

PRESIDENTIAL ADDRESS

WHAT IS AN ACTUARY?

2008

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Institute of Actuaries of Australia

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This paper has been prepared for issue to, and discussion by, members of the Institute of Actuaries of Australia. The Council wishes it to be understood that opinions put forward herein are not necessarily those of the Institute and the Council is not responsible for those opinions

2008 Presidential Address

What is an actuary?



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President of the Institute of Actuaries of Australia 2008

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The Two Page Overview

The presidential address is presented in the nature of a chairman's address. It covers a high-level overview of 2007 achievements, a high-level overview of the key strategic and business foci for 2008, and some thoughts on some issues relevant to our outlook. The issues discussed can be collected under the question of "What is an actuary?"

The Year in Review

We have had a great year of contribution and achievement. Section 2 of this address identifies some 58 areas of activity, achievement and delivery over 2007. And this is not all that has been done by or on behalf of the Institute.

On behalf of the Institute and all its members, my sincere thanks are offered to our "army" of member volunteers, our members on Council, our secretariat staff and CEO, our retiring President (Fred Rowley), our Vice President (Trevor Thompson), and the employers of our volunteer members that make all our volunteers available!

The Plan from Here

There is a significant program of activity and strategic initiative implementation planned for 2008 following adoption of the 2008-10 Strategic Plan in August 2007.

Key initiatives are around outsourcing and "insourcing" Part III, achieving serious progress on a number of Enterprise Risk Management (ERM) implementation elements (including progress on the recently signed international Global ERM Designation Statement of Intent), addressing the initial recommendations of the Designations Taskforce and considering the next steps on the designation "actuary", stabilising and enhancing the Institute IT systems, investigating how to change the Institute from a "licensor" to "member services" focus, and undertaking a holistic R&D review.

Discussion Points & Propositions

Definition of an Actuary & Our Value Proposition

The following definition of an actuary and value proposition are proposed:

Actuaries contribute to society by advising on the sound and sustainable financial management of important institutions that protect and support society and its individual members.

We are the profession with the pre-eminent combination of skills, understanding and science in the mathematics of finance; the statistical behaviours of, and outcomes for, people, property and markets; probability, ruin and credibility theory; economics; applied modelling; and the assessment and communication of financial condition.

We provide frank and unbiased advice to governments on sustainable financing, risk management and equity issues in public policy in retirement incomes, health, disability and invalidity care, private savings, the oversight of the financial sector and other complex areas.

We provide professional advice to institutions on the financial condition and risk and capital management of the institution and its products; the sustainable management and honouring of the commitments it has made to its customers; and the fair and equitable treatment of its customers.

We provide professional advice to individuals on securing their financial future and hopes; and honouring the promises they have made to their families and themselves.

Designation of Actuary

The Designations Taskforce released a paper on the designation “actuary” during the year and is aiming to present a report to Council in December 2007. My view is that we should for practical local and global reasons adopt the International Actuarial Association minimum education level (with some additions – see below), with a work experience requirement (say 3 years), for our basic qualification level. Such a qualified member should be designated an “actuary” and be able to provide “actuarial advice”. However, the introduction of Practising Certificates (only awarded to Fellows), and/or restrictions on reserved roles to Fellows and/or restrictions on the provision of certain prescribed Professional Standard based work to Fellows, would be needed.

Education

The pre-Fellowship education program should be reviewed as per the Strategic Plan. We should align Part I and II to any change in designation. We should add project management, professionalism and more communication skills into Part I and II.

Board of Examiners

We need a new Board of Examiners to oversee and manage the quality and consistency of exams in Part II and Part III. This Board need not run and mark the exams.

Professional Standard

A post-implementation review of our Code of Professional Conduct and Professional Standards regime is planned. This needs to consider, *inter alia*, whether our current “one size fits all” approach and carrying the “must” word to every detailed aspect of a professional standard has gone too far for practicality - and whether justified and disclosed departure from a standard should be allowed (which it currently isn't).

I look forward to comments and guidance that the members of our Institute would care to offer on the contents of this address, our Institute's current strategic plans and priorities, or any other relevant issue!

1 Introduction

1.1 Opening Remarks

It is with great pleasure and excitement that I take up the role of President of our Institute. It is a great honour to represent such a highly respected, talented and professional group as the Members of our Institute and I look forward with the support of Council, Executive, the Secretariat and our Members in tackling the challenges of the many strategic plans and actions in the year ahead.

