

Presidential Address

1997

Shaping the Next Century

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Institute of Actuaries of Australia
1897 - 1997

SHAPING THE NEXT CENTURY

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SHAPING THE NEXT CENTURY

TREVOR J MATTHEWS

“There are risks and costs to a program of action. But they are far less than the long range risks and costs of comfortable inaction”.

John F. Kennedy

1. INTRODUCTION

On the occasion of the 100th anniversary of the formation of our professional body in Australia as actuaries we could be forgiven for looking back, celebrating our rich history and revelling in our past glories. As President for our Centenary year I am happy for us to celebrate the past but I am keen to focus most of our attention on the years ahead – The Next Century.

I believe it is time for actuaries to be more proactive and less passive, with a bias for action rather than for analysis. We need to embark upon a program of action. I have therefore chosen “Shaping the Next Century” as the theme for my Presidential Address and for our Centenary year.

Technological change and the globalisation that it facilitates, demographic shifts, the rise of consumerism and the convergence of financial services are all powerful forces impacting upon the society we serve. In the face of this turbulence and complexity we need to take action today to shape our own future.

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In this address I am:

- presenting an abridged history of our profession,
- calling for us to redefine actuarial science,
- advocating certain improvements to our “product”,
- highlighting the opportunity for us to be the first truly global profession,
- suggesting we broaden our membership and influence by casting our net much wider, and
- urging us to continue to attempt to shape the future by provoking public debate on some of the major issues of the day.

My objective is to stimulate our members to take action and to help shape the next century.

2. 100 YEARS AGO

We have come a long way since the first meeting attended by 17 people on 19 October 1897. At this inaugural meeting of the Actuarial Society of New South Wales the rules of the new Society were adopted. The Society's object was "the dissemination of professional knowledge among its members and the securing of greater recognition of the profession in New South Wales". This first meeting was favourably reported in the British insurance press.... "There was a good attendance of members, and it is evident that the Society if properly conducted will become a torchlight procession of usefulness".

The first address by a President to the Actuarial Society of New South Wales was delivered on 27 June 1898 to an audience of twelve people by Mr W R Dovey FFA [Dovey,(1898)]. At the last meeting for the First Session of our antecedent Society, Mr Dovey took the opportunity to deliver his thoughts about valuation methods. A full transcript of his address including some remarkable valuation summary fold out proformas is included in the Journal of the Institute of Actuaries.

While the address is detailed and technical the President cannot help making some general comments about the profession.

"The work of the actuary requires the exercise of various faculties of the mind. It would be possible, with the greatest fidelity to theoretical accuracy, to be a very

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poor adviser. To grasp the trend of the business of the office in its various aspects must be to the actuary a primary and ever-present duty. The more thoroughly he knows how the present basis and methods of the office will affect its financial future the better fitted he will be to forecast the effects of any proposed change. There is required a certain sympathetic relation to the requirements of competition and progress in business, without the infringement of sound principles. Further, the insight into the true meaning of statistics is of high importance, and this presupposes an accurate perception of the circumstances which give rise to the figures themselves. The duty, however, which lies first to his hand is the framing of his valuation methods so that the outgoings for claims may, on the average, fall within the provision made for them, and leave the office none the weaker for their occurrence. Age must not impair its strength, nor growth lessen its acuteness. Dealing as it does with the inevitable frailty of human life, the well-conducted Life Office yet contains within itself the secret of perennial youth.

The researches of many minds have laid bare, and made easy of acquisition, those principles and data by which an assurance institution may possess a practical immortality. From one generation to another it may pursue its career of usefulness, gathering more and more prestige and honour as time passes. As actuaries

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and actuarial students, you are devoting your lives to the attainment of these most worthy ends.

The Actuarial Society has been framed to assist the younger members of the profession. Permit me, at the close of its first session, to wish all such that their aspirations may materialize in lucrative positions and a long term of successful service."

Some wise counsel from our first President.

One of the first proper Presidential Addresses not dealing with a specific practical subject was delivered by Mr R D Miller FFA (1903) in the seventh session of the Actuarial Society of New South Wales.

The rules of the game were different then as this quotation from Mr Miller's address reveals.

"Ever since you called me to the position of honour as your President it has been to me a matter of careful consideration what should be the subject of my address. The presidents of similar societies have been accustomed to claim that their addresses were exempt from criticism; and although this rule has not always been adhered to, I think it is desirable that such addresses should touch on subjects only upon which all right-thinking men can find common ground of agreement."

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How times have changed. I certainly do not expect that all right-thinking (wo)men will find common ground of agreement with everything contained in this address!

Mr Miller moves on to discuss the duty of the actuary to himself, the duty of the actuary to his office staff and the duty of the actuary to the public – eminently sensible issues to consider. He reminds those present about the importance of the role of actuaries of the day.

“I think, gentlemen, that we may all agree that ours is an honourable profession. I do not mean honourable in the sense that we, by virtue thereof, are entitled to pre-eminence among our fellows in their public functions, or even in their esteem; but I do hold that the interests committed to our care are of such vast importance to the body politic, and so touch its intricate organisation at its most sacred points (the relations between husband and wives, parents and children) that we may well consider that we are called upon to perform services among the most noble of those done mankind.”

