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The Actuarial Profession — Making a Difference

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2004 Presidential Address

The Actuarial Profession: Making a Difference

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President of the Institute of Actuaries of Australia, 2004

1 Introduction

The actuarial profession has been the subject of the occasional myth and many jokes. It is a relatively small profession but its work is often of critical importance to financial institutions, government and the community at large. It is a profession held in high regard. It has from its earliest beginnings been an internationally oriented profession.

As I look at the Australian actuarial profession in 2003, I am struck by the immense potential which rests within it.

Most of this address will be about the opportunities for developing that potential and the match between that potential and many of the challenges facing both Australia and the Asia-Pacific region today.

Recognising Opportunities, Facing Challenges and Making a Difference

In the international scheme of things, Australia is a harmonious, stable and affluent society. It is tempting therefore to say that 'if it ain't broke don't fix it'.

However, there are clearly a number of major medium and long-term issues which could undermine the enviable position we have.

As citizens of Australia, we cannot isolate ourselves from these issues and, as actuaries, we have an enormous and unique contribution to make in the short, medium and long term.

Consider the following issues where we can make a difference:

- funding for the retirement income and health needs of an ageing population;
- financing the reasonable desire of people to seek better health outcomes from increasingly costly drugs and technology;

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- articulating the financial consequences as we strive for more efficient delivery of health services between Australian jurisdictions and between the private and public sector;
- tackling deprivation and disadvantage that exists even within our own relatively prosperous communities;
- achieving sustainability of the environment and dealing with the irreconcilable demands we make on our natural resources; and
- guiding institutions through the changing nature and pressures of financial markets and community demands for trust and confidence in business.

And we should not isolate ourselves from the needs and opportunities of our region - the Asia-Pacific region. We have much to contribute internationally, both as Australian citizens and professionals. Yet too often we underestimate the value of what we can offer our international peers and their communities.

All of these issues require Australia to ‘do things better’ and the actuarial profession has the capacity to be a significant contributor to this goal.

As we look for ways to address these issues we often look at solutions in other countries. Yet over many years one thing that strikes me as uniquely Australian and perhaps surprisingly successful is the way we blend public and private provision of services. Although fuzzy boundaries may exist between public and private services, the end result is often more effective than many other international models.

This ‘fuzzy blend’ of public and private services certainly occurs in health where one commentator has described the Australian approach as one of ‘accidental logic’. It also occurs in the provision of retirement incomes and in insurance, especially in the field of accident compensation. And, of course, it occurs in education.

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However, an unfortunate consequence of this 'fuzzy blend' is that much of the debate about the future provision of these services gets lost in ideological debates about perfect systems. Rather, the focus should be on the objective assessment of how to best meet the genuine demands and infrastructure needs of our communities. Such a focus requires a thorough assessment of the strengths of current systems and retention of current learning and experience which could also be valuably exported within our region.

Such an approach will better enable the design of effective solutions for the future.

Different political ideologies that permeate service delivery models, and the complex balance between Federal and State responsibilities for the delivery and the funding of services creates a challenging environment for effective public discourse.

In this environment many changes in public policy are seen as politically opportunistic or purely reactive to problems which can no longer be ignored. Those seeking change may become strident critics of the status quo or manipulators of the political process.

There is however a better way of influencing public policy and it is in this way that the actuarial profession can play a critical part.

The first core requirement of this better way is to provide the basis for informed debate through clear definition of issues and identification of options rather than trying to settle on a single solution.

The second core requirement is to provide opportunities for dialogue between the various interested groups to seek common ground. In both of these areas the Institute of Actuaries of Australia (the Institute) can play a key role. For example, the objective approach of the actuarial profession has been highly valued recently by bringing key parties together to work through the medical indemnity issue.

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The primary skills of the actuary combine the demographic, statistical and financial skills which are often necessary to explore solutions to public issues. Beyond this however the capabilities within the actuarial profession to help develop the architecture of the appropriate systems can be invaluable.

As with most developed nations, Australia faces difficult public policy debates. While a strong underlying economy may make some of the solutions more palatable, it may not make final choices any easier or the debates less fierce.

In this address I have tried to look at the range of challenges and issues which face our community now and in the future where actuaries can play a role. Sometimes I have suggested new ways of looking at old issues. The aim is to open discussion within the profession, not to pose solutions.

A key theme of this address is that, in many of these areas, the answers are not strictly actuarial, but nor do they 'belong' to any other profession or industry. The Australian actuarial profession is in a strong position to take leadership in bringing together the various contributors and developing working frameworks for the future.

If you haven't time to read the whole address you will find enough in the summaries below to provoke thought.

Social Equity

Social equity is not a term that is readily identified with the actuarial profession. Yet a great deal of our work and the financial institutions we advise play critical roles in meeting community needs. For instance, the actuarial profession has a significant responsibility for the sustainability of the general insurance industry. This is no minor thing given the impact we have witnessed of a major general insurer failure on the lives of thousands of people throughout the community.

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The Cost of Living Longer – a Public and Private Dilemma

In the 'good old days' we worked from age 15 or 20 to age 65 and retired to the garden for around seven years. Today full-time working life, whether you are a blue collar or white collar worker, is more likely to conclude around age 55 followed by a healthy life expectancy of another 30 years. We have much to do to reshape our thinking and institutions need to adapt to this significant change.

Governments and business have recognised this development and identified the need to act. So too has the actuarial profession in Australia. The challenge is now to devise practical and equitable solutions to manage this change over the medium and longer term.

We also need to move from a traditional view of ageing as a problem, to ageing as a resource. It is conceivable that with research, innovation and development, the productivity of a much smaller working population might support a larger ageing population. After all, we have already moved from a situation where most of the population worked seven days a week in an agricultural society to one where a very small proportion is now capable of driving the agricultural sector and meeting far more than our own population needs. A healthy ageing population may also be economically productive long beyond previous conceptions of 'working life' and enjoy it. Superannuation may become just one of the pillars of income after a full-time career.

Health Financing

Actuaries have for a number of years been involved in health insurance but increasingly attention is being turned to the broader issues of health financing.

Health financing in Australia is a 'fuzzy blend' of State and Federal government responsibilities and programs. There is the need to prepare for the health needs of an increasingly ageing population

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and perhaps even more need to cope with increasing costs of developing technology and pharmaceuticals. There are conflicting demands between basic treatment for the very disadvantaged, high cost treatment for the very ill, and conflicting demands between capital for infrastructure and more money for basic services. There is the need to fund training of the health workforce in an environment that requires flexibility and is often at odds with the long specialised training times involved.

In health financing the great challenge for the actuary is to work with a range of other disciplines involved in health to better inform decision making both at government level and at an institutional level.

Further, while actuarial involvement in this field is relatively new, I believe it is likely to become one of our major areas of focus in the future which will warrant the development of specialist courses within the Institute's education program.

Sustainability and the Environment

Few people doubt that we face any number of major environmental issues both as a nation and world-wide. For Australia key issues include water resources, land clearing, soil degradation, climate change and the pressures of population growth on our fragile and limited natural resources.

The key question for our profession must be: where can we best use our capabilities to add value to the numerous disciplines already contributing to understanding the problems and developing solutions?

Financial Markets and Investment

For actuaries, understanding financial markets is not just a matter of observation and reporting. The guidance and judgement of actuaries on the progress of financial markets can mean the

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difference between survival and failure in the institutions they advise.

The most important part of that understanding is the recognition that financial markets can evolve and change in unpredictable ways and that the science of investment markets is the province of many academic and professional disciplines.

At the present time, the discipline of financial economics is adding substantially to our understanding and has enhanced the tools available to actuaries in this field.

Actuaries are also significantly involved as practitioners in investment markets. However, as one actuary recently wrote: 'as an investment actuary, I feel as though the profession has much to contribute to finance but we have yet to find our voice'.

So how do we find that voice?

Corporate Governance

Corporate governance has been an area of major concern in Australia and internationally following recent major corporate failures.

The actuarial profession plays a key and increasing role in corporate governance both in statutory roles and in the more general responsibility we have for effective financial reporting. In the HIH Royal Commission report (Volume 1, p.135), Justice Owen identified 'financial information about the underlying financial position and performance of the business as an important element in the effective operation of a modern economy'.

The profession has the capacity to take a much more pro-active role in developing better financial reporting in many areas where an actuarial approach will produce better information for stakeholders

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than traditional approaches. A good example of this is the work being done by the profession on the valuation of executive options.

As a profession, we must understand the way in which, and the context in which most boards operate. In corporate governance matters, the actuarial role, whether statutory or otherwise, will be to inform the board on the implications to the financial affairs of the company of future financial risks and obligations.

In the recently published Principles for Corporate Governance of the Australian Stock Exchange Corporate Governance Council, at least four of the principles refer to areas where actuarial input, whether mandatory or not, can be critical for the proper governance of a corporation, namely:

- safeguard the integrity of financial reporting;
- respect the rights of shareholders;
- recognise and manage risk; and
- recognise the legitimate interests of stakeholders.

The advent of the use of Financial Condition Reports in many areas of insurance will be a vital tool in the quest to improve corporate governance and better inform all relevant parties.

Education at Home, in the Region and Beyond

The demand for actuaries in Asia is exploding and this is mirrored in our own membership where more than 20% of our members now live and work outside Australia. More than half of these are in Asia with the remainder stretched from NZ to the US, to the UK and Europe. Hong Kong has the third largest city concentration of Australian Fellows (FIAAs) after Sydney and Melbourne.