Fred Rowley referred in his Presidential Address to the importance of a strong degree of continuity in strategic focus and priorities from one presidential year to the next. With each president occupying the role for only one year, if each president simply pursued their own private agenda, we would spend more time changing direction than making overall progress.

This is a view that I share, and I know it was a view shared by Martin Stevenson (our President before Fred) and I believe it to be a view also shared by Trevor Thompson (our incoming Senior Vice President and next President).

Within the Institute, this philosophy is structurally supported in three ways:

- The Executive Council Committee: The President, Senior Vice Present (“President Elect”), Vice President (“President Elect Elect”) and Institute CEO form the day-to-day Executive of the Institute. In addition to its administrative functions, meetings of the Executive provide an invaluable opportunity for current and prospective presidents to debate and form a consensus view on both short and longer term projects and strategies.
- The formal adoption by Council of a Strategic Plan that informs all of the consensus view on strategic priorities and focus areas.
- The appointment of a professional CEO (John Maroney) to manage the Institute, with a remit beyond the management of the Secretariat.

I look forward to continuing with the key strategies and focus areas previously led by Fred and Martin, and working with Trevor, John, the incoming Vice President, Council, our members and staff to achieve another year of meaningful progress.

1.2 Overview of Address

Continuing with the “continuity theme”, this presidential address follows a similar pattern to that adopted by Fred last year. It is presented broadly in the nature of a chairman’s address. Reflecting this theme, the address provides:

- A high-level overview of the achievements of 2007.
- A high-level overview of the key strategic and business foci for 2008.
- Some thoughts on some particular issues relative to our strategic outlook. A number of the issues considered centre on the question: What is an actuary?

1.3 So what is the “What is an Actuary?” Issue?

The membership has recently discussed, and the Council has adopted, an updated Strategic Plan for 2008-10. Nonetheless, there are issues within that Strategic Plan that have been identified either explicitly or implicitly that need to be addressed and resolved within the various strategic initiatives. One recurrent issue of recent years running across a number of our current strategic initiatives, and that is somewhat of an “elephant in the room”, is “*what is an actuary?*”

This question remains a pervasive and indeed fundamental question for a number of the (interlinked) strategic initiatives before us:

- **Actuary Designation:** There is currently a question before members of the Institute as to whether we should change the qualification level at which the title “actuary” may be used and/or at which “actuarial advice” may be given.
- **Education Outcomes:** Under the current Strategic plan there is a significant action item to review our pre-Fellowship education framework in terms of aligning needs and outcomes. A part of this will be a clear articulation of the competencies we require of a “new actuary”. This clearly needs to have regard to **what we want to designate as an actuary** and indeed **what we want an actuary to be and represent**.
- **Our Vision:** Our Institute Vision is that “*Wherever there is uncertainty as to future financial outcomes, actuaries will be sought for their valued advice and authoritative comment*”. Related to this, our current Strategic Plan identifies within its first strategic imperative a need for the Institute to position itself to “*...be in a position to attract and retain professionals we think of as actuaries and who do good work in spaces we want to see identified as ‘actuarial’ (and not a competing profession’s space)...*”. Both of these raise immediate questions directly related to the other items above:
 - What is the work we think of “actuarial” in this context?
 - What baseline skills and ability should an “actuary” have such that these ambitions will be optimally achieved?
- **Member Services:** Allied to the above and another aspect of our current Strategic Plan is the intended shift to a greater “member services” focus for the Institute. A key objective behind this shift in focus is to drive Institute behaviour to ensure all Institute members are appropriately supported and provided with Continuing Professional Development (CPD) and other relevant services by the Institute – so that we don’t, *inter alia*, unnecessarily lose or disenfranchise membership subgroups (e.g. investment based actuaries). However, the change in focus does not itself address the scope of whom we should be servicing – what is the boundary that marks where we should actively seek to provide services up to, but beyond which no longer represents our target membership (i.e. “beyond this border non-actuaries be!”).