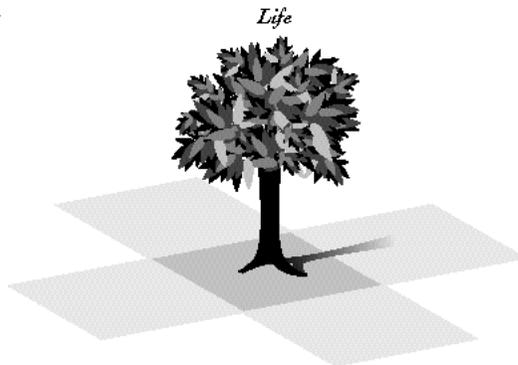
It is useful to be reminded about the noble purpose pursued by our forebears.

3. A SHORT HISTORY OF THE ACTUARIAL PROFESSION

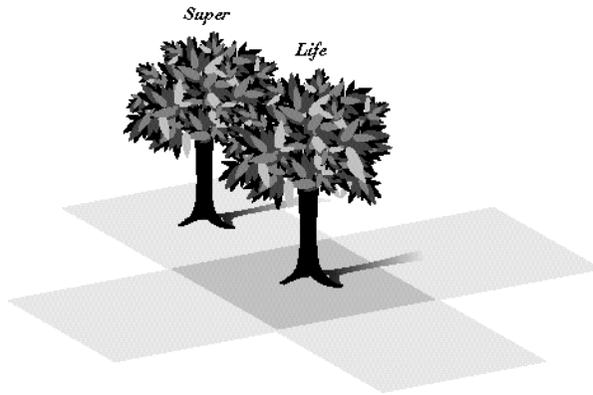
A full history of actuaries in Australia has been prepared by Ms Clare Bellis and will be available during 1997, our Centenary year. My alternative abridged history is set out below.

The Actuarial profession was born in the last decades of the 18th century as managers of newly formed life insurance companies realised that because the chances of dying increased with age, it made sense to charge older people more than younger people when they took out life insurance. Techniques were developed to assess the progress of these early life insurance organisations and distribute the surpluses identified every five years on an equitable basis.

For much of our early history actuaries were concerned with building conservatism and safety into a financial system and they were the arbiters of equity for generations of policyholders. The noble purpose of life insurance was served well by our developing profession. We can picture this as the growth of a substantial and solid tree of professionalism, knowledge and technique in the field of life insurance.



We now move forward some 150 years to the end of the Second World War. In the United Kingdom we saw the proliferation of defined benefit pension plans. Actuaries became involved in studying and helping to control the finances of these new relatively complex systems. Actuaries developed techniques, once again, for assessing the solvency and ongoing progress of these plans and setting the rates of contribution to provide security for members' accruing benefits. During a relatively short period we saw the development and growth of another substantial tree of actuarial knowledge, this time in the field of superannuation and pensions.

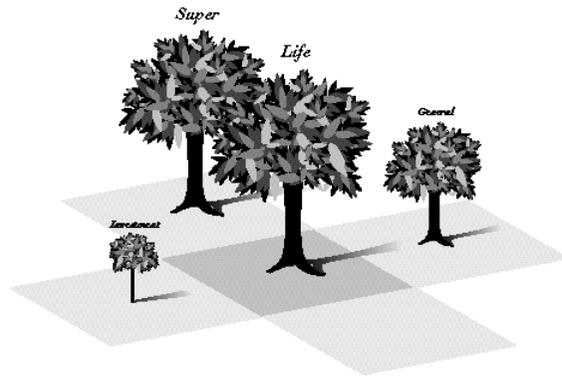


Some 20 years ago a handful of actuaries wandered outside the traditional life insurance and superannuation paddocks and started dabbling in the new world of general insurance. Actuaries developed techniques to assess the adequacy of reserves for outstanding claims and helped ensure the ongoing financial viability of organisations.

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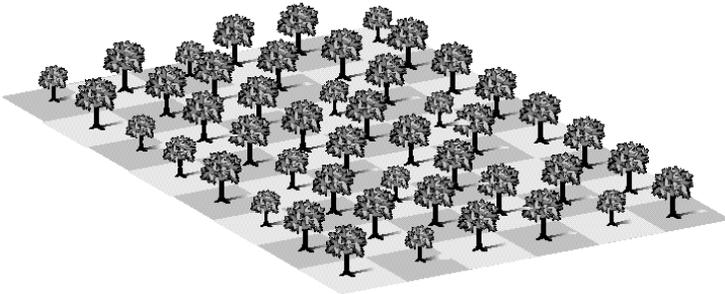
After a slow start the general insurance actuarial tree is now growing vigorously, with demand currently outstripping the supply of actuaries in this area. This year we have seen an article in "Post Magazine" (1996), highlighting the shortage in the United Kingdom, and senior general insurance practitioners in Australia have commented about the difficulty of locating good people in this country.

Over this long period some actuaries also ventured into a range of other areas. If we look closely we can find several clumps of actuaries working in investment, finance and banking. Certain actuaries have also provided advice about shopping centre developments, roadways, forests, pipelines and other areas apparently unrelated to the core disciplines.



If we now ascend in a helicopter to survey the actuarial countryside the new perspective provides us with considerable insight. The various actuarial trees of knowledge and technique, until now thought to be loosely connected, but separate and distinct, have a remarkable

similarity. The trees all belong to the same family. The actuarial knowledge and techniques are all basically similar. They all can be considered to be applications of the Actuarial Control Cycle.