In Australia we have developed a world class actuarial education system. In 20 years we have progressed from being an importer of

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actuaries educated elsewhere to an exporter of both actuaries and of actuarial education. We have both an opportunity and an obligation to support the development of the actuarial profession in the Asia region. However, to do so effectively, this must be done in partnership with local actuarial organisations, regulators and educational institutions.

There is however one significant gap in the current system. We have not yet produced a strong supply of graduates with both Fellowship qualifications and PhD's who can be equally recognised in both the commercial and the academic worlds. This limits the supply of those who are capable of taking leadership in our university actuarial schools and in the actuarial schools which I am certain will grow up around the region as the demand for our profession grows. This must be one of our key educational goals.

Making the Future Work

A key ingredient in public recognition of the profession in recent years has been the development of a highly professional secretariat and the appointment of a professional chief executive. The 'partnership' between the secretariat and the high proportion of our members who give their time voluntarily to affairs of the Institute is a powerful combination in resourcing our future.

A second critical partnership is that between the Institute and the universities with accredited actuarial schools. This partnership has created an educational approach which is internationally recognised.

The other key ingredients for the future of the profession will be much more attention to research on the one hand and a strong approach to professional conduct and discipline on the other. The first will continually fuel and refresh our intellectual foundation, whilst the second will ensure that we maintain the high quality of our contribution to society.

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In the field of research, there are many sources of funds. Locating these funds, matching them with research needs and enabling members to compete for the funds will require a major effort from the profession and the Institute.

In the field of professional conduct and the Institute's Disciplinary Scheme, there are a couple of critical questions that need to be considered.

- should our procedures be more transparent and visible as happens in the normal justice system?
- how should we deal with matters of poor advice which, while clearly an issue of quality, may not be judged as unprofessional work?

The strong linkages between the national actuarial professions around the world which drive the International Actuarial Association provide the promise of the first truly international profession.

But… where there are opportunities there are also risks and challenges. The greatest challenges will always be:

- complacency, and the belief that the 'way we do things around here' will always work; and
- insularity, and the belief that challenges elsewhere will not reach our shores.

We need to be constantly open to new ideas from other disciplines and we must constantly challenge our own 'sacred cows'.

Finally, we must be ready to work with other professions and disciplines since most of the challenges facing our communities can only be met on a multidisciplinary approach and with widespread discussion and consultation.

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2 Social Equity

Social equity is not a term that is readily identified with the actuarial profession, yet a great deal of our work and the institutions we advise play critical social roles.

The failure of HIH and its systemic repercussions left many home builders without insurance and unable to complete their contracts for many, including young couples buying their first home. Charities and social clubs were unable to carry out their works because they couldn't get insurance. Small businesses were unable to operate without public liability protection. These examples should be sufficient to convince us that there is a major social element of the entities we advise.

Similarly, consider the protection of families through life insurance and disability insurance and the provision of retirement incomes through superannuation in its various forms.

Historically, the actuarial profession has lead the way as architects of institutions aimed at the concept of sharing of risk by communities rather than just by individuals. Actuarial science grew from the need to find ways by which individuals could protect themselves from the risks that faced them or to meet the needs of their futures. These ways included the provision of annuities, the growth of industrial insurance which allowed those on small incomes to save for the future, and the growth of friendly societies, major mutuals and proprietary life companies.

In all of these institutions the work of the actuary was centred on the need to ensure the continuity of the organisation to meet its obligations and hence play out its social role. There are many issues today that could pose a threat to the continuity of financial institutions. These include unsatisfactory financial positions in defined benefit superannuation funds, medical indemnity insurance, public liability insurance and terrorism.

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The purpose of this section is to take a health check across a range of sectors and look at the context in which they are operating and the continuity questions which they face.

General Insurance

Whilst the general insurance industry is recovering, there are many implications of the HIH failure that have still to be taken into account. Most importantly we must recognise the systemic implications of a major insurance failure.

The role of the Approved Actuary in general insurance is now established but much work still remains to be done to maximise the effectiveness of the role and its contribution to the ongoing operation of general insurance. In particular, the development of the concept of the Financial Condition Report is now under way. A Financial Condition Report is perhaps at the core of the actuarial contribution. It should be exactly what it says it is – a report which analyses and reports on the financial condition of the enterprise currently and into the future. Such a report is critical to the stakeholders of the business and should be a key element in the corporate governance of the business.

Liability Insurance

The speciality of HIH was public liability and accident compensation insurance in its many forms. HIH led the market offering coverage at a low cost. Due to the market dominance of HIH, the risks of low cost premiums combined with long tail insurance were perhaps obscured.

Various events in the last few years have focused the minds of many on critical issues for liability insurance such as funding medical indemnity insurance, the sustainability and effectiveness of lump sum compensation, the role of the courts; the provision of long-term care, and the reasonableness of passing at least some of the risk back to the insured party.

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In all of these the resolution of future approaches is complicated by the wide range of stakeholders – the Commonwealth Government, the State Governments, State accident compensation organisations, the legal profession, the medical profession, and the community in general.

As a community we have in front of us a basic choice – either we dampen down every participant's expectations of the 'system' through a range of modifications, or we look for a systemic change.

At the very heart is the question of how the community deals with the funding of short and long-term needs of those who are impaired by accident. At issue is not only the amount of compensation and who pays it but also how that compensation is delivered and whether it is of long-term value to the recipient.

Any retiree who has to deal with the prospect of making lump sum superannuation last for 30 years, no matter how well advised, will tell you that it is no simple task. Yet we routinely pay lump sum settlements to people with severe and permanent injuries and expect that to be sufficient for much longer periods.

Fortunately we have reached a point where the community has recognised the need for change. In a number of areas, both the State and Federal Governments have taken up the reform challenge. This has ranged from legislative amendments to make structured settlements a feasible option for accident compensation, various tort reform initiatives, and the establishment of the Productivity Commission inquiry into national frameworks for workers compensation. This review should provide the springboard for a major overhaul of the 'system' or at least a review of the efficiency and consistency of funding and delivery within a national framework.

There is no doubt that as a nation we are struggling to bring some order, sense and effectiveness into these areas. There are many established and entrenched interests in the existing system and a

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better way of doing things cannot just be simply designed and implemented.

In the end if we are to achieve in this country a fair, affordable and cohesive system and one which supports all who have suffered serious and accidental injury, then each component must give up something.

The actuarial profession has a strong understanding of the core workings of compensation systems and can play a key role in helping develop the overall architecture of the system as well as setting up working rules and processes. In the longer run it can play a key ongoing role in sustaining the system that emerges. The Institute has made significant and valuable contributions to public policy in this field, for example, the medical indemnity road map and subsequent contributions by members on this issue.

Defined Benefit Superannuation

A second major area of social equity of direct relevance to the actuarial profession is the position of defined benefit superannuation schemes. Although in Australia a much smaller proportion of the provision of retirement incomes is through defined benefit superannuation schemes than in many other western countries nevertheless they are still an important component. This is particularly so in older established enterprises and of course in local, State and Federal Governments.

Defined benefit schemes have been sustainable in the past because the employer has been assumed to provide the ultimate protection by picking up deficiencies in funding through future contributions.

In the past year the spotlight has fallen on defined benefit schemes because of the confluence of falling investment markets, major corporate failures, heightened regulator concern about the prudential status of the funds themselves and a changing view about

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the ongoing obligation of the employer. In particular, the emerging view that the employer must recognise any deficiencies in the superannuation fund as a liability in the company accounts will for ever change the dynamic of superannuation funding for defined benefit schemes.

It calls into question the asset/liability matching that is appropriate in the new paradigm. For instance, are long-term equity assets appropriate when the liabilities which most matter from a corporate accounting and employer point of view are the short-term ones? It also calls into question the assumption that defined benefit funds can continue to operate by relying on the capacity of the employer to provide the 'risk capital' through a commitment to future funding of a deficit. Is the alternative that a defined benefit fund should have its own capital base? This would pose significant problems, such as who should provide such a capital base and how would they gain a reasonable return on their capital.

The resolution of all these dilemmas will not be simple and will require dialogue between all participants in the system – the employers, those who set accounting rules, the stock exchange, the regulators and the actuarial profession.

This is a further example of how the actuarial profession can take the lead in bringing this dialogue about and in designing a road map to establish appropriate protocols for the future.

Accumulation Plans

Finally, let me move on to the social equity issues of what is now the major part of our retirement income provision system - the accumulation plans.

In the last 20 years we have passed the primary responsibility for the provision of retirement income and the market risk back to the individual, albeit with the ultimate safety net of a means tested age pension.

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I believe this approach is a good one but that it still needs much work to make it really effective. The most important advantage of such a system is that it has the in-built flexibility to cope with the very different needs of individuals during their working lives and with different approaches to retirement. It copes more easily than any other system with people moving in and out of the work force and it copes more easily with changes in employment or employer. It can also cope with people retiring early or with people working until they are ninety.

Our financial advisory systems may not be perfect but they are a good platform to build from and are in many cases well ahead of the advisory services available in other countries.

Often when I talk to actuaries about the growth of accumulation funds the reaction is a resigned shrug coupled with the comment – 'not much work for actuaries there!' I disagree and, particularly when one looks at both the needs of the individual as well as the broader social issues, I am certain that actuaries have a major contribution to make.

So what are the questions for the actuaries of the future in relation to accumulation schemes?

We have yet to really tackle the issue of alleviating for the individual some of the market risk and some of the longevity risk.