- **Marketing & Value Proposition:** We have aims to promote the profession and the Institute to new entrants (high school students and others), employers, governments, regulators and the public. Being able to articulate our value proposition in terms of what we do, the value we provide to society and how we are different from other (potentially competing) professionals and non-professionals will be a key input to this promotion.
- **Global Qualification:** At the present time the International Actuarial Association (“IAA”) has established a “core actuarial education syllabus”. This represents the minimum education level required for the “fully qualified” members of societies and associations that wish to become Full Member Associations of the IAA. At present this corresponds to an education level that falls in between our Institute’s Part II and Part III plus professionalism. However, there are preliminary moves afoot to consider and potentially develop and recognise an international actuarial qualification:
 - What education and experience should such a designation require?
 - What position should our Institute take in the debate?
 - This clearly has ramifications for our own designation discussions as referred to above.
- **ERM Designation:** As if the above was not sufficient, we are in the midst of developing an Enterprise Risk Management (ERM) course, addressing how ERM should fit in with our existing “Part III” courses, what designation will be awarded, whether this will suffice to earn the title “actuary”, and how this may or may not relate to the objectives reflected in our Institute recently signing a Statement of Intent with seven other actuarial associations (from UK, South Africa, Canada, Mexico and USA) to develop, and educate to, a global ERM qualification. This at the very least adds another dimension to all of the above.

This is a multi-dimensional subject, various dimensions of which have been discussed by previous presidents and many others in the past. I don’t have all the answers in this address, and indeed not every aspect of the above is addressed. But hopefully I can help move the debate forward somewhat.

2 The Year in Review

In the Institute's Annual Review 2007, the President's Report, the CEO's Report and other reports include an extensive survey of our achievements for the year. It is not my purpose to repeat those reviews and commentaries here. Rather I provide a high level summary to indicate two important aspects:

- The nature and sheer scope of our recent achievements; and
- The enormous effort applied by our Council, our Committees, our Taskforces, our members and our staff over the year.

2.1 Overview of Achievements

The following is a brief, bullet point summary of actions started, continued and/or completed over the year. Refer to the Annual Review for further details.

2.1.1 *Some High Level Strategic Initiatives*

- Review, consultation and approval of a new Strategic Plan for 2008-10.
- Global ERM Designation Statement of Intent developed and signed.
- Development and delivery of a 5 day ERM CPD course.
- Achieved membership of the East Asian Actuarial Congress (EAAC).
- Events and actions focused on recognising and encouraging our volunteers.
- Designations Taskforce discussion paper published and discussed.
- Ongoing work of the Leadership & Communications Taskforce.

2.1.2 *Governance & Professional Standards*

- Council induction and procedures revised to be more effective and focused.
- Review of our Constitution. Members to review and vote in early 2008.
- Establishment of the Nominations Committee: aims to ensure we have a Council election each year and support diversity of Council membership.
- The remit of the Audit Committee expanded to an Audit & Risk Committee.
- Revised PS 300 finalised and issued. Revised PS 200 expected very soon.
- Preliminary review of PS1 compliance.

2.1.3 *Education & CPD*

- Accreditation of Curtin University (Part I). There are now 5 accredited uni's.
- On-line Private Health Insurance Course launched.
- Continued Part III improvements and Baker Review implementations.
- "Relaunch of Part III Board of Examiners" to address some volunteer issues.
- Development of future delivery plans for Part III (outsourcing).
- Staged e-learning implementation. Trial computer-based exams.

- Various ERM considerations: New Part III or diploma; ERM in Parts I, II, III.
- The Actuarial Research Centre of Australia (ARCA) took a step forward reaching contract negotiation stage on a workers compensation project.
- Commenced the review of our “actuarial control cycle” text book.
- Developing a new Global Retirement Income Systems (GRIS) course to replace the existing Part III Superannuation course (to start 2008).

2.1.4 Public & Stakeholder Liaison and PR

- Ongoing liaison with APRA, PHIAC and various other government agencies.
- ASIC liaison: Debentures discussion & submission. Met Deputy Chairman.
- Many submissions: Product Rationalisation, Debentures, IASB Insurance Phase II, Superannuation Simplification, various regulatory changes (super, life, GI, health) etc, etc, etc.
- Media coverage: Climate change/economics, Debentures, various others.
- Business luncheon with John Trowbridge (APRA).

2.1.5 Secretariat Delivery

- Website updated. Adding presentations and audio from events (e.g. the Convention).
- Commencement of a three-year project to overhaul our IT platform.
- Quantum step up in annual Budget processes and reporting quality.
- Development of comprehensive Operational Plan aligned to Strategic Plan.
- Significant investment in staff training and culture development.