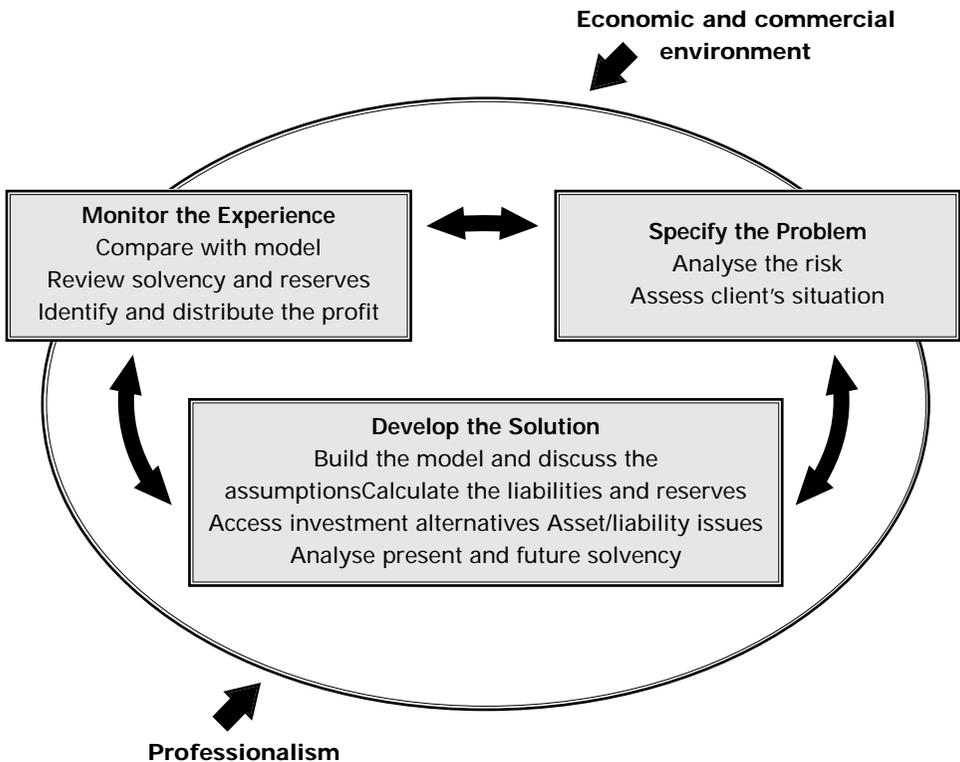
Suddenly the world looks quite different. This new insight helps us to reinterpret and to understand much better than ever before what our ancestors have been doing. They have been applying the general principles of the Actuarial Control Cycle to the various specialist areas. They have adapted the general principles to the different environments.

Armed with this new understanding we are now better prepared than ever before to extend our expertise to other seemingly unrelated areas.

4. TIME TO REDEFINE ACTUARIAL SCIENCE

It is time now to redefine actuarial science in terms of the Actuarial Control Cycle depicted in the diagram below.

The Actuarial Control Cycle



The Actuarial Control Cycle provides a useful, generalised framework which embraces our present areas of activity and which gives us the base for extension into new fields in the future.

Each of our main fields of activity can be viewed as a particular application of the Actuarial Control Cycle. Each of our main trees of knowledge and techniques belongs to the one common family. In future it will be helpful for all of us to think about what we do using this larger frame of reference, from this new perspective. During the last century actuaries have adapted to changing conditions. Now as well as continuing our traditional roles as arbiters of solvency and equity we are also acting as advisers to and managers of complex and turbulent financial systems.

We have moved from dealing only with deterministic solutions to embracing stochastic variation. We have advanced from operating in a number of narrow specialty areas to being capable of mastering a wide range of general financial problems.

It is important for all of us to understand fully the significance of this new realisation. By doing so and by actively communicating this to our various audiences we will be able to extend our influence and activity into adjacent areas of potential future growth.

The actuary's ability to analyse complicated situations, interpret complex documentation and stand back and look at the big picture provides her with an almost unique competency in dealing with future financial risk. Many of our colleagues in other professions focus on narrow technicalities and so are less able to provide overall comprehensive business solutions.

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To my mind the new Mission and Vision Statement of the Society of Actuaries of the USA contains a useful description of the role of the actuary as we head towards the next century.

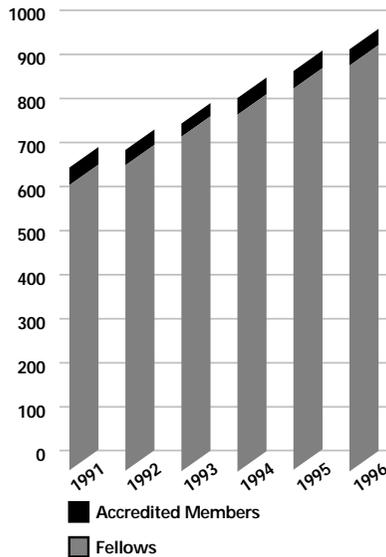
“The Society of Actuaries is an educational, research, and professional organisation. We are dedicated to serving the public and our members. Our mission is to advance actuarial knowledge and to enhance the actuarial profession’s ability to provide expert advice and relevant solutions for financial and business problems involving uncertain future events. **Our vision is for actuaries to be acknowledged as the leading professionals in the broader area of the assessment and management of financial risk.**”

I believe it is time we developed our own aspirational Vision Statement to complement our existing Mission Statement which is reproduced in Appendix 1.