At present the major mechanism to cope with market risk is the way in which assets are allocated between the various investment classes. This is a very crude mechanism. Surely as markets and the sophistication of market instruments develop we can do better. Does the work of financial economists, such as Professor Robert Shiller, author of *The New Financial Order: Risk in the 21st Century*, (Princeton University Press, 2000), suggest some ways forward or areas for research?

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We also need more research into ways of coping with longevity risk. The traditional approach of buying a lifetime annuity is not very attractive in a low income environment and in a social environment where most retirees would want to pass some of their accumulated capital on to the next generation.

There is also the question of costs and charges. A flexible system such as ours and the reliance on both initial and continuing advice will cost money. But we have much to do to create a more efficient system and to make costs and charges more transparent and accessible to the buyer.

3 The Cost of Living Longer – a Public and Private Dilemma

'Old people shouldn't eat health foods; they need all the preservatives they can get.' - Robert Orben.

'There is no known financial system on which you can support 90 years of life with 30 years of work.' - Peter Drucker.

In the good old days we worked from age 15 or 20 to age 65 and retired to the garden for around seven years. Today full-time working life whether you are a blue collar or white collar is more likely to conclude around age 55 rather than 65 but with a healthy life expectancy of another 30 years.

As populations in western democracies around the world age, it is clear that the established structures for meeting retirement income needs or health needs are no longer adequate. This section is largely about the financial consequences of living longer. The impact of an ageing population on the financing of our health system is dealt with in a separate section.

As populations age, there is increasing dependence on the productivity of a much smaller proportion of the population to meet the public costs of ageing. As individuals age there are personal

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dilemmas in ensuring that previously planned financial arrangements can now stretch to meet the demands of living longer.

Ironically at the same time as these pressures have emerged many of the traditional institutions involved in managing savings and retirement provision are coming under increasing pressures such as:

- pressure from rationalisation;
- pressure to deliver on promises of performance and guarantees; and
- pressure to more effectively serve the changing needs of the individual.

A Uniquely Australian Approach?

Whilst no country provides a wholly successful model, we should recognise that Australia has developed a distinctive blend of services to meet retirement income needs and that one of its great strengths is in its diversity. The diversity includes the traditional 'old' institutions of life insurance companies and banks, corporate and government superannuation funds on the one hand and, on the other hand, the non-traditional and uniquely Australian institutions such as industry superannuation funds and master funds. It also includes a range of opportunities for self provision directly through investment markets or through other providers. To support this there is a well established framework for the provision of financial planning advice to guide consumers.

Many of the individual components of the Australian system have equivalents elsewhere, for instance the 401K plans in the US, but the strength of the Australian approach lies in its diversity and its flexibility – the 'fuzzy blend' approach.

Compared with many other countries the early move from defined benefit funds to defined contribution funds has left Australia and Australian corporations much less exposed to the current

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problem of deficits which, with new international accounting standards, will have to be recognised in corporate accounts.

Before we look at the challenges for the profession and for Australia it is worth exploring what is good and why there is so much value and diversity in the Australian system.

The traditional superannuation model which developed in the UK and Europe in the 19th century provided a pension from age 65 linked to salary at or near retirement and based on an expected working and contributing life of 40 years with the same employer. In Australia the same model developed except that a lump sum was often paid at retirement rather than a pension.

Much of what has evolved in Australia in the last two decades is different from that traditional view of superannuation but it has added a flexibility and diversity which is much more in tune with the broader needs of modern society. In that time unions have played a key role with the development of industry wide superannuation schemes and in driving the introduction of compulsory superannuation contributions from employers.

The key 'Australian' elements and their benefits are:

- the focus on personal accumulation plans allows a much greater degree of flexibility to cope with retirement at 55 or beyond. It allows movement between different providers and it allows for movement in and out of the work force. It also copes more easily with the shorter lifespan of most corporate entities today;
- the evolution of industry superannuation funds has ensured greater efficiency and a greater spread of superannuation across a wide section of the workforce;
- the evolution of the master funds has supported a greater variety of choice to many and the capacity to achieve a more diverse mix of fund management approaches than might have been achieved with a more structured system; and

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- the development of a financial planning industry has facilitated the individual choices which need to be made to match individual needs.

All of these are built on a base of mandatory contribution levels for all workers and supported by a means tested age pension.

The diversity of the Australian retirement incomes framework often creates a tension between its component parts. This tension and diversity is likely to ensure that the system is capable of developing more quickly and effectively than a centrally planned system which seeks to cover everybody in a single envelope. A few years ago, at an international conference, I listened to actuaries from many nations struggle to contemplate ways in which their retirement income systems should be changed to cope with the needs and diversity of modern life and an ageing population. It was clear that although Australia has many problems still to resolve, its flexibility and diversity offers a far better starting point.

Issues for the Individual

The following questions can be posed about the current system:

- can the immensely complex web of taxation arrangements be untangled sufficiently to make it at least broadly understandable by those who use it? To do so will require some compromise on all sides. The danger if it is not untangled is that the whole program of encouraging individual saving for retirement will lose credibility.
- does a means-tested age pension really work or does it encourage arbitraging against the system and reduce the incentive for individual saving?
- do we do enough to encourage older people to keep earning at least on a part-time basis which may be beneficial to the individual and to society generally?

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- can we find understandable and generally accepted bases of projecting forward investment returns? Those based on simple trends of past experience can be misleading especially to a public which does not easily understand the volatility of markets and investment returns.
- can we avoid the major problem which the UK and US are facing with deficits in defined benefit funding threatening the viability of the employer whose employees are covered by the fund?

In the longer term we have yet to find better ways of holding assets for long periods both before and after retirement in a way which ensures preservation of value. A period of 30 years from say age 55 to 85 could easily encompass several recessions and wars - think of the period between 1930 and 1960. Most investment advice, most investment markets, and even the corporations on which they are built operate on unrealistically short time horizons.

Finally, and perhaps most importantly, is the need to deal with the longevity risk. How does the individual, institutions and society deal with the fact that most of us are living much longer than we planned and that life expectancy is still increasing?

The Impact of Financial Markets

We must also contemplate the impact on our financial markets if all the working population is funding their retirement rather than the selected few which have generally done so in the past.

The great opportunity arising from universal funding is the increasing availability of capital. As our societies face the challenges of the future, for example sustainability of resources and ageing infrastructure in our cities, the access to capital is a major advantage. Capital is also essential for innovation and development in medical and other areas of research. The availability of capital may be critical to the development of our region and that regional development may be valuable to reduce instability.

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The more immediate 'threat' in relation to superannuation is the need to deal with the pressure to recognise deficits in the funding of defined benefit schemes in the accounts of the employer.

Future Challenges

For most of the 20th century superannuation was a peripheral issue for society and business. It was an arcane and mysterious subject that was the primary province of the actuary. The ageing of the population has meant that it is no longer just the province of our profession. Are we using the full power of our professional skills in new ways to deal with the new questions? This is a challenge for our Practice Committee and for all practitioners.

One of the challenges is to better articulate the benefits and framework of our system so that others can use it as a model. Many countries in our region are developing their own approaches to retirement incomes and could benefit from understanding the diversity of our approach versus more traditional approaches.

We also need to move from a traditional view of ageing as a problem to ageing as a resource. It is conceivable that with research, innovation and development the productivity of a much smaller working population might support a greater ageing population. After all, we managed to move from most of the population working seven days a week in an agricultural society to one where a very small proportion is now capable of driving the agricultural sector and meeting far more than our own population needs. A healthy ageing population may also be economically productive long beyond previous conceptions of 'working life' and enjoy it. Superannuation may become just one of the pillars of income after a full-time career.

4 The Financing of Health

Health is the second largest area of public spending in Australia today and the fastest growing. The levels of spending on health are

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the consequence of complex and changing dynamics in an area of constant public debate. Actuaries have been involved in health insurance since the advent of the friendly societies in the late 19th century and in other parts of the world they have also played a role in public health, for instance the US has had its own Medicare Actuary since 1965 when the scheme was first introduced.

In September 2002, the Institute of Actuaries of Australia held its first public Health Financing course, and in November 2002 it held a Health Financing workshop with senior participants from every sector including health management, medical, government and advisers. Health Financing is one of the five key public affairs issues for the Institute.

How Good is our Health System?

The independent Australian Institute of Health and Welfare (*Australia's Health*, AIHW, 2002, p.6) says that 'the Australian system is widely regarded as being world class in terms of both effectiveness and efficiency. This is largely achieved as a result of partnerships between individual Australians and families and health care professionals.'