2.1.6 Membership Sub Groups

- Ongoing Young Actuaries Program events.
- Contacts with university students stepped up.
- Commenced a Senior Actuaries Forum (approximately quarterly).
- Commenced quarterly joint Practice Committee / Executive meetings.

2.1.7 Practice Committees

- All: Input to / control of various submissions etc. discussed elsewhere.
- All: Constituent liaison, regulator liaison, input to Institute events.
- GIPC: Pricing seminar in November 2007.
- Various work programs: Life resilience reserves, GI pricing index, Life risk business capital, experience studies, education course reviews.
- All: Input to Professional Standards, member guidance papers, etc.
- IASC: Support to various IAA representatives (Insurance Accounting Committee, Risk Margins Sub-committee, Solvency Committee, etc).
- SEBPC: Supported “New Super Landscapes” seminar.

2.1.8 International

- Re-established our International Council Committee (“ICC”).
- ICC to co-ordinate and focus our IAA and regional involvement.
- Presidential visits and liaison with regional members and associations.
- Attendance/representation at two IAA meetings, SoA conference, EAAC etc.

2.1.9 Other “Business As Usual”

- Biennial Convention: Highly successful. Record attendance: >400 delegates.
- Accident Compensation Seminar: Another great success.
- Various Horizons and Insights meetings, in an increased range of locations.
- Delivery of 2 semesters of Part III, involving over 300 member volunteers!
- Delivery of 2 x CAP and 2 x Professionalism courses.
- Commenced planning and development of next year’s Financial Services Forum and General Insurance Seminar.
- Ongoing university accreditation reviews.
- Running tutorials in Sydney, Melbourne, Singapore and exams further afield.
- Publishing Actuary Australia, AAJ, etc. Ran a number of Pulse Surveys.
- Managing various disciplinary matters.

And many, many more activities and achievements.

2.2 Thank you to all

It is salutary to reflect that few of the individual bullet points above represent less than 100 man-hours of effort and a number of items would measure well beyond 1,000 man-hours. On behalf of the Institute and all its members, I would like to express my sincere thanks to:

- Our retiring President (Fred Rowley) for his efforts and leadership over the last year on so much of the above.
- Our Vice-President (Trevor Thompson) and our Members on Council.
- Our 300+ volunteers involved in supporting our education processes.
- Our 400+ volunteers (some overlap) supporting our committees and taskforces.
- Our secretariat staff and our CEO (John Maroney).
- Our members’ employers that make all our volunteers available!

3 The Plan from Here

3.1 Overview

The current 2008-10 Strategic Plan's development commenced with the analysis, published discussion paper and member consultation undertaken by the Vision 2020 Taskforce in 2006, moved onto the analysis, published discussion paper and member consultation of the Strategic Planning Taskforce earlier this year, and concluded with the Strategic Plan 2008-10 being discussed and adopted by Council in August 2007.

Since August 2007, the CEO and Secretariat staff have:

- Produced a Budget consistent with the Strategic Plan initiatives for the Institute's 2007/8 year, and provided forward financial position estimates for the subsequent two years. The budget was approved by Council in November 2007.
- Developed a detailed Operational Plan that sets out the underlying actions, with timetables and resource estimates, to implement the Strategic Plan initiatives, along with the many "business as usual" activities of the Institute.

The adopted Strategic Plan, the summary "Plan on a Page" and the background Vision 2020 Discussion Paper are all available on the Institute's website for those who have not otherwise had a chance to review them. Indeed, some further commentary on the Strategic Plan is in the current Actuary Australia as well as in the current Annual Review.

Alternatively, Appendix A to this address includes, for readers quick reference, a reproduction of the current adopted "Plan on a Page" summary of our goals, initiatives and key actions.

I do not intend to summarise or cover all of the Strategic Plan in this address. Rather a few particular items and highlights are considered, as well as an overview of the key intended actions and deliverables for 2008.

3.2 Vision & Mission

The current Strategic Plan has been based on maintaining the existing Institute Vision and Mission.

Nonetheless, in developing the current Strategic Plan it became apparent that the Mission could be further enhanced a little and that some underlying, articulated and measurable goals were needed in addition to the Vision. Also, some re-expression of the Mission to include a "guiding purpose" would be helpful.