5. THE AUSTRALIAN PROFESSION TODAY

The profession in Australia has enjoyed strong growth over the past six years as shown in the graph below.

Institute of Actuaries of Australia Fellows and Accredited Members

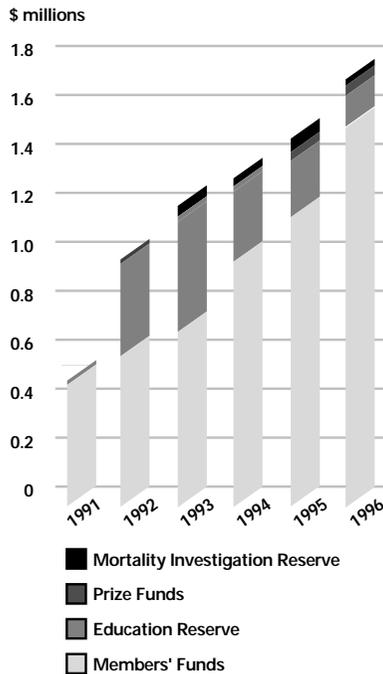


The total number of Fellows and Accredited Members will pass 1000 for the first time in the next twelve months.

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The finances of our Institute are also in relatively good shape as the following graph shows.

Institute of Actuaries of Australia Total Financial Resources



The figures supporting these graphs are included in Appendix 2.

6. IMPROVEMENTS TO OUR "PRODUCT"

Two recent studies of the actuarial profession, Institute of Actuaries of Australia (1996a), and Institute of Actuaries (1995), both revealed that the most serious perceived shortcomings in the actuarial "product" are communication skills and general business skills.

The days of the actuary hiding in the back room and coming out once a year to pronounce on bonus rates are well and truly over. We need our actuaries of today to be confident and skilled in the difficult and complex field of communications. Recent initiatives of the universities to include case study presentations in courses such as the Control Cycle are to be applauded. I also believe there is room for our Institute in Australia to do more, for example suggesting suitable communications courses for young actuaries.

As we move outside our traditional comfort zones we come into contact with a range of other professionals with varying backgrounds and specialties. We need to equip our ambassadors to these new lands with a broader range of general business skills. Each individual has to take responsibility for her own development. However, our Institute can do more to encourage more wide ranging education using the Actuarial Control Cycle as a base.

I would also like to urge all actuaries, if you have not already done so, to accept the technology challenge of today. There is no reason why we cannot be at the forefront of developments in technology, setting

the example for our work colleagues. I would like to see all actuaries “on-line” during our Centenary year. During 1997 we will start publishing papers via our Internet web site and we will use the technology in a variety of interesting and useful ways. We need to be connected now!

The first of our new Associates will qualify this year. The Associateship status was previously granted to students who completed Part I of the examinations plus one of the final examinations at specialist level. The Associateship is now awarded to students who successfully complete the Part I examinations plus the Actuarial Control Cycle.

This new Associateship has the potential to be an important qualification. The new Associate having mastered the Actuarial Control Cycle will be well equipped to venture into new areas. I believe our Institute should strongly promote and support the Associateship qualification from 1997 onwards.

Continuous Professional Development (CPD) provides the mechanism for us to keep our skills up to date. This is an area that will require more attention in the years ahead. CPD includes sessional meetings, discussion groups, workshops, forums, conventions and reading. In a world where the amount of knowledge is exploding it is important for us to make strong efforts to maintain our expertise. Our professional association has the opportunity to be a true “learning” organisation and provide assistance to members, many of whom may experience career changes during their professional lives.

7. THE FIRST TRULY GLOBAL PROFESSION

Improvements in technology, the revolution in communications, the globalisation of financial markets, and the convergence of financial services are all factors that are forcing national boundaries to evaporate much more quickly than our Australian state boundaries.

Because of the small number of actuaries around the world we have the opportunity to be members of the first truly global profession.

The International Forum of Actuarial Associations (IFAA), formed in September 1995, is an association of national actuarial bodies. Its main objective is to promote the professionalism of actuaries by requiring its member associations to adopt a code of professional conduct, standards of practice and a disciplinary process. It is possible that there will be as many as 43 members of the IFAA. It is clear that we need a common worldwide definition of an actuary. We can achieve this by encouraging the development of a common approach to education. Our Actuarial Control Cycle can play an important role here. Professor David Knox presented our new approach to actuarial education to the second meeting of the IFAA in Washington on 17 March 1996 and this was very well received. At the same meeting a delegate from the United Kingdom presented the concept of the "actuarial scientific method", similar in some respects to our control cycle, but without the same emphasis on feedback.

I would like to see mutual recognition, and genuine international portability at our new Associateship level. This means international

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recognition based on the mathematical and statistical foundation of the Part I syllabus plus the Actuarial Control Cycle. I will be working hard with my international counterparts to force progress in this direction.

My vision is for an actuarial world with a common basic education system centred on the Actuarial Control Cycle with mutual recognition in all countries. The basic qualification can be supplemented by subject specific and country specific additional modules.

The United States Society of Actuaries is doing some wonderful work with actuarial education in China and other Asian countries. The United Kingdom Institute is doing similar excellent work in India and is nurturing the rebirth of our profession in many of the former communist countries of Eastern Europe. Our own Institute with Australian company and government support ran education courses in Indonesia during 1996. Some actuaries view these efforts as competitive attempts to exert national influence in the developing countries and are worried that our Institute will lose out.

