken to promote effective external challenge for actuaries working in life insurance, most of which are discussed in the Oversight Board's discussion paper *Monitoring and scrutiny of actuarial work*. This concludes that there is enhanced scrutiny of actuarial work, although the FRC believes that the Profession should consider options for providing additional support for the existing regulatory framework.
- 5.47 As discussed under other drivers, regulation can both promote quality through standardisation, and stifle innovation and the taking of responsibility for decisions. The principles-based approach being taken by the main regulatory bodies including the FSA will potentially help, as will continuing coherence between the various regulatory requirements. This could be enhanced by recognition of BAS standards in the rules and requirements of other bodies.

### Priority areas for the FRC

- 5.48 In deciding on priority areas for the FRC to look at, we need to consider: the already significant role of the FSA; whether problems exist in practice; and areas in which the FRC or other bodies can provide help in the most cost-effective way.
- 5.49 The BAS's current priorities in life insurance are:
- finalising a conceptual framework for actuarial standards;
  - implementation of a standard for reporting by actuaries;
  - arranging the transition to its own standards rather than adopted standards, which will prioritise generic standards before tackling specific areas such as life insurance.
- 5.50 The Oversight Board's current priorities in life insurance are:
- overseeing the Profession's regulation of its members in education and training, continuing professional development, ethical and conduct standards, compliance monitoring and discipline;
  - considering options for enhancing the effectiveness of monitoring and scrutiny following the review set out in *Monitoring and scrutiny of actuarial work*.

### Questions

- Q5 (i) *Have we accurately described the main features of actuarial work in life insurance?*
- Q5 (ii) *Have we identified the main drivers in this area?*
- Q5 (iii) *Have we identified the main threats to these drivers?*
- Q5 (iv) *Have we identified the main indicators that these factors are helping to promote actuarial quality?*
- Q5 (v) *Are there further steps that the FRC could take to promote actuarial quality in life insurance?*





## Six - General insurance

The UK general insurance industry offers a wide range of protection products, and takes net premiums of £31 billion a year, with huge theoretical sums insured; London is a global insurance centre

There is heavy and increasing reliance on actuaries, but limited formal recognition of their role except at Lloyd's where protection is provided for syndicate members as well as policyholders

*Reliability and usefulness of actuarial methods* – there is a range of models of varying sophistication, primarily concerned with modelling claims experience

- Threats include handling uncertainty and limited data, dependent on claims-handling approach

*Technical skills of actuaries* – need good understanding of the business and a range of modelling techniques given data limitations

- Threats include responsibilities being placed on inexperienced actuaries

*Communication of actuarial information and advice* – set by FSA but market demands realistic reporting

- Threats include inadequate disclosure of uncertainty

*Ethics and professionalism of actuaries* – industry based on principle of utmost good faith, regulation

- Threats include wide range of acceptable judgments, which can make it difficult to resist management pressures to produce a particular result

*Working environment for actuaries* – some in-house actuaries, and also reliance on external consultants

- Threats include isolation of in-house actuaries and lack of professional quality assurance

*Other factors outside the control of actuaries* – FSA regulation, audit with actuarial support, responsibilities of governing bodies and the role of the Lloyd's actuary

- Threats include external events which cannot be predicted such as large claims and legal decisions, and behavioural influences on insurers' claims management and recording

There may be scope for the BAS and the Oversight Board, through recommendations to the Profession, to support FSA moves to a more principles-based approach and help actuaries withstand unreasonable pressures that may be placed on them

## Six – General insurance

### What is the public interest in general insurance?

- 6.1 General insurance, sometimes called non-life or property and casualty (P&C) insurance, provides protection or an indemnity from the financial consequences of a wide range of risks other than life, although some of the risks covered also depend on life contingencies.
- 6.2 According to Association of British Insurers (ABI) figures, the UK general insurance industry is very large with total net premiums (turnover) of £31 billion per annum in 2006. The London market, which includes Lloyd's of London, is a global insurance centre for major risks and reinsurance. The sums potentially covered by general insurance are effectively unlimited.
- 6.3 There is a wide range of risks that can be insured, and most aspects of our lives such as employment, travel and transport, health and housing, as well as many business activities, depend on the existence and availability of insurance. Most policies provide cover for one year, although some policies such as travel insurance are more specific, and some claims, particularly for liability protection cover, may emerge much later because of reporting delays.
- 6.4 General insurance is regulated by the Financial Services Authority (FSA). Apart from members of Lloyd's, only authorised insurers with permission to effect and carry out the relevant classes of general insurance may undertake this business. Members of Lloyd's and specific syndicates they join are regulated by the Society of Lloyd's which is itself regulated by the FSA. The FSA regulates the companies, the individuals who control them, whether as directors or managers, and intermediaries who sell and market insurance.
- 6.5 There are roughly 700 general insurance companies and about 60 active Lloyd's syndicates in the UK. The FSA's rules cover solvency and systems requirements including those for regulatory returns which must be published, individual capital assessments (ICAs) and risk-based supervision. Insurers' main regulatory and corporate returns are subject to external audit, and there is a comprehensive compensation scheme for policyholders covering 90% and in some cases 100% protection. The rules have undergone changes in the last five years, and further changes are expected over the next five years as a result of the EU's Solvency II project. It is expected that regulation will increasingly be driven by developments in Europe.

## What do actuaries do in general insurance?

6.6 Actuaries are asked to advise on many aspects of general insurance, primarily in relation to claims experience, including:

- technical provisions for outstanding claims (reserving)
- pricing
- treaty design for reinsurance business
- outwards reinsurance
- corporate and regulatory reporting including FSA individual capital assessments (ICAs)
- mergers & acquisitions (M&A)
- financial management
- one-off or review advice including audit support.

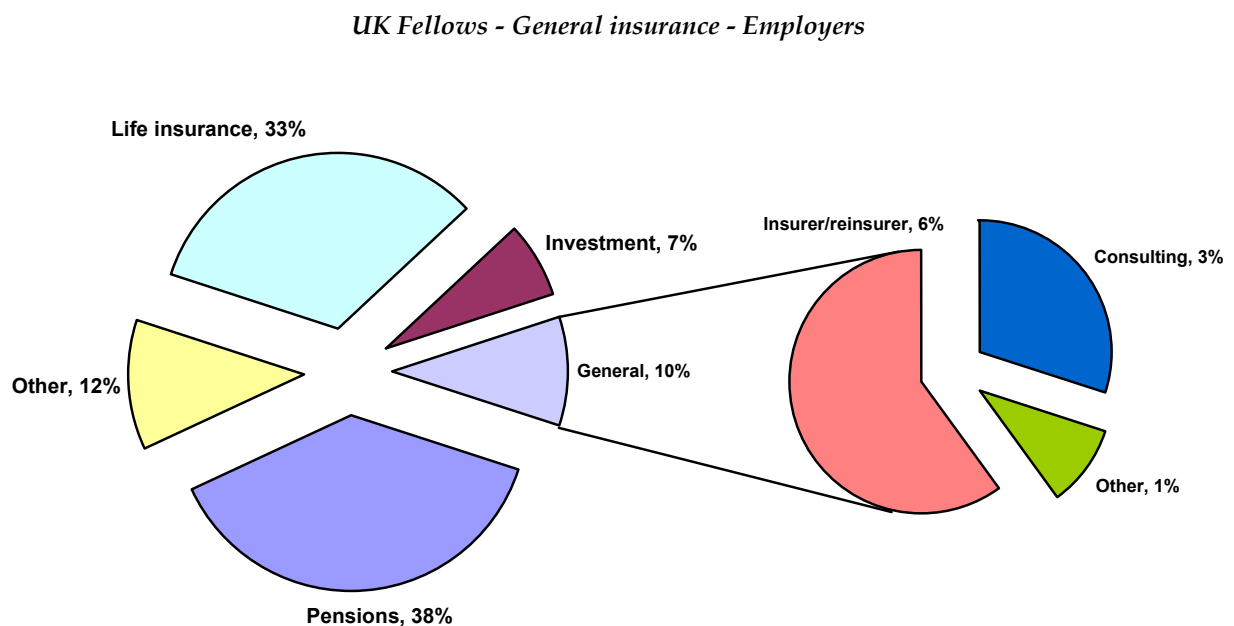
6.7 Until the 1970s few actuaries worked in general insurance in the UK. There are still very few reserved roles for actuaries in general insurance, in contrast to many overseas jurisdictions. There are however nearly 600 actuaries now working in the general insurance field in the UK.