Based on these observations and the conclusions reached by the Strategic Planning Taskforce and expressed within the Strategic Plan adopted, Council adopted the following updated Mission and Vision in November 2007.

3.2.1 Institute Mission

To support the professional and career aspirations of its members:

- To provide or arrange effective pre-qualification education and valued and inclusive continuing professional development programs and forums.
- To promote research and the development of actuarial science and support the expansion of the profession into new areas of endeavour.
- To provide practice guidance to help actuaries provide professional services of high quality and to maintain and enforce sound professional standards to protect the public and the reputation of the profession.
- To represent the profession in Australia, and develop and promote the actuarial profession's value, including contributing to and informing debate on public policy and business issues.
- To meet member service needs and expectations, including efficient Secretariat operation and financing, and provide valued member communications.

3.2.2 Institute Vision (Unchanged)

Whenever there is uncertainty as to future financial outcomes, actuaries are sought for their valued advice and authoritative comment.

3.2.3 Institute Goals (What we aim for)

- The actuarial profession is growing and diversifying with increasing influence.
- Actuaries have a high reputation for ethics and sound advice.
- The profession and the Institute are broadly recognised and actuaries have a reputation for highly skilled advice.
- The Institute is valued and highly regarded by its members, with high member capture and retention rates.
- The actuarial profession is enjoying global and regional success.

It is noted that some members have questioned whether some of these goals read too much as relating to "appearances" rather than "actuality". This is not the intention but the wording is intentional. The objective is to have goals against which progress can be measured: e.g. we can survey stakeholders to gauge our reputation for ethics; direct measurement of actual "ethicalness" is very difficult.

3.3 Key Strategic Imperatives & Observations

In developing the 2008-10 Strategic Plan, the Strategic Planning Taskforce observed that while we had a Vision and Mission, there was not a concrete articulation within these of what the Vision meant: "what it would look like in 5 years" if we were heading in the direction of the Vision, nor was there a clear set of goals to measure progress along the way. These observations lead to 5 goals being suggested as set out above in paragraph 3.2.3.

From this point, an assessment (gap analysis) was made relative to the Vision and the 5 goals of what was working and what was not, where we are now and where we want to be going, and what were the risks to achieving the Vision (or even maintaining our status) looking forward. Based on this assessment the Taskforce came to 4 key strategic conclusions:

- The **Institute** itself needs to be more clearly focused on being a service provider. Its culture, *modus operandi* and drivers of behaviour need to be more clearly focused on the member value proposition, not just on providing a licence¹:
 - Imperative: Responsive to change and resilience to licence loss risk.
 - Opportunity: Maximise actuarial community attraction and retention.
- Enterprise Risk Management as a speciality is a clear growth opportunity relative to the Vision and its place in our existing skill set is a risk to our existing brand if we take too little action:
 - Imperative: Protecting our existing “brand” requires recognition in ERM.
 - Opportunity: Broader success in ERM is a clear growth opportunity.
- We need to rethink our overall pre-qualification education (Parts I, II, III). Current Part III delivery issues (volunteer strains and pass rates), increasing university interest, the desire to improve communication and other skills of new actuaries, positioning ERM within our base skills, the positioning and skill needs for a possible new intermediate “actuary” designation (include quality assurance around this) and global designation discussions and requirements, all point to a rethink:
 - Imperative: Part III delivery sustainability. Overall quality maintenance.
 - Opportunity: Better outcomes (skills, pass rates etc). Designations.
- The existing important focus areas of “relevance” (R&D), “quality assurance” (professional standards and professionalism) and “regional engagement” (involvement, support and co-operation), remain strategic priorities:
 - Imperative: R&D to maintain our position. Reputation is crucial.
 - Opportunity: R&D to expand domains. Regional success opportunities.

Beyond the observations and strategic conclusions reached by the Taskforce (including the points above), the Taskforce noted that the use of, and focus on, past Institute Strategic Plans had not been as consistent and “top of mind” as they might have been (and/or perhaps deserved to be). With this in mind, the Taskforce developed a “Plan on a Page” which is a two sided page (A4), with

¹ It is important to note that the Institute’s role in policing actuarial licences is not being reduced nor marginalised. Rather, the delivery of the Institute’s member services, events, activities and member support should be such that the vast majority of members would be members irrespective of the licence. This is particularly important in retaining those members who don’t “need” a licence.

the strategic imperatives (the four points above) articulated on one side, and on the other the Vision, the 5 goals, what it looks like summary, the risks and the top 10 key strategic initiatives and actions from the Strategic Plan. It is hoped that this will provide a simple reference point to help the Executive, CEO, Council, Committees and staff keep the overall Plan in focus.