Australians enjoy one of the highest life expectancies in the world and for instance death rates from cancer have been falling over the past 20 years. But on the other hand:

- 35% of Australians drink alcohol at a levels which are risky for short-term harm and around 10% drink at levels which put them at risk of long-term harm;
- obesity is a serious problem affecting 65% of men, 45% of women and 22% of children;
- there are important differences in health status, health risk factors and health service access between urban and rural populations; and

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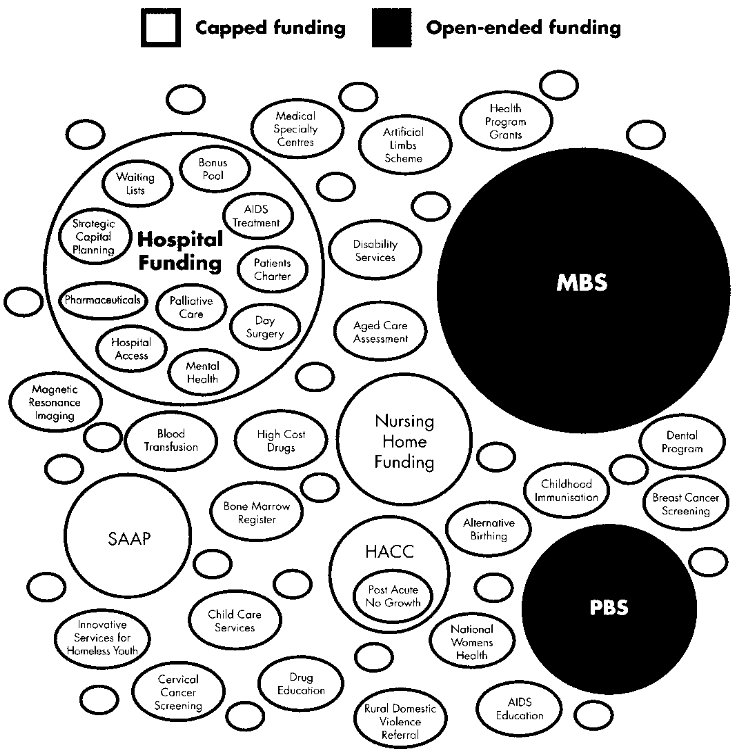
- the life expectancy of Aboriginal and Torres Strait Islander is around 20 years less than that enjoyed by other Australians. (*Australia's Health*, AIHW, 2002).

The ambivalence of performance is reflected in the ratings of health systems around the world carried out by the World Health Organisation. Whilst Australia ranks second on the level of health achieved, it ranked much lower (17th) on the equity within its system and even lower (39th) on the level of performance versus the resources available. The Australian health system is a complex web of interlocking and overlapping responsibilities and programs as the chart below shows (Stoelwinder, J. in *Health Financing in Australia* course materials, Institute of Actuaries of Australia, 2002).

Sixty programs in search of a health system... and two of them growing out of control:



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The 'insider's' view is telling as indicated by the following comments from the Institute's Health Financing workshop.

- 'We need a system that is understandable.'
- 'We need to transcend inter-jurisdictional issues and debate – state vs. federal government.'
- 'We need more informed and mature debate.'
- 'We have a structurally dysfunctional system.'
- 'The demand side is a nightmare – demand can be totally unexpected, eg. diabetes epidemic and explosive increase in renal failure.'
- 'Workforce is a key issue.'
- 'There are mountains of information but no analysis.'
- 'Why is there no discussion about technical/labour saving devices?'

Financing Health in the Future

The real emerging cost of delivering both public and private health care services to the Australian population over future years will be the confluence of a series of forces each of which has different drivers and different trends. At the present time those major forces are seen to be the following:

- cost of new technology;
- cost of new pharmaceuticals;
- ageing of the population;
- emerging shortages of various professionals (eg. nurses) and international competition for their services;
- the mix between public and private services;
- increasing expectations of the community;
- changing disease patterns and potential new viral threats;

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- the need to replace ageing infrastructure;
- attitudes to issues such as medical indemnity; and
- emerging 'x' factors such as the impact of genetics.

It is, of course, always assumed that the trend in all of these is inevitably upward and that health costs will always inflate.

In this environment it is salutary to look at the work done by Howard Bolnick from the United States, who presented at the Institute's most recent Biennial Convention (Bolnick, H.J. 'Planning Health Care for the 21st Century Working Paper', Institute of Actuaries of Australia Convention, 2003). In this paper Bolnick develops three scenarios for public health care costs in the European Union in 2050. The results of those scenarios – health care costs expressed as a percentage of GDP – were as follows:

European Union Health Care Costs Projected to 2050

Current EU cost as a %of GDP	6.6%
Projected 2050 costs as % of GDP	
I. Continuing today's health care environment into future	13.2%
II. Adverse future health care environment	14.2% to 16.6%
III. Favourable future health care environment	6.5% to 11.2%

In each of these scenarios the life expectancy is assumed to increase to a 'natural limit' of 85 years whilst the significant differences in cost outcomes relate to the length of morbidity at the end of life, the approach to palliative care versus intervention at the end of life, and the degree to which the cost curve of technology and pharmaceuticals begins to trend down rather than up. In each scenario there are current trends which can be found and assumed to prevail.

As might be expected nearly 50 years out there is wide range of possible projected outcomes. In the worst case, costs are projected to increase by 10% of GDP to nearly 2.5 times the current level. In the

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best case scenario, costs are similar to today although there may well be higher costs in intervening years.

In Bolnick's third scenario - the Favourable Future Health Care Environment:

- life expectancy increases but end-of-life morbidity is compressed;
- medical technology and pharmaceuticals develop to reduce cost of care; and
- ethics allow 'death with dignity' through lower cost palliative and supportive care.

It is clear that health financing will be a growing issue for the future and it is my belief that the actuarial profession can make a substantial contribution. Again, this will not however be done by one profession working alone. The dynamics of health mean that any worthwhile work must be done in multi-disciplinary teams drawing on the experience of all.

Outcomes of the Institute's Health Financing Workshop

This is the approach being taken by the Institute as a result of its Health Financing workshop. Three of the key workshop outcomes are the source of future research and development. These are:

1. Overall structure

The key elements of a good health financing system were defined as a system which:

- was understandable;
- led to an informed vision and community understanding of the utilisation of health services across the whole spectrum;
- transcended the inter-jurisdictional issues of State, Federal and other boundaries; and

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- allowed a more informed and mature debate.

The complexities and barriers generated by Federal, State and local Government involvement in health care is a major impediment to both the effective implementation of care and to the financing of care. A number of alternative models have been proposed. The research proposed will look at and compare the pooling approach, practical considerations and possible financing outcomes for each of these.

2. Workforce

There is an immense disconnect between the rigidly separated workforces which often have 10 to 15 year lead times for training, central planning structures in both the health bureaucracies and the professions and:

- health demands which can change rapidly;
- global workforces;
- rapid technological change and opportunities; and
- workplace needs for flexibility and rapid response to changing circumstances.

Overall a much better understanding of the demographics of the workforces is required.

3. Capital

The issue of ageing physical facilities and the increasing capital cost of technology creates a 'sleeping giant' in the financing of health care.

Generally the whole issue of capital and capital needs is not dealt with well in the health system. There is very little analysis of needs and very little attention to ways of meeting those needs. Too often

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capital and operating needs are mixed and allocation of capital is not transparent to those charged with managing the system.

These only touch the surface of the health financing issue and I would encourage any young actuary searching for a future area of interest which is outside the traditional boundaries to look here.

Having dealt with the general area of health financing, let me now turn to health insurance.

Health Insurance

The health insurance industry with a premium income of $7.3bn is as large as the whole of the general insurance industry and is an industry going through considerable change. As a result of life time health cover and the health insurance rebate the coverage of the Australian population increased from around 30% in 1999 to just less than 45% now.

New solvency and capital adequacy standards were introduced in 2001, and in 2004 each fund will be require to have an Appointed Actuary. Governance standards are being lifted steadily with the encouragement of the Private Health Insurance Administration Council, the Commonwealth Government regulator.

Over the next decade the health insurance industry must face up to some major challenges particularly if it is to continue to justify the 30% tax rebate on contributions:

- can the industry start to take a lead in reshaping the emerging long-term cost of providing health care rather than its current position which is largely as a 'price-taker'?
- can the industry develop better sources of capital to meet its prudential requirements rather than relying on future price increases?

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- would the industry be more capable of meeting these challenges if it had a larger number of major nationwide players?
- can and should the industry retain its (mostly) mutual status?
- can the industry move away from Government involvement in pricing and produce a more price competitive market place? And if it did would it then become more proactive in working to reduce long-term health costs?

Overall, the provision of health services will remain a continuing challenge to our community for a long time to come. The actuarial profession can make a substantial contribution working with other professionals to better inform community decision making. Whilst widespread actuarial involvement is relatively new, I believe it is likely to become one of our major areas of focus in the future which will warrant the development of specialist courses within the Institute's Education Program.

5 Corporate Governance

'From time to time… I found myself asking, rhetorically; did anyone stand back and ask themselves the simple question - is this right?' - The Hon Justice Owen, HIH Royal Commissioner.

The actuarial profession plays a key role in corporate governance. In the life and general insurance industries, in superannuation, and soon in health insurance actuaries have statutory responsibilities to advise boards.

In the broader corporate community actuarial advice on a wide range of financial risks, on financial instruments and on executive options also plays a valuable role in corporate governance.

As an actuary whose professional activities are now best described under the label 'independent non-executive director' my bookshelves are liberally populated with volumes on corporate governance, the role of the director and the role of the chairman.

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Any reader glancing through these volumes could be forgiven for wondering why so much effort is dedicated to describing practices which anyone could see were just basic common sense. They could also be forgiven for wondering why so much of that inherent common sense is ignored leading to the dramatic corporate failures that we have seen in recent years.

Two questions stand out:

- why is corporate governance so difficult?
- what unique difference does the actuarial contribution make?

Corporate Governance and the Institute's Agenda

Corporate governance has been a major part of the Institute's agenda over the last two years. The HIH Taskforce was set up within months of HIH going into liquidation. The Taskforce provided considerable support and advice to the HIH Royal Commission as well as reviewing implications and lessons for the profession and making recommendations concerning professional conduct issues.

General insurance legislation has now been amended to require each general insurance company to have an Approved Actuary and to require that actuary to advise the board on the outstanding liabilities to be recorded in the balance sheet at the end of the financial year. The board is not obliged to accept that advice but if it does not it must publish the reasons for not doing so and the basis of its own figures.