6.8 The reserved roles are:

- *Lloyd's actuary* – the actuary appointed to report and advise on consolidated reporting of liabilities at Lloyd's, who also has a role in overseeing the returns provided by individual syndicates;
- *Lloyd's syndicate actuary* – the actuary who reviews the technical provisions for the syndicate is required to provide an opinion confirming that they are no less prudent than their best estimate of the amounts required;
- *Roles for overseas business* - Some Lloyd's syndicates and UK insurance companies, authorised to write business in the US, are required to provide statements of actuarial opinion regarding the reserves for certain lines of business;
- *Appropriate actuary* – the actuary who must prepare a report every three years for the members of those friendly societies which undertake general insurance business;
- *Independent expert* – an expert (often an actuary) appointed by or with the approval of the FSA or court to report on an insurer or on a business transfer or in relation to the insolvency of an insurer.

## Who does it?

6.9 Almost all actuaries who work in this field are general insurance specialists, although many trained initially in life or pensions disciplines and have converted. Recent qualifiers must have passed the relevant practice module before they are permitted to hold a practising certificate in order to perform a reserved role.



**Source: The Actuarial Profession - as reported in annual returns submitted by UK actuaries as at 31<sup>st</sup> January 2008**

6.10 Actuaries employed to perform reserved roles must be Fellows of the Institute or Faculty of Actuaries (or Fellows of the US Casualty Actuarial Society who are members of the Faculty or Institute), and must hold an appropriate practising certificate, which means they must have three recent years of relevant non-life experience and up-to-date continuing professional development (CPD).

6.11 Many insurance companies and Lloyd's syndicates employ their own in-house actuaries, although there is frequent use of consultants, especially for reserved roles. All but a very few of the smallest insurers have some actuarial input to the reserving process.

- 6.12 Consultants offer a full range of actuarial support to all sizes of insurer. Specialist consultants combine general consultancy with software and modelling support. There are also agencies which specialise in arranging short term contracts for actuaries, in competition with more broadly based recruitment agencies.
- 6.13 The largest accountancy firms have substantial general insurance actuarial expertise to provide both audit support and actuarial consultancy for general insurers. They do not normally provide both audit and consultancy services to the same insurer. However, an actuary employed by an auditor is permitted to act as a certifying syndicate actuary, provided that the actuary is acting as an independent reviewer, and has not performed the work being certified, for example because the reserves have been calculated by an in-house actuary. Accountancy firms (other than the insurer's auditor) compete actively with larger actuarial consultancy firms, so that general insurers have a reasonable choice of external actuarial advisers.
- 6.14 In the London market, many brokers employ actuaries to work on pricing and reinsurance treaty design.

### **What are the drivers and threats in relation to actuarial quality in general insurance?**

- 6.15 As discussed in section 4, we have proposed six main drivers of actuarial quality for consideration:
- reliability and usefulness of actuarial methods;
  - technical skills of actuaries;
  - communication of actuarial information and advice;
  - ethics and professionalism of actuaries;
  - working environment for actuaries; and
  - other factors outside the control of actuaries.
- 6.16 These drivers and the corresponding threats have been discussed generally in section 4. However, specific features relating to general insurance are set out below.

#### *Reliability and usefulness of actuarial methods*

- 6.17 As discussed above, the key issue for actuaries and their clients in general insurance is the quality of the data, particularly in relation to claims. General insurers need to understand their developing

claims experience in order to determine and report on their profitability, pricing and technical provisions for outstanding claims and other risk factors, which is why they turn to actuaries. Claims development is inherently unpredictable and the data maintained by insurers are themselves subject to internal management action as well as other external and behavioural influences. In extreme cases, there is even scope for fraudulent concealment of claims.

- 6.18 There are a variety of modelling techniques in use in general insurance, depending on the type of business and the way that claims are recorded. Some personal lines, such as motor insurance, have reasonably good and comprehensive data which are susceptible to the use of statistical techniques. However, for other classes of general insurance, and particularly liability business, claims data are notoriously unreliable. Large claims are particularly difficult to model, as are reinsurance claims – especially under non-proportional treaties - which depend on the behaviours of a number of parties and are frequently notified to the ultimate reinsurer significantly after the claim event. Because of doubts about the accuracy of claims data and the consequent reliability of the models, it is often necessary to use a variety of modelling techniques. Auditors of general insurers tend to re-run models using their own software to check for the reasonableness of balance sheet figures.
- 6.19 The main models used for claims development, variously described as link ratio, chain ladder or development factor - and those used in the absence of reliable claims data which involve prior loss ratios (such as the Bornhuetter-Ferguson method) or bootstrapping - are largely empirical and do not distinguish clearly between the model and the assumptions, which are rarely explicit. Some of the influences in past claims experience are behavioural and it is rarely possible to identify all the assumptions and trends implied. Premium rating in personal lines, such as motor and household, may be more amenable to generalised linear modelling (GLM).
- 6.20 There are limited professional standards, and in practice the requirements of the FSA and Lloyd's are highly influential. In addition to the main general insurance standards GN12: *General insurance business; actuarial reports* and GN50: *General insurance principles and practice*, the Profession has developed standards for syndicate actuaries through GN20: *Reporting under the Lloyd's valuation of liabilities rules* and GN33: *Lloyd's syndicates writing US business*, now adopted by the BAS.
- 6.21 There have been debates involving accounting standards about the use of best estimates against margins, and whether, and if so how far, it should be permissible to discount outstanding claims reserves to allow for future investment returns. Discounting is automatic in life insurance and pensions where payment amounts are more predictable, but some commentators have doubts because of the uncertainties relating to claims inflation, which is influenced by court and other settlements, particularly in respect of overseas claims. Discounting will be used under Solvency II and, so far as possible, insurers are encouraged to be explicit in their assumptions and not to rely on

implicit margins and netting off between assumptions, since this can disguise often significant trends in experience.