I take a contrary view. I believe there is a bigger issue than actuarial colonisation. We should be encouraging our overseas colleagues and working together to raise the standard of actuarial knowledge and professionalism for the benefit of the global actuarial profession. In the new borderless world regional associations will make a great deal of sense and it is here in this time zone that we have much to offer.

Ours can indeed be the first truly global profession.

8. TIME TO CAST OUR NET MUCH WIDER

There are several ways we can broaden our membership and our influence.

I would like to suggest that our new understanding of who we are and what we do provides us with an opportunity to cast our net much wider. Over the years the profession in this country and overseas has lost contact with many of its members who have ventured into other fields, mostly investment related, and have not gone on to complete all of the Fellowship examinations. The eminent British actuary, Frank Guaschi, has referred to these people as "our profession's unqualified successes". Let us develop a value proposition for these "lost" members and embark on a campaign to reconnect them with our profession in Australia. The first step in this process should be a survey of our lost members. I am confident that we will be able to demonstrate to these people that there is value in identifying themselves as members of our widened, more relevant profession.

We can also look at the possibility of engaging students at university in our activities rather than waiting for them to graduate. Many students will benefit from contact with us during their university years. This is important during a period when many Asian students are coming to Australia for actuarial education. By capturing them as clients while they are living in our country we will have more chance of retaining them as members and so expanding our influence when they return to their countries of origin.

Another area which we have neglected during the past decade has been the Kiwi connection. Now that our Australian actuarial qualification, the FIAA, is recognised automatically in the United Kingdom after twelve months residence it makes more sense than ever before for us to encourage our Kiwi cousins to join our Institute and do our examinations in preference to those of the United Kingdom. Many New Zealand students probably do not know that they can convert their FIAA into an FIA after only twelve months residence in the United Kingdom. During my term as President I am keen to make progress in this area.

There are other areas where we can also cast our net much wider. My own move from a life insurer to a bank has given me a greater appreciation of the useful role that actuaries can play in the banking sector. I am pleased that we have established a Banking Committee which is charged with expanding and promoting our role in this area. I am always open to suggestions how we may progress these ideas further.

A further activity we can usefully pursue is to publicise some of the more unusual activities of consulting actuaries, such as the following:

- pricing electricity in the newly privatised markets for power in Victoria.
- helping establish and then monitoring the financial soundness of frequent flyer and other loyalty programs,

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- providing advice to determine the standby credit facilities and capital casinos need to back their gaming activities,
- joint arbitration of a forestry dispute, and
- advising on various infrastructure projects such as the construction of the Northern Territory Gas Pipeline.

These and stories like them should be broadcast much more extensively.

It is interesting to compare the official estimates of supply and demand for our profession both here and in the United Kingdom. The following table shows the figures produced by the working parties referred to above, who studied the future of the actuarial professions in both countries.

**Comparison of Forecast Actuarial Supply and
Demand in the Year 2005**

	Institute of Actuaries of Australia	Institute of Actuaries (London)
Supply Now	750	3100
Forecast Supply in 2005	1300	3915
Forecast Growth	73.3 %	26.3 %
Forecast Demand		
- Minimum	770	2775
- Expected	970	3650
- Maximum	1160	4800
Excess Forecast Supply over Expected Demand	34.0 %	7.2 %

It is clear from this that at this stage we are growing our profession more strongly in Australia and there is more chance of an oversupply of actuaries in our traditional areas in this country than in the United Kingdom. This means that it is more important than ever before for all of us to be pushing to extend the influence of actuaries in the wider business community both in Australia and in other countries of this region.

Another way of looking at these forecasts is that we will have a greater opportunity in Australia for actuaries to move into other areas. The key issue here is the quality of our product. Good students will continue to secure good, well paid positions.

The quality of our new actuaries is such that I believe there is an opportunity for Australia to supply actuaries to other countries where demand is high. These countries include the United Kingdom, the USA and, one day perhaps even China.

I think it makes a great deal of sense to challenge some of the larger employers to appoint a handful of new actuarial graduates each year along with the MBAs and other graduates they employ. The salary of a new actuarial graduate today has come right back to the pack compared to where it was a decade ago. An actuarial graduate today is not significantly more expensive to employ than an economics, commerce or law graduate. We should be aggressively promoting this opportunity to employers.

9. SHAPING ACTUARIES FOR THE NEXT CENTURY

9.1 Institute Planning

The draft Marketing Plan produced by Andrew Gale's committee provided an excellent basis for strategy discussions by Council and Committee Convenors during 1996. This activity has helped me form many of the views described in this address. I am keen to maintain the momentum and produce our first Strategic Plan during 1997. The Strategic Plan will provide the continuity that is sometimes difficult to achieve for an organisation that has a new President every year. The Plan will be revised regularly so that it remains relevant and the key document guiding our progress.

I am keen to make sure that we provide opportunities for our newly qualified members to participate in committee work. I am encouraging all Committee Convenors to turn over the membership of their committees such that the normal term on any committee will in future be regarded as three years. I was disturbed by the finding from the marketing audit that there is a perception by younger members that the profession is run by a small inner group and that it is hard to become involved. This is something we must change.