The Taskforce also recommended (and Council accepted) a Council process of a six-monthly Plan progress review and an annual key strategic focus review, to ensure the Plan remains relevant. Indeed, it should be more of a rolling and dynamic strategy in future.

3.4 Key Foci for 2008

Some of the main strategic focus areas for 2008 will be as follows.

3.4.1 Designations

The Designation Taskforce has finalised its member liaison and made preliminary recommendations to Council. Council must consider the next steps.

3.4.2 Part III Outsourcing & Education

We have agreed to outsource the Investment Course and our two Finance Courses (5A and 5B) to Macquarie University from 2009. This includes distance education facilities (e.g. web based tutorials). Implementation to be finalised.

Significant work has been completed on “insourcing” the remaining Part III courses to an education unit, employing actuaries, within the Institute. The plans need to be finalised, include addressing residual risk management aspects. Implementation will commence with a pilot program for Semester II in 2008.

The revised role and functionality of the Board of Examiners will need to be determined and agreed in 2008.

Possibly by the end of the year, commence a review of all our education syllabi.

Engage with other educating societies. Look for collaboration opportunities, especially in our region. Involvement with / support of IAA education programs.

3.4.3 ERM Developments

The new 5 day CPD course that was run once in 2007 is targeted to be run multiple times in 2008. This needs to be successfully managed.

Substantial progress on positioning ERM in our syllabi (Parts I-III) needs to be achieved in 2008.

Resources will need to be applied to aggressively pursue and operationalise the global ERM Designation Statement of Intent referred to earlier. This will involve agreeing the syllabus, designation, examination standards and a mutual recognition treaty.

Develop a “regular” ERM Seminar involving the Institute (market positioning).

3.4.4 Research Taskforce

A Research taskforce has recently been appointed to commence reviewing and making recommendations to address our R&D strategy. This will include reviewing the status and position of ARCA. This is to complete its analysis and report in 2008.

3.4.5 "Member Servicing" Taskforce & CPD

A taskforce has recently been appointed to address the issue of changing the Institute from an "educator and licensor" focus to a "member services and educator" focus. This will investigate what change is needed, how to implement it, change management and transition risks. The taskforce is to complete its work in 2008. Implementation will follow. Supporting lifelong CPD will be part of this.

Broadening the appeal of Institute events (e.g. Financial Services Forum with more investment/finance content). Development of new seminars and events.

Improved support and meeting the needs of our members outside the main Australian centres, particularly our members throughout the Asia region.

3.4.6 Professionalism, Standards and Guidance

Conduct a fuller post-implementation review of the Code of Professional Conduct and a post-implementation review of our approach to Professional Standards.

Achieve traction with providing and cataloguing practice guidelines.

Make substantial progress on PS400 and the plethora of superannuation Guidance Notes.

3.4.7 Marketing & Representation

Commence a program of employer visits. Collect feedback on employers' views, market the profession and encourage their support for volunteers.

Investigate and implement promotion to school students and careers advisors.

Extend regional liaison and engagement. Support development of regional associations. Look to establish a regional co-operative for IAA involvement.

Support key IAA initiatives (e.g. international accounting standards and IAIS initiatives). China liaison and support regional societies for full IAA membership.

3.4.8 Secretariat

Continue with the IT infrastructure investment. Finalise the hardware platform and basic software stabilisation exercise in 2008. Commence software replacements and enhancement for target completion in 2009.

Investigate educational and other service delivery synergies and sharing opportunities in the region and internationally.

3.4.9 Climate Change

Continue to explore/develop our role with members, governments, industry etc.

4 History & Our Value

4.1 Our Background

What we as actuaries can do today, and the value we can and do provide to society today, reflect our skills and experience and what we are today. Our current skills and experience reflect our history.