6.22 There is a lot of research being undertaken within the Profession into these matters, both in the UK and internationally, and the BAS sees this as a priority area for technical standards.

#### *Technical skills of actuaries*

6.23 As well as being familiar with the latest modelling techniques, when to use them and how to interpret the results, actuaries need to be able to:

- apply individual judgment in a consistent manner to make adjustments for various factors;
- be familiar with the relevant classes of business, and their different claims development characteristics and experience;
- be in a position to uncover data problems and omissions, and make appropriate allowances and assumptions about the composition of mixed data; and
- handle complex reinsurance treaties and the interactions between them.

6.24 In all this, it is essential to know and understand the business environment, and how it can affect the risks, for example:

- changes in claims handling procedures;
- changes in underwriting policies;
- insurance cycle;
- reserving cycle (it is becoming clear that this is different from insurance cycle); and
- contractual terms and conditions, which can significantly influence claims experience, but are subject to challenge in the courts, and by the Financial Ombudsman Service for retail business.

6.25 Until fairly recently there were few actuaries working in general insurance, and almost all actuaries qualified with specialisms in life insurance or pensions. Consequently, even more than in other areas, the main threats to quality relating to technical skills are associated with the shortage of actuaries in this sector and consequent pressures on practitioners. Newly qualified actuaries may be technically competent, but lack the necessary business knowledge; actuaries who convert from other areas may have wider experience but may not have learnt the modelling and other technical skills.



- 6.26 To support these skills, the Profession is developing two specialist technical examination papers, one in pricing and one in reserving, to replace the existing single paper, and support the synoptic specialist applications paper. This closely matches the requirements of the Casualty Actuarial Society in the US, which specialises in general insurance only. As with other sectors, there is a requirement to pass the relevant practice module, in order to obtain a practising certificate, but these are only required for work relating to Lloyd's or some international business, chiefly US business, written by UK insurers.
- 6.27 In order to maintain and develop their competence, members of the Profession who carry out actuarial work in general insurance are required to undertake a minimum of 15 hours' verifiable relevant continuing professional development (CPD) a year. The Profession publishes a list of current relevant areas in relation to general insurance.
- 6.28 The value of work-based training varies, but most students work for a consultancy or one of the larger insurers and should have the opportunity to develop a range of technical and business competences.

#### *Communication of actuarial information and advice*

- 6.29 Actuaries and entities which produce actuarial information need to be able to communicate findings and the associated risks clearly so that they will be understood by non-actuaries who need to act on them.
- 6.30 The key challenge in general insurance is the need to communicate the uncertainty relating to both past and future claims development, but nevertheless provide relevant and useful information and advice on which informed decisions can be based.
- 6.31 The existing reporting standard developed by the Profession and adopted by the BAS (GN12: *General insurance business – actuarial reports*), which requires formal actuarial reports to contain enough detail for others to reconstruct the analysis, is felt to be a driver of quality. The BAS intends to develop a generic reporting standard for all work, as well as a specific standard for general insurance.

#### *Ethics and professionalism of actuaries*

- 6.32 Actuaries working in general insurance face fewer threats such as conflicts of interest than in life insurance and pensions, although these still exist where the senior staff and other significant stakeholders have a short term interest in demonstrating the company's financial strength and

results, and can influence the company's approach to claims management and reporting. There is often considerable uncertainty about both the underlying data and the likely development of claims, which in extreme adverse circumstances insurers might seek to exploit in reporting claims reserves.

- 6.33 Conflicts are recognised at Lloyd's, between different generations of syndicate members and their advisers, as well as the interests of the syndicate's managing agent or underwriter, policyholders, regulators (including foreign regulators) and Lloyd's itself. In these circumstances, syndicate actuaries, whose role is given specific recognition, are obliged to supply their best estimate.
- 6.34 A further issue is the extent to which the syndicate actuary and other external consultants may rely on the work of the auditor including the auditor's actuaries, and vice versa. In some cases the syndicate actuary is employed by the auditor, and the auditor is relied on to provide the main external review work.

#### *Working environment for actuaries*

- 6.35 There are a variety of different environments in which general insurance actuaries work:
- the Lloyd's market, with reserved roles for syndicate actuaries, who may be in-house but are often external, with oversight from the Lloyd's actuary as well as the FSA;
  - the company market which again varies between large personal lines insurers which often have sizeable actuarial teams, and smaller insurers which have small actuarial teams and are dependent on external actuarial consultants for support;
  - consultancy firms and accountancy firms, which have substantial actuarial resource and are major consultancies as well as providing in-house audit support.
- 6.36 Actuaries who work in a consultancy environment are subject to the firm's own professional quality assurance arrangements, and will have the advantage of seeing a wide range of businesses, but may not be close enough to the business to identify problems in data and claims experience. Actuaries in larger insurers may have similar quality assurance arrangements, supplemented by FSA requirements. However, actuaries in small insurers may be quite isolated and can benefit from an element of external review for example by a consultancy firm or through audit or through review by the Lloyd's actuary.

*Other factors outside the control of actuaries*

6.37 These include:

- effective governance and challenge by directors and other interested parties such as underwriters;
- culture within the wider actuarial profession and the general insurance industry;
- ability of third parties such as auditors effectively to challenge the work of actuaries;
- the role and requirements of the FSA, and the effectiveness of their monitoring;
- the role of the Society of Lloyd's and the effectiveness of its requirements and monitoring; and
- regulatory requirements and scrutiny by the BAS and the Profession.

6.38 Senior management in general insurers – and most of their governing bodies – can be expected to have a good understanding of their business and to challenge the work of their actuaries. Equally, the largest auditors which dominate the market for general insurance, and employ their own actuaries, will have good knowledge and understanding of the main risks. The FSA and, where appropriate, the Society of Lloyd's can also be expected to challenge the work and assumptions of actuaries, although only the Society routinely monitors compliance with actuarial standards.

**Priority areas for the FRC**

6.39 In deciding on priority areas for the FRC to look at, we need to consider: the already significant role of the FSA; whether problems exist in practice; and areas in which the FRC or other bodies can provide help in the most cost-effective way.

6.40 The BAS's current priorities in general insurance are:

- finalising a conceptual framework for actuarial standards;
- implementation of a standard for reporting by actuaries;
- arranging the transition to its own standards rather than adopted standards, which will prioritise generic standards and then areas such as general insurance.

6.41 The Oversight Board's current priorities in general insurance are:

- overseeing the Profession's regulation of its members in education and training, continuing professional development, ethical and conduct standards, compliance monitoring and discipline;
- reviewing the adequacy of monitoring and scrutiny of actuarial work.

6.42 The Profession itself is taking steps to increase the depth of training in general insurance, and there may be further initiatives in relation to qualified actuaries. There may be scope for the work of the FRC to support current deregulatory initiatives, including the FSA's more principles-based approach, as well as implementation of European initiatives such as Solvency II.