9.2 Actuarial Education

The education we deliver today will help shape our profession in the next century. Over the past decade we have developed a complex system and mechanism for supporting actuarial education at our universities. I believe it needs to be simplified. A summary of the current arrangements is set out below.

- Members' subscriptions contain a loading of \$150 per Fellow to support education.
- Each year the accumulation of these loadings plus the surplus we earn from providing education services is transferred from Members' Funds to the Education Reserve, maintained within our Institute's accounts.
- In the following year an amount in the Education Reserve is transferred back to Members Funds' and then straight out to the Australian Universities Actuarial Foundation (AUAF).
- The AUAF in turn transfers funds to the Macquarie University Actuarial Foundation (MUAF).
- The Institute has expressed an intention to maintain the corpus of the MUAF at approximately \$500,000.

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- Payments are made from the AUAF and the MUAF to actuarial staff at Melbourne and Macquarie Universities respectively to supplement their (low) academic salaries and to reimburse certain expenses.
- The rates of supplementation reduce steadily and then remain level from 1998 onwards.
- In 1998 the full level of supplementation for Fellows will be 60% of salary made up as follows:

Contribution from other activities – at least	20
Maximum to be provided by the Institute	40
	60
Total supplementation	60

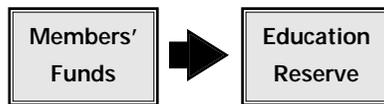
- This means that in 1998 the Institute will be contributing a maximum of 25% of the total salary cost of an academic Fellow as follows:

Base salary (from University)	100	62.5%
Other activities – at least	20	12.5%
Institute – maximum of	40	25.0%
	160	100.0%
Total remuneration	160	100.0%

This complex mechanism is illustrated in the diagram below.

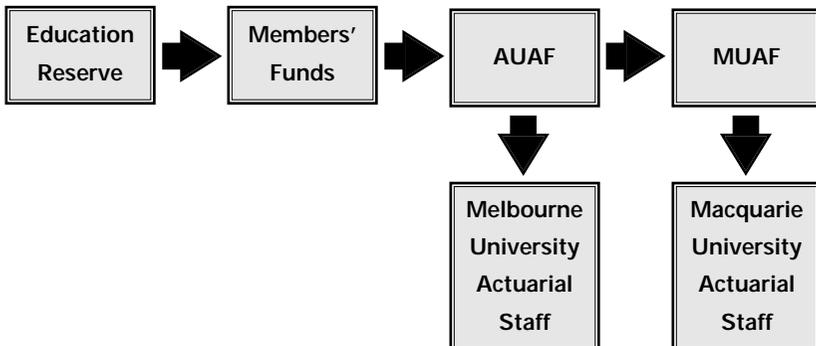
Financing Actuarial Education

1. Each year a transfer is made to the Education Reserve in respect of that year's activities.



The transfer each year is approximately \$150 per Fellow plus the Education Surplus for the year.

2. Each year a transfer is made from the Education Reserve in respect of the prior year.



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Tables showing the history of some of the key values are set out below.

Transfers

Year	Members' Levies \$	Education Surplus \$	Transfer to Education Reserve \$	Transfers to AUAF & MUAF \$
1992	85,000	6,648	377,000	0
1993	90,000	65,149	150,000	72,000
1994	100,000	27,128	130,000	294,000
1995	104,000	109,832	214,000	286,000
1996	152,000	-50,159	66,000	185,000

Traditionally the Education Surplus has been determined without crediting income from exemption fees. The exemption fee income will increase substantially in 1997 and beyond thanks to the new Actuarial Control Cycle subject. This could generate an additional \$130,000 in 1997.

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Payments

Year	Payments to Macquarie Staff \$	Payments to Melbourne Staff \$	Total Payments \$
1992	188,675	0	188,675
1993	215,561	53,506	269,067
1994	222,159	126,404	348,563
1995	222,165	130,742	352,907
1996	220,000 *	131,432	351,432 *

* Forecast

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Balances				
Year	Balance in Education Reserve as at 30 Sept \$	Balance of AUAF as at 30 Sept \$	Balance of MUAF as at 31 Dec \$	Total \$
1992	377,000	–	585,495	962,495
1993	450,000	299,421	418,249	1,167,670
1994	286,000	490,990	327,133	1,104,123
1995	229,850	583,057	303,043	1,115,950
1996	125,850	308,493	500,000*	934,343*

*Forecast

This analysis shows that we are making supplementation payments of approximately \$350,000 per year. This compares with members' levies of approximately \$150,000 per year. We need to earn sufficient investment income and surplus from education to balance the books. It is not unreasonable to expect interest earnings of approximately \$50,000 and an education surplus including exemption fees for the Actuarial Control Cycle of \$100,000 to \$150,000 each year. The collaborative partnership with the universities is delivering real

benefits and at current levels is affordable. However, as mentioned above it is complex. I would like to see a simpler approach for the future and will be pursuing this issue during my term in office.

10. SHAPING THE NEXT CENTURY

10.1 Retirement Incomes

It is clear to all of us that our current retirement incomes system is far too complex and has a significant bias against savings.

We should be pleased with the role that the Institute has played over the past couple of years in promoting discussion within our community about the future of our retirement incomes system. While our recommended approach has generated some criticism and is viewed by some as controversial I believe it has helped progress the debate in this country. We should continue our crusade so that the fundamental problems can be addressed.