It is not the purpose of this section to provide an extensive review of the history of actuaries in Australia or globally. Publications such as Clare Bellis's book *The Future Managers* provide a treatment of such matters far beyond what could or should be achieved here². Rather my intention is simply to highlight a few particular points.

The origins of the profession, and indeed the term "actuary", date back over 200 years to the commencement of life insurance in England – to the establishment of The Equitable. The profession's involvement in life insurance has evolved from the early days of pricing and designing rudimentary products and assessing liabilities to our current day involvement. This includes reserved roles, advising on the plethora of modern product designs and pricings, liability valuation, risk and capital management, enterprise valuation and analysis, policyholder equity, input to financial statements and overall financial condition assessment, reporting and communication.

One of the early branches of the profession from its origins was into advising on the funding of defined benefit pension and superannuation structures and promises. Over time our involvement here similarly expanded into advising on a wide range of matters including funding, liability valuation, risk and reserve management, member equity, investment strategy, financial statement input and overall financial condition assessment, reporting and communication.

More recently we have branched into general and health (medical) insurance where we are increasingly providing a range of advice, including reserved roles approaching the above. In Australia, in these fields we are currently at most only one or two steps "behind" life insurance in terms of the range of advice ordinarily sought and/or required from actuaries.

In recent years in Australia, life insurance investment products have tended to be replaced with unit trust (investment linked) based products where the investment risks are carried by the investor. Similarly, benefit promise superannuation funds are reducing with defined contribution funds dominating the market. Actuaries have followed this move and now advise on these arrangements with a focus on issues such as unit pricing (sustainability and equity), crediting rates, valuation and management of guarantees, and risk

² For any Australian actuaries or students who haven't read *The Future Managers* [by Clare Bellis, published by The Institute of Actuaries of Australia] I can strongly recommend it - both for the entertainment of reading about our history in Australia, but also to reflect on some of the current issues that we are dealing with that have long and loud echoes back in time. We tend to re-travel similar ground – the errors made and long drawn out conclusions reached in the past offer some valuable insights on some of our present concerns and issues.

and capital management of the entities charged with the administration of these structures and products.

Since the early days, individual actuaries have successfully applied their skills and moved into areas such as investment, asset management, finance and banking. Individual actuaries have also attained senior management roles in insurers and other organisations, mostly recently in Australia within major banks and globally in roles such as Chief Risk Officer.

In the last decade Australian actuaries have moved further afield into areas such as derivative trading, the environment and financial planning. Many new actuarial graduates from university are being attracted directly into a range of investment, trading and financial management roles in the broader financial sector.

As of today, the profession has a broad global ambition and strategic focus on having a serious place in enterprise risk management.

4.2 So, What Are We? What's the Common Theme?

In the past others have concluded that actuaries are “problem solvers”, or “we make sense of the future” or “we advise on uncertain outcomes” etc. All that is true, but it doesn't seem to be specific to us; quantum physicists could make similar claims, as could astrologers.

Wikipedia.org (20 November 2007) states “An actuary is a business professional who deals with the financial impact of risk and uncertainty. Actuaries have a deep understanding of financial security systems, their reasons for being, their complexity, their mathematics, and the way they work. They evaluate the likelihood of events and quantify the contingent outcomes in order to minimize losses, both emotional and financial, associated with uncertain undesirable events.”

It is perhaps interesting to observe that life insurance was one of the (if not the) first financial products developed in human history to provide **financial support and protection to individuals** that involved long term financial arrangements, uncertainty, guarantees and considerations of equity.

To me, the common themes of our profession in all that we do as actuaries are:

- The financial support and protection of individuals:
 - Financial support at time of significant loss (life, income, property)
 - Financial support at time of significant need (medical costs, other costs)
 - Accumulation and protection of wealth over life stages (e.g. retirement)

- The sound and sustainable financial management of the institutions that provide the above:
 - Private sector: insurers, investment managers/structures, retirement funds, banks and other deposit takers.
 - Public sector: social security and retirement systems, health and medical systems.
 - Equitable treatment: pricing, allocations and distributions.
 - Risk and capital management.
 - Valuation and financial condition assessment and communication.

In short, I suggest:

Actuaries advise on the sound and sustainable financial management of important institutions and their products that protect and support individuals and society.

4.3 Our Value Proposition

From the above, the following “strawman” value proposition is suggested:

Actuaries contribute to society by advising on the sound and sustainable financial management of important institutions that protect and support society and its individual members.