*Questions*

*Q6 (i) Have we accurately described the main features of actuarial work in general insurance?*

*Q6 (ii) Have we identified the main drivers in this area?*

*Q6 (iii) Have we identified the main threats to these drivers?*

*Q6 (iv) Have we identified the main indicators that these factors are helping to promote actuarial quality?*

*Q6 (v) Are there further steps that the FRC could take to promote actuarial quality in general insurance?*



## Seven – Pensions

Pensions are a major personal asset needed to provide for retirement, and total funds in UK occupational pension schemes are estimated at £1 trillion

There are two types: defined contribution (DC) and defined benefits (DB) - actuaries advise on both, but particularly scheme funding for DB schemes. The scheme actuary role is to advise DB trustees on funding issues; actuaries also advise sponsoring employers, and occasionally individuals

*Reliability and usefulness of actuarial methods* – methods may be scheme-specific but are closely prescribed

- Threats include lack of transparency and accountability for advice and information provided, and the inherent uncertainty and sensitivity of outputs

*Technical skills of actuaries* – actuaries have specialist training and knowledge

- Threats include weaknesses in projecting mortality improvements and need to incorporate matters outside traditional actuarial expertise such as allowance for employer covenants

*Communication of actuarial information and advice* – closely prescribed

- Threats include prescriptive reporting and difficulty of explaining complexity to lay people

*Ethics and professionalism of actuaries* – need for objectivity and independence

- Threats include conflicts, which are exacerbated through dual appointments, including pressures to produce a particular result, by varying the assumptions recommended

*Working environment for actuaries* – primarily consultancy and some insurance companies. Only the largest schemes have in-house actuaries

- Threats include isolation of small firms and weak or absent internal professional quality assurance mechanisms

*Other factors outside the control of actuaries* – risk-based regulation applies, increasing importance of role of trustees

- Threats include the way that trustees and employers respond to the new regime in which trustees set actuarial assumptions, and the absence of direct independent review through audit

Priorities for the FRC include oversight of the Profession's development of guidance on conflicts of interest, reviewing the appropriateness of monitoring and scrutiny, including the role of firms, and coordinating standards with the Department for Work and Pensions (DWP)

## Seven – Pensions

### What is the public interest in pensions?

- 7.1 Pensions represent one of the main sources of income for people who are no longer economically active. For many of us, our pension is our largest asset, without which we may be dependent on means-tested state benefits in our old age.
- 7.2 According to the Purple Book (issued by the Pensions Regulator and the PPF), up to 10 million people are active members of an occupational scheme, and many more are deferred members or pensioners, or have a personal pension. The total sums invested exceed £1 trillion for funded private and public sector schemes with a similar unfunded sum in respect of the most significant public sector schemes.
- 7.3 Pensions in the UK are traditionally associated with employment and many employees are provided with an occupational pension as part of their remuneration. Companies have recently been reorganising their pension arrangements which in some cases has given rise to employee unrest.
- 7.4 Pensions are operated on both a defined benefit and a defined contribution basis:
- (a) *Defined benefits* (DB) – this type of scheme offers a pension based typically on salary in the final years of employment (final salary), or less frequently over the entire period (average salary), which can be seen as fairer for early leavers. There are fewer than 10,000 DB schemes, which account for more than £800bn of assets. Most DB schemes are managed under trust by appointed trustees. Typically the financing is on a balance of cost basis where the members pay a fixed contribution and the sponsoring employer pays the balance.
  - (b) *Defined contribution* (DC, also known as money purchase) – this is in some ways a more transparent arrangement in which contributions (by the member or employer, usually as a fixed proportion of salary) are accumulated in that member’s own account, together with investment returns less charges. There is often a choice of investment, and the associated risks and responsibilities lie predominantly with scheme members and their advisors. There are some 60,000 occupational DC schemes, with funds under management of £200bn (with a further estimated £500bn in personal pension plans and stakeholder pensions). Typically financing is on a defined cost basis where the rate of contribution from the sponsoring employer is specified in advance.
- 7.5 Because of the long period of projection, there is considerable uncertainty about the future development of both the assets and the liabilities of DB schemes. Consequently, there is inherent

subjectivity and sensitivity to assumptions used in projecting and assessing the risks and other measures of performance and security, for schemes, scheme members, employers (and investors). The role of the actuary is to analyse the various factors and provide information which makes the potential uncertainty better understood. If actuaries are perceived to get things wrong, this serves to undermine confidence in the existing arrangements, but decisions, however difficult, still have to be made.

7.6 Pension scheme *risk* may be viewed from the various parties concerned:

(a) Social/Government

- Economic – that the economic cost of providing the socially desired level of pensions (and compensation where things go wrong) proves unaffordable to the nation. In such a case affordability can only be achieved by altering the view of “socially desirable”, or reducing the number of claimants through increased retirement ages;
- Market-based provision – market forces may result in a levelling down of commitment to occupational pensions without government intervention (compulsion or provision).

(b) Sponsoring employers – (including investors and Government as an employer)

- DB – that the cost of providing the benefits promised will prove either greater than expected or ultimately unviable;
- DC – employees will receive unsatisfactory pensions.

(c) Individual/scheme members

- DB – scheme default (due to default of employer combined with inadequate funding);
- DC – inadequate saving, or investment failure.

(d) Scheme trustees

- the legal risk of being personally sued for negligence or otherwise being held responsible personally for actions as trustees.

7.7 The role of the state is multi-faceted. In some circumstances it acts as an employer, in others it acts to encourage private pension provision and finally it acts to ensure a minimum level of income in retirement for those who have no other form of financial support.

7.8 Government is concerned about

- (a) the risk of scheme default and, in response to this, has introduced a statutory funding objective and a protection scheme (The Pension Protection Fund) which provides compensation in the event of scheme default;



- (b) inadequate pension provision and acts to encourage pension provision through various measures.

### What do actuaries do in pensions?

- 7.9 The scheme actuary's main statutory role in respect of *DB schemes* is to investigate and advise the trustees on the funding position, with a view to enabling them to meet their obligations under the trust deed, trust law, and pensions legislation. However, actuaries and actuarial firms typically provide a wider range of services and information or advice to trustees, sponsoring companies and investors.
- 7.10 The role originally developed in order to help trustees to satisfy their obligations under the trust deed, and to give confidence to members and employers that the scheme funding was being properly managed. In part, it was initially recognised in legislation in order to satisfy the authorities that the scheme was not being overfunded as a means of avoiding tax.
- 7.11 Current pensions legislation places greater emphasis on the protection of scheme members, while recognising the interests of, and the scheme's dependency on, the sponsoring employer. It requires trustees, in addition to their obligations to instruct an actuary under the trust deed:
- to set scheme-specific funding principles prudently on advice from the scheme actuary;
  - to decide on the methodology for the triennial scheme-specific valuation, which the scheme actuary then uses to calculate and certify technical provisions;
  - to obtain an annual update report from the scheme actuary; and
  - to agree a recovery plan with the sponsoring employer, with a schedule of contributions certified by the scheme actuary.
- 7.12 From October 2008, trustees will be responsible for setting transfer value bases for members who move schemes, consistent with the scheme funding principles but without a margin for prudence. They may take account of deficiency reports on advice from the scheme actuary.
- 7.13 The scheme actuary may also be asked to certify that any change in scheme benefits (benefit modifications) will leave members no worse off.
- 7.14 The main actuarial input to *DC schemes* is to advise on and provide illustrations for individual benefits for members, and actuaries may be involved in some aspects of scheme design as well as performance measurement for investment management.