Subsequently the Royal Commission made an extensive range of recommendations, including the recommendation that a Financial Condition Report be prepared by the Approved Actuary each year.

The Institute also set up a Corporate Governance Taskforce to ensure that the profession is geared to support the community's expectations of much more effective corporate governance. It covered questions of independence and of peer review. However, in

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my view, the most important issue that has been addressed is professional support that should be available to individual members to help them deal with the inevitable pressures which will arise.

Corporate governance failures often occur though an accumulation of small issues rather than single big events - although the final outcome might be the dramatic collapse of a company.

In practice, corporate governance is not difficult provided we understand the context in which most boards operate. Boards are not executive committees. The non-executive directors do not work together in the same corporate environment day in and day out and they are unlikely to have the intimate in-depth knowledge of a particular corporation or industry which the executives will have. They will have a range of other activities, involvements and experiences from outside the company and it is that breadth and the mix of skills which is valuable.

The non-executive directors will meet together as a board perhaps 10 to 12 times a year with some individual committees meeting at other times. To properly harness that set of skills to the advantage of the company they must be well informed about the issues facing the company and the potential consequences of those issues. And those issues must be placed in context – the context of the company and its position in the market, the context of the industry and the context of the economic and other climates in which the company operates.

In corporate governance the actuarial role, whether statutory or otherwise, will be to inform the board on the implications to the financial affairs of the company of future financial risks and obligations.

In the recently published Principles for Corporate Governance of the Australian Stock Exchange Corporate Governance Council, at least four of the principles refer to areas where actuarial input,

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whether mandatory or not, can be critical for the proper governance of a corporation, namely:

- safeguarding the integrity of financial reporting;
- respecting the rights of shareholders;
- recognising and managing risk; and
- recognising the legitimate interests of stakeholders.

Let me now turn to why and how the actuarial profession makes a unique contribution to corporate governance – a contribution which has been honed over two centuries in life insurance and financial services but which is being increasingly seen as valuable across a much wider spectrum.

The Role of the Actuary

The role of the actuary in a financial entity provides a unique and powerful model which has the capacity to make a great difference both in performance and in corporate governance.

This role has a strong historical context in life insurance having been developed for the life insurance institutions which dominated much of the financial institutional market place in the 19th and 20th century. It was extended to superannuation as the provision of defined benefit retirement funds grew through the 20th century.

As the 20th century drew to a close, life insurance funds declined in importance and defined benefit superannuation was replaced (in Australia at least) by accumulation funds there seemed a danger that the actuarial role would diminish or be relegated to a compliance activity.

This has not been the case and in the 21st century the role has now been extended to general insurance and will be extended to health insurance shortly.

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Whilst the professional techniques which support the actuarial role in the very different business areas of life and general insurance, of health insurance and of superannuation may differ, there is a common thread which runs through all of them.

Those common elements are as follows:

- In all the business areas involved the customer pays not for a physical product but for a promise. In many cases the time between the initial contract and the honouring of the 'promise' can be many years.
- The values placed by the actuary on those future obligations can be the single most significant item in the balance sheet and hence in determining the profits and losses of the entity.
- The actuary has a powerful role in the governance of the entity both by tradition and by statute.
- The actuary may also be a contributing member of the senior management team.

There is a strong tradition of reporting not just on the statutory financial position, but also providing annual formal guidance on the long-term financial sustainability of the enterprise in a Financial Condition Report.

I'm not sure that I have ever seen a generic description of the statutory role of the actuary but a useful definition might be 'the guardian of the long-term sustainability of the entity and its obligations to all participants in the enterprise'.

This guardianship is not held alone; it is shared with directors, management and regulators as well as being protected by legislation and courts but it is the responsibility of the actuary to identify and articulate the financial implications of that guardianship.

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The Financial Condition Report

In the HIH Royal Commission report (Volume 1, p.135), Justice Owen identified 'financial information about the underlying financial position and performance of the business as an important element in the effective operation of a modern economy'. He also suggested that accounting standards should be informed by more than just the accounting profession.

It seems self evident to say that financial reports should inform:

- management and boards about the state of the business;
- shareholders and potential investors about the past performance and future capacity of the business;
- banks and other lenders about the security of the business; and
- contractors, suppliers and customers about the sustainability of the business.

They must not only tell the story about past performance but to be effective they must 'say' something about the sustainability of the business in the future. In most cases the latter is encompassed in the balance sheet assessments of the value of assets and liabilities and often the movements in these values can have a greater impact on the financial situation than the ongoing operations of the business.

Good financial reporting is also a critical element in good corporate governance. Whatever the quality of a board, if it is being presented with information which indicates emerging financial issues then it becomes much more difficult to ignore the implications of that information. On the other hand, if information can be hidden or excluded then even a good board will find difficulties. In increasingly sophisticated financial markets, a multi-disciplinary approach which takes the best of accounting and actuarial techniques will increasingly be necessary to give stakeholders really valuable information.

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Perhaps the most important tool in the whole concept of guardianship is that of the Financial Condition Report. The concept of the annual Financial Condition Report is simple. It should report on the health of the entity as a going concern and on its capacity to sustain that health. These are the very issues that are at the heart of good corporate governance, of responsibility to all stakeholders of the enterprise – customers (especially where there are long-term obligations) shareholders, staff and suppliers.

If the concept is simple, the execution is hard. For the report to be effective it must look at future issues for the company and for the environment in which the company operates. It must also look at issues of strength and weakness. It will be the degree of openness and honesty with which it addresses these issues which will make it a powerful document for directors in the governance of the company.

This immediately raises difficult issues – should the document be public or internal, should the contents be prescribed or should they be left to the judgement of the author?

I think it is readily accepted that such a document would be extremely commercially sensitive and it is difficult to see how it could be published without constraining the degree of judgmental information it contained. I believe its content should not be over-prescribed with emphasis on key matters to be covered rather that prescribed information. This maximises the degree of professional judgement and the opportunity for dialogue between the board and the actuary.

The implications for the Institute and for the individual actuary are significant. For the Financial Condition Report to be effective the actuary must have a sound understanding of the business itself and the markets in which that business operates. He or she must have an appreciation of good business management in the broadest sense. He or she must also have a capacity to communicate and be part of an active dialogue with the board. The actuary must

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understand conflicts of interest and from time to time how to deal with the pressure which may be placed upon him or her.

In many cases the actuary will also be a member of the senior management team of the business. Whilst there are times when this may be seen to increase the pressures, it has the great advantage that the actuary will have a much more intimate knowledge of the business and therefore be in a position to add much greater value by virtue of his or her advice.

The value to the business of having the actuary as part of the team is immense as the actuary can contribute to the many formal and informal discussion which make up the greater part of corporate decision making.

In this situation, peer review from outside the organisation can be an extremely important part of the support process for the actuary. It can also be an important checkpoint for the company. This is particularly important when it is understood that the value of the obligations to the company which the actuary must calculate are the single most important financial item in its balance sheet and the single most important contribution to the assessment as to whether the company has made a profit or a loss.

Financial Reporting Generally

I have emphasised the degree to which good corporate governance is influenced by the quality of information provided to the board. For this reason, the actuarial profession in Australia is increasingly taking leadership in financial reporting issues especially where actuarial approaches can add greater value than traditional accounting techniques.

As would be reasonably expected it is taking this leadership in the financial business and financial institutions which are an increasingly large and important part of our financial markets and

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where, as we have seen in the case of HIH, corporate failure can have major systemic implications.

The actuarial profession is also taking leadership in other areas. In particular it has taken the lead in establishing professional guidelines for valuing executive options which has been an increasingly vexed issue in corporate financial reporting around the world. To the best of my knowledge the profession in Australia is a world leader in this. The importance of having a professionally controlled approach to such valuations is that it enables investors to make informed comparisons.

It is also taking leadership in establishing a professionally guided approach to assessing Economic Value of a business or economic entity. The Economic Value is a valuation of expected future incomes and outgoes from the business entity. Economic Value gives an informed base for market value especially where there is not a deep and liquid market for the business being valued.

It will not necessarily replicate the market value approach since market value will take account of the value of those inflows and outflows to a specific buyer or investor. The value to a specific buyer might also include the value of business opportunity or synergies.

The value of the actuarial approach in all of these areas is its capacity to look forward at future incomes or obligations and to apply probabilities so that all the likely options are taken into account.

The challenge for the profession in Australia, and for Australia generally, in this area is substantial. The primary standard setting bodies are the International Accounting Standards Board (IASB) based in London and the US Financial Reporting Board. Our own Australian Accounting Standards Board is represented on the IASB and the International Actuarial Association has an observer status on the IASB.

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The Australian actuarial profession has been a significant contributor to thinking in this field, and there is no reason why it should not continue to do so.

Ensuring Quality – Independent Peer Review

The significant extension of the profession's statutory responsibilities together with the focus throughout the world on the major corporate governance failures of recent years means that there is significantly heightened public expectation placed on the actuarial profession.

In 2002 Senator Helen Coonan said in an address to the Institute's Financial Services Conference:

> *'Statutory requirements to use an auditor or an actuary clearly carry with them significant benefits for those professions. However governments do not confer monopoly rights without expecting some quid pro quo.*
>
> *Governments and the wider community expect auditors and actuaries to take their duty at law seriously and exhibit due care and diligence in the discharge of their duties. These are high expectations and serious reputational risks exist when these expectations are not met.'*

In the UK the first recommendation of the Corley inquiry (*Report of the Corley Committee of Inquiry Regarding The Equitable Life Assurance Society*, 2001) into the circumstances forcing the closure of The Equitable to new business was that:

> *'The Faculty and Institute in their current investigation into ways of monitoring compliance with professional standards, make an external peer review of the work of the Appointed Actuary a requirement.'*

Throughout the past year, the Institute's Corporate Governance Taskforce has been developing a range of recommendations for initiatives to be undertaken by the profession in Australia to ensure

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that we do everything possible to meet the expectations of the public. The recommendations of that Taskforce were adopted by the Council at its meeting in October.