10.2 Healthcare

Another very important issue for our Australian society is the health system. The current Government Inquiry is further evidence that there are some major structural problems in this area. Once again, actuaries can make a meaningful contribution in advising on the design of a more robust, sustainable system. The size of the health industry and insurances related to that industry are such that this could be a very important employer of actuaries in decades to come.

The Institute has made a submission to the Private Health Insurance Industry Inquiry [Institute of Actuaries of Australia (1996b)]. A copy of the Executive Summary of our submission is included in Appendix 3.

10.3 Life Insurance Accounting Standards

We have made sensational progress during the past decade with the development of Aussie GAAP, our Margin on Services method, and our new system of realistic reporting and the monitoring of solvency and capital adequacy. We have in Australia now what many experts regard as world's best practice in this field.

We must however be eternally vigilant. The draft accounting standard produced by the Australian Accounting Standards Board (Exposure Draft 73), contains some controversial recommendations. We should "maintain the rage" with the objective of ensuring that there is only one standard, one set of accounts. The Australian public will not and should not tolerate a requirement to produce two sets of accounts.

We need to work hard to remove the differences that have developed in the application of Margin on Services across the Tasman. During a period of Closer Economic Relations it makes no sense to the outside world for there to be differences in life office reporting between Australia and New Zealand.

11. A WONDERFUL PROFESSION NOW AND FOREVER?

Ours is truly a wonderful profession. At the present time in Australia we have 44 committees which together involve over 150 of our members. In addition there are scores of other members who support the education process outside the committee structure. In total over one third of our members are participating directly in our affairs. Virtually all of the work performed is on a voluntary basis. We should all be very grateful for the contributions made by our colleagues.

I consider myself to be very lucky to have joined the actuarial profession. As I have moved through my business career and now as I talk to university and high school students it is clearer than ever before to me how valuable the membership of our still small profession can be to keen, intelligent, enquiring young people. I am very grateful for the support I have received over the years from my actuarial colleagues both here and overseas and also for the strong and deep friendships that I have developed within the profession.

I would like to thank everyone who has provided input for this address.

I would also like to thank you for allowing me the honour and privilege of taking the Presidential reins during our 100th year. It is something about which I am very proud and excited. I will certainly do my best to promote and enhance the reputation and influence of our wonderful profession during 1997 so that together we can shape the next century.

A key part of that is promoting the realisation that actuaries have skills applicable to many areas of business and government. I am confident that in the next century actuaries will be key contributors to industries where they are not even thought of at present.



12. SUMMARY AND CONCLUSIONS

The actuarial profession in Australia has enjoyed a rich history. It has successfully adapted to change during the last century. It has expanded its range of activities and broadened its influence.

The discovery of the Actuarial Control Cycle and its rapid incorporation into our education system provides us with the opportunity to redefine actuarial science.

From this new, more generalised base we can

- more actively market the profession,
- contribute towards the development of the first truly global profession, and
- expand our membership and influence further by casting our net much wider.

The actuarial profession in Australia is in good shape and is making a significant contribution to the well-being of our society. By taking action now actuaries of today can help shape the next century.

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**APPENDIX 1
THE INSTITUTE OF ACTUARIES OF AUSTRALIA
MISSION STATEMENT**

The Institute represents the actuarial profession in Australia. It is committed to promoting the profession and creating, expanding and maintaining an environment where the skills of actuaries are widely used and valued.

The profession has expertise in life, general and health insurance, superannuation, investment and finance.

In these, and increasingly in other fields, actuaries produce practical solutions to problems involving the impact of uncertain events, often in the distant future, on assets, liabilities or revenue flows.

Actuaries' uniqueness lies in their use of judgement and a combination of mathematical, statistical, demographic, economic, financial, analytical and modelling skills.

The Institute:

- provides education, encourages continuing professional development, promotes research and fosters the advancement of actuarial science;
- sets and enforces professional standards and a code of conduct which embody integrity, expertise and relevance;

PRESIDENTIAL ADDRESS 1997

- provides professional accreditation for the protection of the public;
and
- provides advice on the development and implementation of public policy.

**APPENDIX 2
MEMBERSHIP AND FINANCIAL RESOURCES**

The tables below show the data for the Institute of Actuaries of Australia presented in the graphs in Section 5.

Fellows and Accredited Members

Year	Fellows	Accredited Members	Total
1991	647	40	687
1992	693	35	728
1993	759	30	789
1994	810	38	848
1995	865	40	905
1996	921	37	958

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Total Financial Resources

Year	Members' Funds \$	Education Reserve \$	Prize Funds \$	Mortality Investigation \$	Total Funds \$
1991	495,685	0	17,655	0	513,340
1992	614,755	377,000	18,478	0	1,010,233
1993	751,920	450,000	21,219	44,261	1,267,400
1994	1,002,214	286,000	21,917	33,195	1,343,326
1995	1,181,208	229,850	35,738	55,623	1,502,419
1996	1,553,514	125,850	40,432	26,620	1,746,425

APPENDIX 3

EXTRACT FROM SUBMISSION BY THE INSTITUTE
OF ACTUARIES OF AUSTRALIA
OCTOBER 1996

**PRODUCTIVITY COMMISSION
PRIVATE HEALTH INSURANCE INDUSTRY INQUIRY**

Executive Summary

We are pleased to present this submission by the Institute of Actuaries of Australia to the Commission on its inquiry into the Private Health Insurance Industry.