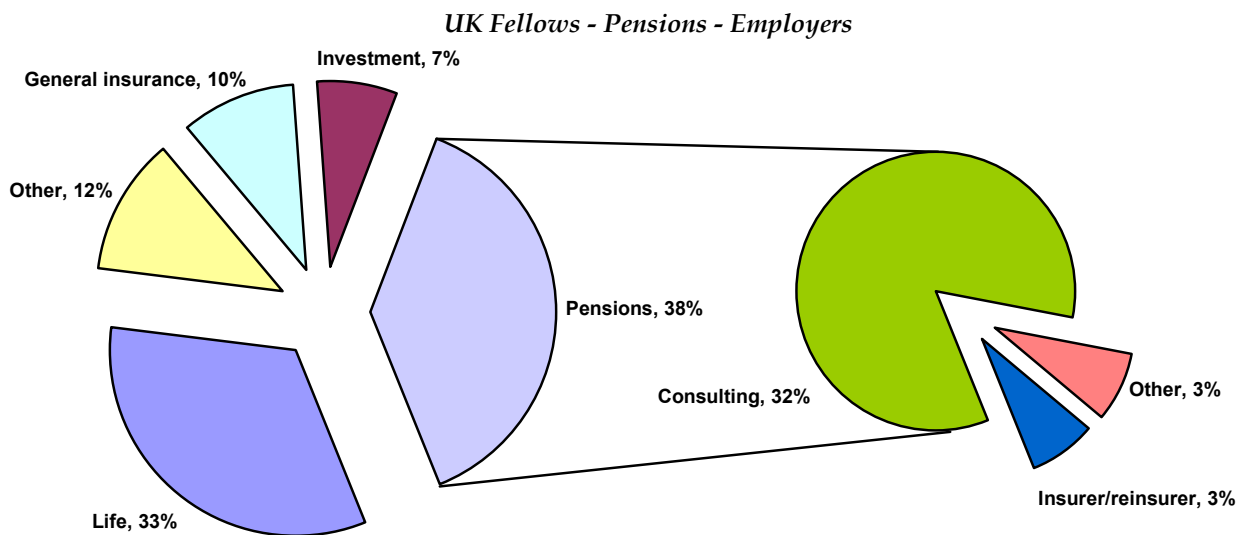
7.15 Other matters on which separate actuarial advice is typically sought by sponsoring employers include:

- disclosures in their financial statements under FRS17/IAS19;
- advice in negotiating a recovery plan with the trustees;
- actuarial certificates of deficit reduction contributions and contingent assets;
- advice on the cost implications of scheme benefits;
- advice on aggregate financial management and treasury functions; and
- mergers & acquisitions (M&A) and corporate restructuring implications.

7.16 Actuaries may be asked to provide expert advice in cases of insolvency and corporate restructuring (usually to the trustees and sponsoring employers separately) and to claimants or defendants in litigation such as dismissal claims, compensation for accidents and personal injury, divorce, and personal pensions mis-selling.

### Who does it?

7.17 Most actuaries working in this sector are pensions specialists, although all actuaries have investment training and some may have specialist investment or life insurance expertise. The statutory scheme actuary role must be undertaken by an individual Fellow of the Institute or Faculty of Actuaries. The Profession requires actuaries undertaking this role to hold a practising certificate, which means they need at least three recent years of relevant experience and up-to-date CPD. The Profession also requires the scheme actuary's work to be reviewed by another qualified actuary eligible to hold a scheme actuary practising certificate. In practice, except in the case of a sole practitioner, this work is normally undertaken by an actuary from the same firm.



Source: The Actuarial Profession - as reported in annual returns submitted by UK actuaries as at 31<sup>st</sup> January 2008

- 7.18 Most schemes obtain their actuarial services from a pensions consultancy firm. While larger schemes will have their own pensions manager (often an employee of the sponsor), investment manager, and lawyer – as well as the trustees and independent auditor - the normal model is for the pensions consultant to provide:
- a client manager (often an actuary);
  - a regulatory/legal information and advice service;
  - investment advice e.g. structure, selection, monitoring and measurement;
  - actuarial advice to the trustees (as scheme actuary);
  - actuarial advice to the sponsor;
  - communications to members;
  - scheme administration; and
  - general consultancy advice.
- 7.19 Although there is a fairly wide choice of actuarial firms available, the market for consultancy among larger schemes is dominated by a small number of very large pensions consultancies. Only the very largest schemes – or the schemes of businesses which already employ actuaries such as insurers - have their own in-house actuarial resource, and in practice they often rely on external consultancy advice, for matters such as performance monitoring with separate advice to the sponsor.
- 7.20 The Government Actuary’s Department (GAD) provides services to public sector schemes, although these schemes are free to obtain actuarial services from other consultancy firms, some of which also specialise in this type of scheme. Public sector schemes are subject to a variety of additional checks such as Parliamentary scrutiny and, for many schemes, the National Audit Office. The GAD advises the Government (particularly the DWP and HM Treasury) on pensions policy matters as well as the Pensions Regulator, and a number of overseas schemes and regulators.
- 7.21 Smaller schemes may select a fully-insured option where their funds will be invested by the insurer, offering a combined, usually standard, package of consultancy, drafting of legal documentation, and investment management. Non-standard actuarial services, particularly for the sponsoring employer, are sometimes provided by external actuarial firms.
- 7.22 The larger accountancy firms employ actuaries to provide in-house advice in relation to audits of companies with material pension liability risks. These firms also offer actuarial consultancy services, primarily to sponsoring employers. External actuarial firms typically provide services to schemes, and to the smaller accountancy firms which do not have in-house actuaries.

7.23 Sole practitioners typically provide advice in areas where independent or specialist advice – such as mortality expertise - is at a premium, for example expert witness work or where the actuary has an existing relationship with the client or one of its advisers.

### **What are the drivers and threats for actuarial quality in pensions?**

7.24 As discussed in section 4, we have proposed six main drivers of actuarial quality for consideration:

- reliability and usefulness of actuarial methods;
- technical skills of actuaries;
- communication of actuarial information and advice;
- ethics and professionalism of actuaries;
- working environment for actuaries; and
- other factors outside the control of actuaries.

7.25 These drivers and the corresponding threats have been discussed generally in section 4. However, specific features relating to pensions are set out below.

#### *Reliability and usefulness of actuarial methods*

7.26 As with life insurance, most actuarial modelling in pensions is concerned with the time-based development of transactions relating to individual lives. These models can then be used to run projections for DB schemes for the purposes of funding, financial statements, investment, mergers and acquisitions, and advice on transactions such as transfer benefits and early retirements, as well as benefit enhancements.

7.27 Data for active members can be derived from the sponsoring employer's payroll systems, but data for deferred members and pensioners often need to be maintained by the scheme itself. The scheme may lose touch with some deferred members or pensioners, and not be notified about deaths (although unreported deaths will generally mean the financial position is better than expected). Many pension consultancies, as well as insurers, offer combined administration and other consultancy services, including actuarial services, which can give the scheme actuary reasonable confidence about the data. However, there are threats including missing sections of the membership and out-of-date data being used which are inconsistent with the other financial information, and the scheme actuary may need to perform reasonableness and other validation

checks. The scheme data are not directly subject to audit, although the auditor will place some reliance on the scheme actuary's assessment of reasonableness and other validation checks.