The most significant of the fourteen recommendations and the one that has provoked the most discussion and debate amongst the profession has been Recommendation 2 – in essence that the Institute adopt as best practice the independent peer review of statutory reporting.

The actual approach adopted will vary by practice area. For instance, in superannuation it will be achieved by an independent review of the general methods and processes used whilst in life and general insurance it will be a review of the actual report. The latter will often be achieved by upgrading the work currently carried out by the Auditor's actuaries.

This a significant and important step for the profession and one that I believe will be well received by both Government and the community.

However, it is not the only thing we must do. It is essential that we encourage ongoing training and professional development in specific practice areas, in corporate governance, and in changing expectations of professionalism. Should we make certain levels of training mandatory before an actuary takes on specific statutory actuarial responsibilities? And how should we deal with professional work which whilst it does not breach professional conduct standards is nevertheless of a lesser standard than the majority of the profession would find acceptable?

Corporate governance responsibilities also extend well beyond the individual at the top. Each actuary contributing to a set of figures or calculations which will eventually emerge as a major line in the balance sheet plays his or her own part and needs to be just as aware of the consequences of wrong or manipulated results.

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Finally, we need effective support mechanisms so that actuaries with statutory responsibilities can discuss issues off-line and with a disinterested but experienced party. The roles of coach or mentor are becoming much more accepted and widespread in corporate life. They have great value in modern businesses where much flatter organisation structures coupled with much greater time and performance pressures mean that there may be fewer opportunities within the business for support.

6 Education at Home, in the Region and Beyond

'Human history becomes more and more a race between education and catastrophe.' - HG Wells.

An important element of the Australian actuarial profession has always been a strong international focus. It is easy to forget that in the mid 19th century when the profession was first establishing itself in Australia that the Australian mutual life insurers as the primary employers of actuaries had an international focus from their earliest days. The Australian mutuals had offices ranging from Southern Africa in the west to India and Pakistan in the north and New Zealand and Fiji to the east.

In 2003 the international focus continues. More than 20% of our members are outside Australia with half of these in Asia and the remainder stretched from UK to Brazil. Hong Kong has the third biggest concentration of FIAA's after Sydney and Melbourne

The important challenge for the Institute is to move from just recognising the international involvement of its members and participating in international forums, to developing explicit international strategies.

We live and work in an increasingly globalised environment. The businesses of financial services and insurance are already globalised. Regulation of businesses and the financial reporting standards are also becoming globalised. We can expect that a large proportion of

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our graduates will spend some and perhaps all of their working life outside Australia.

The Institute is regarded by many of our international colleagues as having an outstanding actuarial education system. At the core of this system is the partnership between a limited number of actuarial centres of excellence in universities of undoubted reputation coupled with the Institute's management of the overall process and control of syllabus and quality. It has lead to innovations such as the Actuarial Control Cycle and a willingness to continually broaden the areas of actuarial education. It has also lead to attracting into the profession an increasing number of high quality students.

In less than 30 years the Australian profession has gone from being an importer of actuaries trained overseas to being a net exporter of actuaries trained in Australia. Now we also export actuarial education.

The Opportunities and Needs in Australia

The profession in Australia has a longstanding tradition of branching out into new areas and, once it has established a firm foundation in making a contribution to that area, then building an appropriate education base for those that follow.

General insurance is of course the prime example where actuarial involvement has developed from the pioneering efforts of a few actuaries in the 1970s to a thriving and rapidly growing practice area. Since 1 July 2002, there has been statutory recognition of the Approved Actuary role, and this will mean that the demand for actuaries in this area will continue to increase.

In the last decade there has been a growing contribution to health insurance and recognition of the value of the actuarial role in health insurance is well established. Courses in Health Insurance are already being run by the Institute and it is essential that we establish

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this as a specialist Part III course now that the statutory role of Appointed Actuary has also been established in Health Insurance.

There is, however, a much wider contribution to the health sector that can be made by the actuarial profession. That contribution is to the whole area of Health Financing both in the public and private sectors.

In September 2002 the Institute conducted its first week long program in Health Financing. It was an outstanding success with 50 participants including senior professionals from all parts of the health sector alongside members of the actuarial profession. A second course is planned for March 2004.

In November 2002, I chaired a smaller workshop in Health Financing. This workshop has given rise to three major projects where actuaries will work alongside other professional to explore issues as diverse as workforce, Commonwealth/State overlap and capital needs.

All these illustrate that there is a strong role for the profession to contribute to informing the key stakeholders in health about issues and consequences of various needs and directions.

Another important and rapidly growing area of participation and contribution is in investment management and in banking and finance. Many actuaries have played a prominent role in investment management stretching back to the early days of the profession. Understanding investment management is essential for those actuaries whose responsibility is to settle the liability side of the balance sheet and is an essential grounding for those whose career choice is as investment practitioners.

The introduction of the new Fellowship (Part III) examinations which include Investment Management and Business Applications as compulsory modules alongside two modules of the specialist subject of choice mark a new milestone in Australian actuarial

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education. The Business Applications module will be run as a one week residential course both inside and outside Australia and courses will make use of e-learning techniques. This approach allows new specialist subject areas to be introduced as actuarial involvement spreads into other fields. It would also allow specialist modules to be introduced covering traditional areas but in respect of other countries.

To implement these changes will require the commitment of significant resources and current planning envisages a mix of paid professional resources and the traditional voluntary module which has served us so well in the past.

The next coming challenge in our educational role must be to broaden and deepen our CPD education. The rate of change in our community means that practitioners must be constantly learning to merely keep pace. The ultimately responsibility for this must rest with each individual but the Institute has a critical role in ensuring the availability of a wide range of sound CPD. There is also a need for CPD which provides the pathway for individuals who want to change their area of practice and to need to understand those new areas. There is already the facility for existing practitioners who want to move into general insurance to take the appropriate Part III subject as a CPD program.

CPD is also a significant opportunity for the Institute. Throughout Asia there is a major unsatisfied demand for further education. For example, actuaries trained in life insurance must move across to dealing with general insurance or other practice areas.

New Zealand

There is a long-term bond between the actuarial professions in Australia and New Zealand[1] and, up until 1980, there was a common

[1] In the interests of transparency and good governance, it should be declared that the author was born and educated in New Zealand although he has now lived in Australia for many years and is an Australian citizen.

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actuarial body. As we move forward as an international profession, it is good to see that we have now started to rebuild formal ties with our New Zealand colleagues.

The New Zealand actuarial profession must control its own professional standards and its public affairs issues but there is great scope for cooperation in education, in professional development and in the key practice areas. I hope that we will shortly be able to sign a Mutual Recognition Agreement which will allow Fellows of other actuarial bodies coming to practice in New Zealand the ability to become Fellows of the Institute of Actuaries of Australia in the same way as they could had they moved to Australia.

I also see no reason why a New Zealand university should not develop an actuarial course which is fully accredited by the Institute in the same way as our Australian actuarial schools are.

The Asia-Pacific Region and Beyond

Let me now focus on the opportunity for involvement and contribution to our part of the world and beyond.

The Asia-Pacific region is extraordinarily diverse. It includes China and India, the largest and second largest most populous countries in the world as well as Indonesia which ranks fourth in the population stakes. It also includes Japan, the world's second largest economy, the 'Asian tigers' such as Thailand and Malaysia, and a number of developing countries.

Japan and Australia have well developed actuarial professions with established educational and professional structures. In countries such as Singapore and Hong Kong the actuarial profession is well established and there are active actuarial associations. In other countries the actuarial profession is still developing. In China the profession is still in its early days and in India the profession is just re-emerging.

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I believe that just as the Institute of Actuaries and Faculty of Actuaries in the UK encouraged and supported the development of an independent actuarial profession in Australia, the Australian Institute now has an obligation to support the development of other actuarial organisations in our region.

The Australian actuarial profession can offer our colleagues in the region:

- an educational model regarded by many as a world leader;
- the experience of having developed our education model from scratch over the last 30 or so years;
- a strong membership base in the region; and
- a strong partnership with the universities who deliver our undergraduate courses and who have their own strong connections with the region.

I am also proud to say that we are attracting and educating many young actuaries who have strong personal and cultural ties with the region.

The Institute has already made an active start with a strategy based on ensuring strong support for students in specific locations, building on established educational facilities and meeting local needs for CPD. There are five specific elements of the Institute's initiative.

1. to focus on a small number of key locations, initially Hong Kong, Singapore and China (Beijing and Shanghai) and more recently on India.

2. to establish a core of local FIAA's as tutors for Part III students in those locations.

3. to provide CPD opportunities for both FIAA's and other actuaries.

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4. to look for opportunities to encourage and accredit local university actuarial courses.

5. to work with local professional bodies and regulators to achieve local recognition of the FIAA.

Tutorials have been running for two years in Hong Kong and Singapore. Accreditation of the established actuarial courses in University of Hong Kong and in Nanyang Technological University in Singapore is now being explored. There is an active dialogue with regulators and local professional bodies to extend recognition for the Australian qualification.

All this has been done through small local teams of FIAA's working in parallel with the Institute.