Our comments are restricted to those areas where we believe the collective experience and expertise of our Institute can assist the Commission's deliberations and add to the public debate. Our Institute is apolitical, and there is unlikely to be a consensus view of members on the ideal health system; no doubt individual actuaries will make personal submissions expressing their views.

However we believe there are a number of fundamental features in the nature of the current private health insurance structure which will cause premiums to continue to increase, and membership levels to continue declining.

The reasons why the current system cannot address these fundamentals, and the development of an alternative system to do so, form the basis of our submission.

Our submission is general in nature. If the Commission is interested in further information on any of the general concepts in our submission, we would be pleased to provide further information.

Scope for Insurance

We **have not** considered Medical services or Pharmaceutical services, which are currently supplied under the universal Medicare or Pharmaceutical schemes.

We **have** considered Hospital (including in-hospital medical expenses above amounts refunded by Medicare), Ancillary and Long Term Care services, all of which are wholly or partly outside the Medicare scheme.

We **have** also assumed a continuation of voluntary health insurance.

Medicare does leave a significant field for health insurance. However, with catastrophe cover provided by Medicare, the remaining demand for services that are well suited for insurance cover is likely to be highly related to age. An insurance structure that is not related to age such as the current interpretation of community rating in health insurance, will involve significant cross subsidy from young to old and will be inherently unstable, if voluntary with automatic individual right of entry.

Community Rating

There is no clear definition of community rating in the relevant health insurance legislation, and one could imagine a quite broad interpretation in the context of true insurance. In particular, in a consumable which is as highly age-related as health services, the capacity to "community rate" by age at entry to membership would enormously improve the stability of the product from a theoretical perspective.

Federal Government 1996 Budget Initiatives

The health insurance tax incentives can be seen as a way of contributing government dollars to offset the recent premium increases, the effects of which are exacerbated by the reinsurance pool. However, all members of health insurance funds are potentially eligible for the rebate, including those members who already benefit from the operations of the reinsurance pool. Certainly, cutting the reinsurance pool contribution for the young is the key to making health insurance more attractive.

Price Increases in Health Insurance

In our opinion these price increases are a natural result of an inherently unstable funding system, which is not sustainable in the long term without continued artificial supports and subsidies by government.

This instability results from the cost increases beyond inflation which are an inherent part of health insurance under the current structure. As premiums increase, progressively more and more members with lower expected health insurance costs will give up their health insurance, with membership reducing until only the most costly members survive, supported by heavy government controls and subsidies. Those who do not benefit sufficiently from such subsidies will self-insure, or will save for their own health expenses.

Our submission illustrates the cost pressures arising from ageing of the membership of the health insurance funds, and from the operations of the reinsurance pool.

Because of the spiralling effect of this cost pressure, the recent government tax incentives were "spent" before they were even passed on to members. In our opinion a better use of the government subsidy would be a direct injection of funds into the reinsurance account, thereby alleviating, to some extent, the age-related cross-subsidies.

We note that there was until about 1990 such a government injection to the reinsurance account, which was withdrawn. A fundamental and important caveat to our recommendation in the previous paragraph would be that a commitment be given by government to sustain such a direct injection of funds.

Introduction of Wider Insurance Products

We believe there is a need for a phased-in savings program to reduce the cross-generation subsidy and to meet the future requirements of the current younger-age workforce. Introduction of such a program would assist in producing greater inter-generational equity.

Broaden Community Rating

The most obvious way to introduce innovation into Australia's health insurance industry would be to (i) provide a definition of community rating, and (ii) give that definition a scope which is much wider than that in general use at present – in particular the concept of entry-age community rating would provide a genuine facility for younger members of the community to save, at an affordable cost, for various components of their lifetime health needs.

The pricing for such insurance would involve the estimation, for each age at entry, of the cost of the average insured health services purchased in each future year of age. An annual premium would then be calculated which would be adequate with subsequent systematic

increases, and when invested and accumulated with interest, to cover these costs as they arise – the consumption would be low at young ages compared to the premium, and the fund would accumulate large reserves, which would need to be prudentially managed.

Details of this and other alternatives to broaden community rating are set out in our submission.

Such products could be developed as:

- individual or group “risk” insurance products, where the funds of a class of insurance would be pooled, and the insurance would be estimated to cover the aggregate cost of the pool, without any residual fund to individual policyholders;
- individual or group “accumulation” savings products, where the funds of each individual would be segregated, and the individual policyholder would retain an asset (or be responsible for a higher contribution) depending on the individual policyholder’s lifetime health consumption;
- employer-sponsored plans, effectively purchasing one or other of the previous two products on behalf of employees; or
- other group-sponsored plans.

Regulation

Our submission outlines the substantial regulatory changes which would be required if alternative products were permitted.

In our opinion, the regulation of a health insurance industry which provided the types of products described in Section 5 would need to be different to the current regulation which has a different focus. Also, there may be advantages if the regulation of the industry was at arms length from the setting of health policy, and the delivery of health services (to ensure independent regulation from a financial viewpoint).

The regulator would need significant levels of expertise in the prudential management of both policyholders and shareholders.

Closing Remarks

The preceding discussion implies a gradual but fundamental change to the funding of Australia's health system. Changes of this kind may be difficult and time-consuming to implement.

Our Institute acknowledges these problems. We see our role as providing an independent perspective on the structural necessities and we would be very pleased to discuss these issues, or any others raised above, with the Commission.

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