- 7.28 Modelling methodology is reasonably standard, and consistent with actuarial educational materials, although the degree of sophistication can vary. Some models ignore the possibility of early leavers, on the basis that the benefits will be roughly equivalent to those for active members. The Oversight Board's survey of actuarial firms (reported in its paper *Monitoring and scrutiny of actuarial work*) indicated that some schemes are still modelled using spreadsheets. However, most consultancies will have more sophisticated models, with some use of stochastic investment modelling using economic scenario generators.
- 7.29 The key factor in this driver is the assumptions used or implied in the model. Because of the long period of projection, projected outcomes can be extremely sensitive to the assumptions. The key assumption has tended to be the difference between the assumed investment return and the rate of salary increases in deferment, and pension increases thereafter. However, there is increasing emphasis being placed on the mortality assumptions, including the allowance for improvements in mortality, which has been regarded as inadequate by many. Employers may use different assumptions for internal purposes from those used by trustees and presented to beneficiaries, including in the assessment of the appropriate amounts to be paid for transfer and buy-out values and commutations. Assumptions are generally explicit, but there is considerable subjectivity involved and there has been some practice in the past (now discouraged) of margins being made in the economic assumptions to allow say for improvements in mortality.
- 7.30 The assessment and evaluation of the models used typically is less comprehensive than in other areas, because most of the actuary's work is outside the scope of audit, although in practice there is likely to be some scrutiny of almost all the actuary's work. For further details, see the Oversight Board's paper *Monitoring and scrutiny of actuarial work*.
- 7.31 As with the other main sectors, there is scope for outcomes to be affected by the exercise of management as well as trustee discretion. Salary increases are at least nominally at the employer's discretion, as is its continuing support for the scheme and – by virtue of decisions it takes – the strength of the employer covenant. The funding basis of a DB scheme can differ considerably depending on whether it is assumed to be ongoing or valued on a termination basis. Until recently, the strength of the employer was not directly considered, but recent changes require the strength of the employer covenant to be incorporated into the funding assumptions. Consequently, there is considerable uncertainty, quite apart from the uncertainty relating to the economic and demographic experience of the scheme, which needs to be reflected in the methodology.

### *Technical skills of actuaries*

- 7.32 To support the actuary's skills, the Profession's core examinations to Associate level cover basic pension funding issues, with relevant modelling, financial economics, business awareness and other materials to be able to interpret the economic and demographic assumptions. For the Fellowship level, students take two specialist technical subjects such as pensions and one of finance and investment, life insurance, or health insurance. There is then a specialist applications subject in pensions. Students must also complete three years of relevant work-based training, covering a range of activities and competences. Actuaries who have specialised or trained in another discipline may transfer to the pensions sector, but are subject to a general requirement to ensure they are competent for the work they are asked to do. Generally, more actuaries leave the pensions sector to work in other areas rather than the other way around.
- 7.33 In order to develop and maintain their competence, members of the Profession who carry out actuarial work in pensions are required to undertake a minimum of 15 hours' verifiable relevant continuing professional development (CPD). The Profession publishes a list of relevant areas in relation to pensions, on which the Oversight Board and others have commented. Recently qualified actuaries face the challenge of gaining relevant experience, while more experienced actuaries face the challenge of keeping up with the latest actuarial methods, which have been transformed over the last 20 years.
- 7.34 In order to be eligible for a practising certificate, actuaries - including those with foreign qualifications who qualify under mutual recognition arrangements - must pass a pensions 'practice module' which tests knowledge of relevant UK professional and regulatory requirements. They must also have three years of recent relevant work experience, as well as continuing to meet the relevant CPD requirements.
- 7.35 The main concerns that have arisen in the past relate to shortcomings in understanding of investment techniques, and the use of cohort analysis and projections of mortality improvements; in certain cases, pensions actuaries may be called on to give advice outside their technical competence such as legal matters and investment.

### *Communication of actuarial information and advice*

- 7.36 Actuaries and entities which produce actuarial information need to be able to communicate findings and the associated risks clearly so that they will be understood by non-actuaries who need to act on

them. Given the complexity of methods and issues involved, this can be challenging, and the Profession's communications examination is of particular relevance.

- 7.37 The reporting requirements on scheme actuaries are fairly tightly prescribed through legislation and the Profession's own standards, and there is a tension between full disclosure of the assumptions used and being able to explain clearly the approach taken. The BAS is consulting on a generic reporting standard as well as proposing specific standards for the main industry sectors, which should help to ensure that actuarial information is easier to understand.
- 7.38 Pensions legislation now makes trustees responsible for selecting the basis on which the actuary's funding review is undertaken. Particularly when dealing with lay trustees, scheme actuaries can find that they are nevertheless expected to give a strong steer on the approach trustees should take. The Morris Review criticised actuaries for giving too much certainty. Equally, however, trustees can be critical of actuaries who are perceived not to be willing to give clear advice. Actuaries need to be able to give clear and useful advice without in effect taking the client's decision themselves.

#### *Ethics and professionalism of actuaries*

- 7.39 Actuaries working in pensions face particularly challenging ethical and professional issues, at the heart of which are potential conflicts of interests between the trustees, acting on behalf of scheme beneficiaries, and sponsoring employers.
- 7.40 The main threats to this driver in pensions are as follows:
- misunderstanding by actuaries themselves about their role and function, and duties to the different parties involved, legal obligations under often complex trust deeds, case law, regulation, and perceived confidentiality restrictions, and the reliance actuaries can place on the work of others such as auditors;
  - conflicts arising from having been involved in decisions on investment and administration which the actuary is then asked to review as part of actuarial advice (essentially acting as scheme designer and scorekeeper);
  - behavioural weaknesses in actuarial work – for example following convention, putting clients before the public interest, risk aversion in giving advice, inhibitions in challenging the work of actuaries, or relying on restrictions in legislation;
  - vulnerability to subtle persuasion to flex the recommended assumptions to provide the desired result, particularly given the sensitivity of results to the assumptions used – actuaries' objectivity can be undermined if they or their firms hold dual appointments.

- 7.41 The Profession is consulting on a new principles-based ethical Actuaries' Code and supporting conduct standards. The Morris Review recommended that the Profession or another body should issue guidance to scheme actuaries on the materiality of conflicts of interest, and the Pensions Regulator has been consulting on draft guidance to pension trustees on handling conflicts of interest, including conflicts relating to advisers.
- 7.42 Particular features which the Oversight Board is looking to the Profession to develop include standards which recognise the importance of objectivity and independence of mind, robustness in the face of unreasonable pressure, subtle or otherwise, from employers, clients and third parties; a willingness to accept independent responsibility for advice; and regard for the public interest.