We have now also commenced to build our ties with India which is reviving its actuarial traditions with the opening up of the previously nationalised insurance market.

At the core of this strategy are the two key building blocks of focusing on supporting local students with local FIAA's and working in conjunction with local actuarial bodies and education facilities.

Every member of our Institute who works in the region or who visits the region can make an active contribution to this initiative. Those working in the region can contribute their skills to tutoring and encouraging local students of the Institute whilst those who visit the region regularly can make an equally valuable contribution to local CPD through seminars and talks.

Some members will question why we should focus so much energy outside Australia. There are two reasons.

Firstly, as a mature actuarial body we have a responsibility to help contribute to the development of actuarial skills in other parts of the world just as the Institute and Faculty in the UK had the

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foresight in the 1970s to encourage Australia to develop its own education system and become a fully fledged local profession.

Secondly, the more we contribute to the region the greater the reputation of and opportunities for our members.

We are however only at the starting gates particularly in relation to China and India. These countries both have huge actuarial needs as their financial systems open up and privatise. Our contribution can be significant and critical for the following reasons:

- our experience in working with and delegating the delivery of the key early parts of our education to accredited universities whilst retaining professional control of the syllabus;
- our leadership in developing the concept of the Actuarial Control Cycle into a core subject for actuarial education is well recognised, as has been our development of text books in this subject and in general insurance;
- the development of the Institute's 'e-learning' capability; and
- the multicultural nature of our graduates which also lends itself to playing a critical part in the region.

The benefits for us in playing a wider role in the development of the actuarial profession in the region is that we provide broad ranging cross country opportunities for all our members wherever they took the actuarial education and wherever they are based.

Resourcing and Commitment

We will soon face a familiar dilemma. If we want to take advantage of the opportunity and contribute to the very great need for developing actuarial education in the region we must commit resources. We cannot do it on the cheap or on an ad hoc basis.

In contemplating our commitment of resources we should also bear in mind that our influence extends well beyond the region.

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Many other actuarial professional bodies are considering following our lead in establishing the Actuarial Control Cycle as a core part of actuarial education and within days of its launch some one hundred copies of the text book had been sold overseas to associations for assessment by their educational committees, as well as to individuals. Our general insurance text book is also recognised internationally.

We should also consider whether with the flexibility of the revised format of Part III we could work with local associations to offer a choice of international specialist subjects, for example, 'Life Insurance in Hong Kong' as an alternative to 'Life Insurance in Australia'.

However, a critical element for our contribution is that it must be in partnerships with the region including:

- actuarial associations in the region;
- universities and educators in the region; and
- Australian university actuarial centres which have played such a key role in developing our education facilities to its leadership position.

In this way we leverage on our strengths and the strengths of others in the most effective way. And we will do so in ways which recognise the existing strengths and the cultural differences in the region.

7 Sustainability

'Nevertheless the work of the actuary is mainly concerned with long-term obligations and in that sphere he has a professional duty to the community to protect the future against the ravages of the present. If he sees that happening he should not pass by on the other side.' - *F.M. Redington*

When Redington wrote these words some decades ago, they were not specifically directed at the issue of sustainability as it is

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discussed today. However, there is no doubt that they are just as appropriate.

In 2002, the Hon David Kemp, then Minister for the Environment released a report entitled *Australia the State of the Environment 2001*. In releasing the report he said that at the heart of the report lies the authors' most important conclusion: we are not managing Australia's environment on a sustainable basis.

That report is divided into sections – water, land, coasts and oceans, atmosphere, natural and cultural heritage, biodiversity and finally human settlement. The range of items covered is huge but the issues that stand out are water, vegetative cover and the degree of land clearing, atmosphere and human settlement.

Few people doubt that we face any number of major issues both as a nation and world wide. The responses and proposed solutions generally range from the extreme of significantly reduced populations, through the managed and 'muddle through' approaches to optimistic reliance on technology and innovation.

In all of these there is, potentially, enough modeling of enough variations to more than satisfy our graduates a hundred fold but modeling future options is only one part of our capability.

The key question for the profession must therefore be: where can we best use our capabilities to add value to the multitude of skills that are needed to contribute to our understanding and solution building?

To me, it lies in synthesizing our skills in looking at alternative scenarios, our demographic and statistical capabilities, and our understanding of financial markets and long-term financial issues to help build understanding of the impacts and consequences of the different emerging approaches.

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There will always be more problems and issues than we have the capability to solve and many more demands for capital investment than funds available. However, increased funding for retirement does potentially increase the pool of investment funds available and therefore it may be possible to establish a virtuous circle of investment which benefits the investor and helps sustain the ongoing community.

This of course would also require us to develop better measures of successful investment management than short-term movement in market values.

We also need much better ways of measuring the value of investment in social infrastructure, such as education or even low cost housing for the disadvantaged. The concept of the triple bottom line for instance suffers because companies can show no balance sheet value for the investment in social issues. Measures are essential both to be able to establish targets and measure progress and also to be able to establish priorities.

The exploration of sustainability seems full of dilemmas and unintended or unexpected consequences.

Global warming causes the ice caps to melt but this in turn potentially changes the flow of ocean currents reducing warm flows such as the Gulf Stream leading to a cooling down elsewhere which leads to increased ice.

Cities have long been the target of environmentalists and key global environmental problems have their roots in cities – vehicle generated pollution, urban demand for timber which denudes the countryside, and demand for water resources. Yet, on the other hand, the concentration of population means that services from water to education to energy can be delivered more cheaply and effectively than to the same population scattered through the countryside.

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Most protagonists on either side choose not to contemplate the dilemmas because of the reduced impact of their argument. In this environment the capability of the actuarial profession to objectively inform decision making will be invaluable.

8 Financial Markets and Investment

'As far as the laws of mathematics refer to reality, they are not certain, and as far as they are certain they do not refer to reality.' - Albert Einstein.

Understanding the behaviour of financial markets must be a core element in the professional tool kit of actuaries. The liabilities calculated by the actuary represent the current value of the future obligations of the enterprise. The financial markets provide the means by which those future obligations will or will not be met. As actuaries their guidance and judgement about the progress of the financial markets can mean the difference between the success or failure of the enterprises they advise.

An important part of understanding financial markets must be the recognition that they are dynamic, that they change and evolve in often apparently unpredictable ways, and that the science of financial markets is the province of many academic and professional disciplines. At the present time the discipline of financial economics is a major contributor to our understanding.

The Current Financial Market Place

At the 2003 meeting of central bankers in Jackson Hole, Wyoming, at least three papers considered scenarios where the relative stability of the past three decades of moderating business cycles could be disrupted by major market shocks.

This address is being written in mid September some three months before it is due to see the light of day and I am hesitant to try

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and predict the state of the markets three months out. Yet our time scales as actuaries must contemplate markets 20, 30 and 40 years out.

Commentators currently divide between those who see a return to profitability and market strength in the US as well as improving economic data for Japan as a signal that a bull market has returned, and those who see increasing risks on the horizon. Australian economic commentators are concerned with the 'housing bubble'. International commentators have also expressed concern about the way in which major banks have been securitising high risk debt and passing it to other financial institutions such as insurers and pension funds.

If we move out into even the medium term of say five years we need to contemplate how for instance the continuing growth of the Chinese economy, as a population of 1.2 billion get richer at a rate of around 10% a year, will affect and change the shape of financial markets. Will Shanghai rank alongside New York and by 2010 will we be waiting on the quarterly pronouncements of the Chinese equivalent of Alan Greenspan?

There are no comparable examples in recent economic history to guide our judgement.

Yet within these uncertainties we must guide and advise a range of financial entities. We must make judgements but we should also constantly ask ourselves how is the organisation protected against extreme and unpredictable moves in the markets?

The Behaviour of Markets

The Australian actuarial profession has generally embraced the disciplines of financial economics and it is an integral part of our education system. This does not mean that there are not disputes and discussion about interpretations or relevance in particular areas. Such dispute and discussion is healthy so long as both sides recognise that the key issue is the outcome rather than the input.

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It should also be recognised that this is an area of continuing research and development. I am aware of a recent international workshop on Complex Agent-Based Dynamic Networks. The participants were scientists and engineers who are seeking to explain a range of behaviors through the use of 'agents'. As I understand it, the 'agent' is a program that deals with numerous other agents inside a computer and can be used to mimic stock market behaviour amongst many other things. And in case we think this is just blue sky, the process was successfully used by the NASDAQ to test likely consequences when that market moved from fractions to decimals.

The important issue is that made in my opening paragraphs – that the understanding of financial markets is a key tool and that understanding is being advanced by many disciplines. We must keep up and we must also contribute given the wide practical experience which rests within the actuarial profession.

'The New Financial Order: Risk in the 21st Century'

Robert Shiller is Professor of Economics at the International Centre for Finance, Yale University. For those who have not read his book *The New Financial Order: Risk in the 21st Century,* he proposes that the increasing breadth and depth of international markets and the increasing availability of sophisticated technology would allow those markets to be used to trade off some of the social and insurance risks of modern life to a much greater degree than is available at present.

For instance, he notes that with housing the greatest risk for the young is that housing prices will rise and the greatest risk for the ageing is that the prices will fall. This suggests that some intervening insurance mechanism should be possible to protect both.

He also suggests that many forms of risk management currently applied at the business level may ultimately be able to be applied at the individual level.

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Many of his concepts are visionary although certain of them have had some form of experimentation to support them. They do provide a challenge especially for our younger actuaries to start contemplating different ways of achieving social equity and to not be encumbered by the institutional approaches of the past.