#### *Working environment for actuaries*

- 7.43 Most pensions actuaries work in actuarial consultancy firms, which means they are exposed to a variety of clients, and the firm's culture and processes including quality assurance, technical and professional support, the development of a 'house view', and appropriate incentives. These can have a significant influence on the way that actuaries respond as individuals to the threats mentioned above under other drivers.
- 7.44 The main threats to this driver include:
- Possible weaknesses in professional leadership within consultancy firms, and the absence or isolation of quality controls for actuaries working as part of a larger multi-disciplinary organisation;
  - failure to provide safeguards for the conflicts faced by actuaries, including those employed by insurers, as a result of other services provided directly or by their employer, such as investment and administration. This can exacerbate ethical and professionalism concerns if the provision of those other services affect the actuary's remuneration, and for large firms which provide services in respect of the schemes for sponsors involved in mergers and reconstructions;
  - the regulatory and professional focus on individuals which can undermine firms' quality control, and can place too great a burden on individuals particularly if they are personally responsible for a large number of schemes.
- 7.45 The role of professional quality assurance and other controls in pensions consultancy firms is considered further in the Oversight Board's review *Monitoring and scrutiny of actuarial work*.



### *Other factors outside the control of actuaries*

7.46 Other factors include:

- effective governance and challenge by trustees and other interested parties such as sponsoring employers;
- culture within the wider actuarial profession and pensions industry;
- ability of third parties such as auditors to challenge the work of actuaries, which is at best indirect as it is only the sponsoring employer that includes actuarial information in its audited accounts;
- the role and requirements of the Pensions Regulator and the extent of its monitoring activities which do not extend as far as direct supervision of actuaries;
- regulatory requirements and scrutiny by the Profession.

7.47 These external factors are particularly important in pensions, since scheme-specific funding requires an agreement between trustees and employers, which can essentially turn the actuary into a mediator. The external focus can be on the outcome of the actuary's work in terms of cost to the employer rather than the quality of the actuarial assumptions, which can at times be negotiated by the trustees and the employers in order to produce the right result.

7.48 In practice, the sponsoring employer and key individuals employed by it such as the pensions manager can exert significant influence by acting as gatekeepers between the actuary and the trustees. Similarly, trustees themselves face significant conflicts, particularly trustees appointed by the employer, but also in recognition that ultimately the scheme and its members are dependent on the continuing support of the sponsoring employer. Consequently, client satisfaction may reflect flexibility rather than quality, and lead to immediate clients being put ahead of third party interests and the public interest, which is a threat to ethics and professionalism discussed above.

7.49 The role of the Pensions Regulator and of trustees is considered in more detail in the Oversight Board's Discussion Paper *Monitoring and scrutiny of actuarial work*.

### **Priority areas for the FRC**

7.50 In deciding on priority areas for the FRC, consideration has been given to: the already significant role of the Pensions Regulator (and the FSA for insured schemes); whether problems exist in practice and where risks may arise in future; and areas in which the FRC and other bodies can provide help in the most cost-effective way.

7.51 The BAS's current priorities in pensions are:

- finalising a conceptual framework for actuarial standards;
- implementation of a standard for reporting by actuaries;
- arranging the transition to its own standards rather than adopted standards, which will prioritise generic standards before tackling specific areas such as pensions.

7.52 The Oversight Board's current priorities in pensions are:

- overseeing the Profession's regulation of its members in education and training, continuing professional development, ethical and conduct standards, compliance monitoring and discipline;
- reviewing the adequacy of monitoring and scrutiny of actuarial work, particularly in pensions and given the importance of firms;
- reviewing the Profession's proposed standards for handling conflicts of interest in pensions.

#### *Questions*

*Q7 (i) Have we accurately described the main features of actuarial work in pensions?*

*Q7 (ii) Have we identified the main drivers in this area?*

*Q7 (iii) Have we identified the main threats to these drivers?*

*Q7 (iv) Have we identified the main indicators that these factors are helping to promote actuarial quality?*

*Q7 (v) Are there further steps that the FRC could take to promote actuarial quality in pensions?*



## Annex A – List of questions

### *Nature and scope of actuarial practice:*

- Q2 (i) Do you agree that the use and interpretation of mathematical models to describe financial systems, portfolios and entities is an underlying feature of actuarial work?
- Q2 (ii) What other features describe and distinguish the nature and scope of actuarial practice?

### *Drivers of actuarial practice:*

- Q4 (i) Have we identified the key drivers of actuarial quality? How can they be added to, re-defined or re-structured?
- Q4 (ii) Do other drivers apply in sectors apart from life insurance, general insurance and pensions?

### *In each sector:*

- Q5/Q6/Q7 (i) Have we accurately described the main features of actuarial work?
- Q5/Q6/Q7 (ii) Have we identified the main drivers?
- Q5/Q6/Q7 (iii) Have we identified the main threats to these drivers?
- Q5/Q6/Q7 (iv) Have we identified the main indicators that these factors are helping to promote actuarial quality?
- Q5/Q6/Q7 (v) Are there further steps that the FRC could take to promote actuarial quality?



## **Annex B – Regulation of actuaries**

### **1. Membership of the Actuarial Profession**

There is no legal restriction on who may be called an actuary in the UK, although in practice all actuaries are either Fellows or Associates of the Faculty or the Institute of Actuaries.

Although formally separate, the Faculty and the Institute have since 1996 combined their representation and regulation of their members under the banner of the UK Actuarial Profession (referred to in this paper as the Profession). They share a common website, staff, governance and regulatory requirements, as well as a common motto “making financial sense of the future”. Their disciplinary schemes are separate but identical and overseen by a common externally-chaired Disciplinary Board. Apart from their separate charters, bye-laws and disciplinary schemes, the Profession has common regulatory materials including:

- common requirements for membership and qualifications (although technically Institute students are members while Faculty students are not), including common examinations;
- a common ethical code, the Professional Conduct Standards, and supporting guidance notes;
- common requirements for practising certificates and continuing professional development.

Individuals may be admitted as students, affiliates or honorary fellows of either body, but are not permitted to call themselves actuaries in these circumstances unless they are also qualified as actuaries through membership of an overseas actuarial association. Students of the Faculty (unlike students of the Institute) are not members, but are subject to many of the requirements applicable to members. Admission as a student is subject to minimum educational requirements (Mathematics A level and English GCSE at grade B, or equivalent), and evidence of good character.

### **2. Qualification as an actuary**

To qualify as an Associate, students must pass or be exempted from nine core technical and three core applications examinations and attend a one-day professionalism course. If they joined after 1 July 2004, they must have one year's worth of relevant work-based skills experience covering the four key dimensions of practical application of actuarial skills, professional and ethical, communication and commercial.

To qualify as a Fellow, students or Associates must pass two further specialist technical and one specialist applications examination. They must complete three years of practical training, and a two-day professionalism course.

Students with relevant degrees are eligible for exemption from certain of the Profession's examinations and, in response to the Morris Review, the Profession has introduced a new accreditation scheme which gives awarding bodies greater flexibility in the structure and content of actuarial courses.

### **3. Continuing professional development (CPD)**

Actuaries are required to ensure they are competent for the work they undertake. In addition, there is a mandatory CPD scheme, with five categories of member:

Category 1 – practising certificate holders

Category 2 – members undertaking mainstream actuarial work

Category 3 – members not undertaking mainstream actuarial work

Category 4 – non-working members

Category 5 – working members (typically overseas) who are covered by another scheme.

Actuaries within Categories 1 to 3 are required to record their CPD using a link on the Profession's website. For actuaries within Categories 1 to 2, this includes at least 15 hours a year of relevant verifiable CPD; and the Profession has introduced requirements for experienced actuaries to attend a professionalism event every ten years.

### **4. Statutory recognition and regulation of actuaries**

A number of statutory and regulatory roles relating to long-term insurers, non-directive friendly societies, Lloyd's and Lloyd's syndicates, pension schemes and certain exempt pre-paid funeral plans may only be undertaken by a Fellow of the Institute or Faculty (or, for syndicate actuaries, a Fellow of the Casualty Actuarial Society in the US who is also a member of the Institute or Faculty). In addition, the Profession requires any such individual to hold a practising certificate applicable to that role.

The Institute of Actuaries is a Designated Professional Body (DPB) under the Financial Services and Markets Act 2000 (FSMA), which permits the firms it licenses to undertake exempt regulated activities without being authorised. The Institute has separate rules and monitors the incidental activities of these firms and authorised actuarial firms. Some of this work is undertaken under contract on behalf of the Profession by the Quality Assurance Directorate of the ICAEW. The Institute's functions as a DPB are overseen by the FSA.

## 5. Practising certificates

To be eligible for a practising certificate, individuals must as well as paying the relevant fee:

- be Fellows (or affiliates who are Fellows of the Casualty Actuarial Society);
- have three years of recent relevant experience;
- meet relevant CPD requirements including 15 hours a year of relevant verifiable training;
- attend the relevant annual current issues seminar (except in general insurance); and
- have passed the relevant practice module of the Profession's examinations (if qualified after 2004).

Actuaries are also subject to assessment by the Profession when they first apply for a practising certificate.

## 6. Professional standards

Following its establishment in April 2006 to set technical actuarial standards, the Board for Actuarial Standards (BAS) adopted most of the Profession's guidance notes that existed in May 2006. A full list of these adopted standards may found on the BAS's website: [www.frc.org.uk/bas](http://www.frc.org.uk/bas)

The Profession remains responsible, subject to independent oversight by the Oversight Board, for its ethical and conduct standards, including currently:

*PCS Professional Conduct Standards*

*GN24 The actuary as expert witness*

*GN29 Occupational pension schemes – advisers to the trustees or a participating employer*

*GN30 Compensation for professional shortcomings*

*GN37 The Financial Services and Markets Act 2000 (Communications by Actuaries) Regulations 2003*

*GN48 Compliance review: pensions*

The Profession is consulting on a new principles-based Actuaries' Code, which will be supported by a new set of general and role-specific standards. The Profession has also issued Guidance Notes for actuaries working overseas and for firms undertaking exempt regulated activities under FSMA, which are not subject to independent oversight by the Oversight Board.

In line with the recommendations of the Morris Review, the BAS has a reserve power to set ethical standards if this is recommended by the Oversight Board, or if this is otherwise considered appropriate.



Indeed some of the Profession's Guidance Notes adopted by the BAS contain ethical and conduct material, although the BAS does not currently propose to include ethical or conduct material in any new standards.

The International Actuarial Association and the Groupe Consultatif Actuariel Européen have agreed minimum ethical codes for member associations, which the Institute and Faculty must adopt as a condition of membership of those bodies.

## **7. Discipline**

Any member or former member of the Profession (including a student or former student of the Faculty) is subject to the provisions of the relevant disciplinary scheme. Available sanctions include expulsion, suspension, financial penalties, re-education, and a reprimand, with a liability for costs.

The Accountancy and Actuarial Discipline Board (AADB) operates an investigation and discipline scheme in relation to matters involving members of the Profession that raise or appear to raise important issues affecting the public interest in the UK. Further details may be found on [www.frc.org.uk/aadb](http://www.frc.org.uk/aadb).

Actuaries who are subject to regulation, whether in their capacity as actuaries or otherwise, may be subject to disciplinary or enforcement proceedings by those bodies. The Profession has established arrangements with other regulators to cooperate and share information.

## **8. International regulation**

A condition of membership of the International Actuarial Association is that member associations must require their members operating in another territory to join the local actuarial association. The International Actuarial Association (and the Group Consultatif Actuariel Européen) has further established minimum educational syllabuses and ethical codes of conduct for member associations.

Against this background, the Faculty and the Institute have established mutual recognition arrangements with other local associations in Europe (under the Groupe Consultatif), Australia, Canada, India, New Zealand and the United States. In addition, the qualifications offered by the Institute and Faculty are recognised routes to qualification in many other Commonwealth countries and in Ireland.

Foreign qualifications may be recognised directly. For example, FSA rules permit Fellows of the Casualty Actuarial Society in the US to act as syndicate actuaries in the UK provided they are members of the Institute or Faculty.

## **Annex C – Further references**

### **The FRC and its operating bodies (see section 1)**

See the FRC website generally and in particular for the activities and publications of the Board for Actuarial Standards, the Professional Oversight Board and the Accountancy and Actuarial Discipline Board:

[www.frc.org.uk/about/actuarialregulation.cfm](http://www.frc.org.uk/about/actuarialregulation.cfm)

During 2006, the FRC's Board for Actuarial Standards and the Professional Oversight Board established an actuarial stakeholder interest working group (the actuarial stakeholder group). The actuarial stakeholder group commissioned research on the needs of the main users of actuarial services (principally pension fund trustees and non-executive directors of insurers) and published its findings in July 2007:

<http://www.frc.org.uk/bas/publications/pub1374.html>

### **The nature and scope of actuarial practice (see section 2)**

There is a wide range of books and papers about actuarial practice published by the Profession, actuarial firms, universities offering actuarial courses and independently. Papers and links to overseas actuarial associations and many other publications may be found on the website of the UK Actuarial Profession:

[www.actuaries.org.uk](http://www.actuaries.org.uk)

A specific description of actuarial practice and control we have found useful (although it goes well beyond the scope of this paper) is an article by Julian Gribble of the University of Melbourne:

<http://www.economics.unimelb.edu.au/SITE/actwww/html/no105.pdf>

### **The Morris Review of the Actuarial Profession (see section 3)**

Information about the Morris Review may be found on the HM Treasury website:

[http://www.hm-treasury.gov.uk/independent\\_reviews/morris\\_review/review\\_morris\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/morris_review/review_morris_index.cfm)

The Oversight Board has published two reports on the Profession's progress in implementing the recommendations made to it by the Morris Review. These may be found at:

<http://www.frc.org.uk/pob/actuaries/>

### **Life and general insurance practice (see sections 5 and 6)**

As well as actuarial papers, some useful links are:

[www.fsa.gov.uk](http://www.fsa.gov.uk) (a good starting point is the insurance sector pages, which include copies of publications on actuarial systems and controls and with-profits governance)

[www.abi.org.uk](http://www.abi.org.uk)

### **Pensions practice (see section 7)**

As well as actuarial papers, some useful links are:

[www.thepensionsregulator.gov.uk](http://www.thepensionsregulator.gov.uk)

[www.ppf.gov.uk](http://www.ppf.gov.uk)

[www.pensions-ombudsman.org.uk](http://www.pensions-ombudsman.org.uk)

[www.dwp.gov.uk](http://www.dwp.gov.uk)

[www.napf.co.uk](http://www.napf.co.uk)

[www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)

[www.pensions-pmi.org.uk](http://www.pensions-pmi.org.uk)

[www.spc.uk.com](http://www.spc.uk.com)

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