The 'Other Side of the Coin' - Actuaries as Finance and Investment Professionals

As Tony Day said in his article in the September 2003 issue of *Actuary Australia*, 'As an investment actuary, I feel as though the profession has much to contribute to finance but we have yet to find our voice.'

The profession actually has a long tradition of practising leadership in the investment field both in Australia and in the UK. In Australia to day there are actuaries in most investment banks, in the fund management businesses, in stockbrokers' research departments and in a range of areas in the major trading banks. Many of our graduates from the university actuarial schools are attracted to work in the finance and investment areas although, unfortunately, some of them fail to see any benefit in continuing their actuarial connections.

The Institute has a major challenge to 'make our voice heard' and to bring those actuaries and graduates who are not participating in the profession back into the fold.

At the same time it must ensure that it has value to offer them.

In this regard I am delighted that the Investment and Funds Management Practice Committee has taken the initiative of surveying employers in this area both to make them aware of actuarial skills and also to ascertain what can be done by the Institute to support the practitioners. However in the end we need the help and support of all actuarial practitioners in this field.

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9 Making the Future Work

In many respects I believe that one of the greatest challenges for the profession in Australia in the next decade will be finding the resources for, and coping with, the stresses and strains of success.

In a space of three years the number of industries in which actuaries have statutory reporting roles has doubled from two to four with general insurance and health insurance being added to the traditional roles in life insurance and superannuation.

The range of areas in which Australian actuaries are involved is continually widening with health insurance, health financing, energy and sustainability and banking and finance all being added in recent years.

The wide geographical spread of Australian actuaries with more than 20% of our members outside Australia has already been commented on.

Actuarial education is constantly being upgraded with the new Part III being introduced next year. Amongst other things this will add a significant business focus to the Fellowship examinations and require the addition of professional teaching resources. Education activities are already taking place around the globe with the development of more effective distance learning using the power of the internet and this must be expected to grow significantly given the demand for actuarial education throughout the Asian region.

The number of Fellows is growing by about 6% each year and in recent years the number of students entering the accredited university actuarial schools has grown by about 15% per annum.

At the same time our involvement in public affairs is also growing rapidly. The profession is held in high regard by both Government and Opposition and by government officials. It has a

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reputation for providing high quality and well researched submissions and is seen as independent and bipartisan.

It is entirely possible that by 2010 there will be as many actuaries working in the 'new fields' as there are working in the traditional practice areas.

We may be producing graduates from as many accredited university actuarial schools outside Australia as inside our own shores.

The building of a professionally staffed secretariat with educational, organisational, communications and public affairs skills rather than actuarial skills has been a key step in the development of the Institute's capacity and much of what has been achieved to date could not have been done without that step.

For the future we need both a strong professional secretariat and a strong partnership between the secretariat and the members who contribute so much of their time on a voluntary basis through committees or through the education programs. The professional secretariat with its skills in education, in communications and in public affairs means that the profession leverages the contribution that its skills, learning, experience and judgement can make.

Nor will it be effectively achieved without a strong partnership between the key educational components – the Institute on one hand and the established university actuarial schools on the other.

It is the combination of all of these which gives the profession in Australia such a unique position and without any one of these components the road ahead will be much harder.

Looking ahead, there are a number of areas that require significant attention, namely:

- the governance of the Institute including planning for the future;

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- the development of a strong research base; and
- the assurance of effective professional conduct and disciplinary procedures.

Governance of the Institute of Actuaries of Australia

Decision making within the Institute is often convoluted, sometimes necessarily so, as we struggle to ensure a consensus amongst stakeholders. More often however decision making is complicated just by the accumulation of different layers of responsibilities over time.

The governance of a profession is complex. The overarching responsibility for the reputation of the profession and the education and servicing of its members must run alongside an economically responsible approach to its business affairs. It must manage carefully the mix between professional secretariat and voluntary contribution by its members. It must take a long-term strategic view and yet cope with annual changes in its leadership.

A sub-committee of the Council Finance Committee has just completed a review of the governance of the Institute and their recommendations were adopted by Council in October. As a result of these recommendations the structure and role of Council and of the Committees and the roles of the President, the Chief Executive and the Executive Committee (the President, Vice Presidents and the CEO) are clearly set out and clarified.

The Practice Committees

The Practice Committees are a core component of the Institute. They drive the focus and content of actuarial work and actuarial education in their practice area. As the areas of interest of the profession broaden it is essential that the role of the Practice Committees is expanded. They must lead in identifying public policy issues which are likely to affect their practice area and they must also

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lead in providing a point of reference and contact for members practising in their area.

Over the next year there will be much greater emphasis on the role of the practice committees and this will already have commenced with the Convenors of the practice committees joining with the Council for a strategic planning workshop in October.

The Universities

The university actuarial schools accredited by the Institute are also a critical part of the actuarial profession in Australia. The educational partnership which has been developed over the past three decades has given Australia an actuarial education system which is envied by our international colleagues.

There is a healthy spirit of competition between the actuarial schools which is important to ensure that we maintain a dynamism and relevance in our education system. However, it is also essential that there is a spirit of cooperation to ensure that we address common issues and that we tackle together the opportunities of taking actuarial education outside Australia's boundaries.

Currently discussions are underway for the accreditation of universities in Hong Kong and Singapore and this would significantly add to the internationalism of our education system.

There is however one significant gap in the current system. It is that we have not yet produced a strong supply of graduates with both Fellowship qualifications and PhD's who can be equally recognised in both the commercial and the academic worlds. This limits the supply of those who are capable of taking leadership in our university actuarial schools and in the actuarial schools which I am certain will grow up around the region as the demand for our profession grows. This must be one of our long-term educational goals.

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Research

At the same time a near term and long-term goal must be to significantly increase the level of actuarial research. The long-term future of the profession as well as its ability to contribute in the public arena ultimately rests on the quality and relevance of its intellectual base.

Given the demands placed on actuaries in the normal course of their working life, it is no longer sufficient to rely on research being done on a voluntary basis. It is essential therefore that if we want to significantly increase the level of research we must be able to fund it.

Between 1995 and 2002, the Institute contributed $140,000 for research and currently $50,000 per annum is available for research through our university funding program.

Within our community there are many sources of funds for research including a number of Federal government sources. But locating those funds, matching them with research needs and lifting the capability of our members to compete for research funds will require a major effort from the profession and the Institute.

Education as a Business

Education is both a critical part of sustaining and developing the profession in Australia and a significant business opportunity. That business opportunity arises from the quality of our education system and its various component parts coupled with an exploding requirement for actuarial education in our region.

By approaching it in a business-like way we will place on ourselves the discipline of ensuring that the quality and relevance of the education offering whether in Sydney, or Singapore or Shanghai. We will ensure that our approach is economically sound and if we are successful we will generate a strong income source for

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reinvestment in the profession and as another source of research funding.

Professional Conduct and Discipline

Finally, no profession can properly serve the public need if it does not have effective disciplinary procedures. The Institute, several years ago, anticipated the need to upgrade its disciplinary procedures so that they are separate from the executive governance of the profession. Those procedures are now being thoroughly tested as they deal with the consequences of the HIH failure.

I believe there are however still a number of questions to be considered. Two which I think would benefit from more discussion amongst the profession are:

- should our procedures be more transparent and visible as happens in the normal justice system? This would have the advantage of educating the profession in the boundaries of professional conduct as well as clearly demonstrating to the public which we serve that such boundaries do exist. The disadvantage is that such procedures become much more expensive and much more adversarial.
- how should we deal with matters of poor advice which, while clearly an issue of quality, may not be judged as unprofessional work?

The International Actuarial Association

The actuarial profession is an international one and Australia plays a significant role in the international body, the International Actuarial Association (IAA). We have mutual recognition agreements with the Institute and Faculty of Actuaries in the UK, the Society of Actuaries and the Canadian Actuarial Society in North America which allows our actuaries, with certain residence restrictions to practise in the US and in the UK. Catherine Prime, a Past President of this Institute has also been the President of the

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IAA and we have an active involvement in almost every component of the international agenda.

The agenda of the IAA includes major contributions to the development of the International Accounting Standards, the development of a common international syllabus for the core actuarial examinations and an active program of advice and assistance to help developing countries build their own actuarial professions.

In these days of global businesses, especially in financial services, and with common problems of ageing populations, retirement incomes and health financing in most of the developed world, the sharing of ideas and research is critical.

10 Conclusion

There are extraordinary opportunities for the profession to make a difference to the Australian social and business landscape and in particular to contribute to areas which are critical to development of our community. That community includes both Australia and the Asia-Pacific region of which we are an integral part.

Taking up those opportunities will not be easy. There are significantly heightened public expectations on the profession which means that we must be increasingly vigilant to preserve the reputation on which those expectations are based. There is a strong need to embrace new techniques and disciplines which can contribute to providing more effective insights and there is the need to constantly challenge established paradigms.

That opportunity to make a difference, no matter how small, is open to each individual. The role of the Institute of Actuaries of Australia then becomes to accumulate those contributions and to leverage the skills of the profession.

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Many people have contributed to this address both directly and indirectly: firstly, my wife Lynn who has supported me throughout a long career from which much of these thoughts are drawn, my Presidential colleagues past, present and future who took the time to read it and make suggestions, Catherine Beall who encouraged a wider perspective, and Vicki Mullen and Andrew Kirk who provided much needed editing and research.

Finally, it is one of the great privileges of the Presidency of the Institute of Actuaries of Australia to be able to address members in this way. The aim of such an address is to open up issues and to stimulate discussion. I hope that this address will achieve that aim.

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