We are the profession with the pre-eminent combination of skills, understanding and science in the mathematics of finance; the statistical behaviours of, and outcomes for, people, property and markets; probability, ruin and credibility theory; economics; applied modelling; and the assessment and communication of financial condition.

We provide frank and unbiased advice to governments on sustainable financing, risk management and equity issues in public policy in retirement incomes, health, disability and invalidity care, private savings, the oversight of the financial sector and other complex areas.

We provide professional advice to institutions on the financial condition and risk and capital management of the institution and its products; the sustainable management and honouring of the commitments it has made to its customers; and the fair and equitable treatment of its customers.

We provide professional advice to individuals on securing their financial future and hopes; and honouring the promises they have made to their families and themselves.

This seems to sit well with our Institute Vision (per 3.2.2) and conceptually has application across our broad areas of current work.

I would very much like to hear the views of members on this strawman value proposition.

5 Actuary Designation

5.1 Overview

As noted in the introduction to this address, there is currently a question before members of the Institute as to whether we should (for our Institute) change the qualification level at which the title “actuary” may be used by our members and/or at which “actuarial advice” may be given by our members. This is discussed in a Discussion Paper released in September 2007 by the Designations Taskforce. This issue has also been raised in at least the last two Presidential Addresses. Some of the key drivers for considering this question noted in the Discussion paper include:

- International trends and standards: Appendix C sets out an overview of the minimum education standard (content) required of Full Member Associations of the IAA. This represents what “internationally” is regarded as a “fully qualified actuary”. It roughly corresponds to our Part II + Investments + Professionalism.
 - Within the IAA initial consideration is being directed to establishing a globally, mutually recognised actuarial qualification. It is difficult to see such a qualification not coming to rest at this education level.
 - The Society of Actuaries recognise members as “actuaries” (albeit not Fellows) at this level. The UK is changing to a similar model. We work alongside these actuaries in Asia and elsewhere.
- Finance & Investments: We have a large number of actuarial students that progress up to Part II of our education program and then move into finance and/or investment employment fields. In terms of progressing all the way through Part III, this is either not needed (and is too difficult/costly to do just for fun), is not directly relevant to their future employment and/or competes with other more directly relevant courses (e.g. Chartered Financial Analyst). However, without all of Part III, these individuals may not currently call themselves “actuaries”, do not have a particular status within the Institute and probably don’t have a material affinity with the Institute. Question: Would we like to see these individuals join our profession and Institute, continue to share experiences with us, and identify themselves, and be identified in the marketplace, as members of the “actuarial” profession?
- ERM: As noted earlier we have signed a Statement of Intent with a number of other key overseas actuarial associations to work to develop a global ERM qualification. Given the existing education standard for an actuary within the IAA (noted above) and the pre-existing SoA “Certified Enterprise Risk Analyst” (CERA) qualification which is a sub-Fellowship qualification, it is an open question as to what the end result for the level of this ERM qualification will be (Part II or Part III?). Question: Again, do we want these ERM qualifiers to identify themselves, and be identified in the marketplace, as members of the “actuarial” profession?

To me the conclusions are:

- In terms of the first issue only (international trends and movements):
 - Realistically, we need to address the issues and some change is inevitable.
 - We can chose to take action now, on our terms, and set a position we can argue and present internationally, or we can leave the space vacant and have to deal with the actions and conclusions of others.
- The investment, finance and ERM actuary opportunities add weight to the argument. An appropriate change would provide a considerable opportunity for our Institute to gain in terms of scale and breadth professionally, influentially and financially (i.e. to be able to do more and/or lower fees).

As I write this address, the Designations Taskforce is preparing a report to Council setting out some initial recommendations. The following provides some views on the matter without the benefit of the current report or Council's discussion of it.

5.2 What is the Standard We Want?

The key question is: If we are going to adopt the qualification "actuary" at an education level prior to, or without achieving, our current full Fellowship, what are the attributes we would like of that person when they are first awarded that qualification?

On one level, given the discussion above, the simple answer for me is that if we are going to award the title "actuary" below our Fellowship level qualification, it would make most sense to align this to an IAA Core Syllabus level qualification.

However, while this may define the minimum entry academic skill set required, other aspects need to be considered, such as work experience, business acumen, maturity, communication skills etc. Ultimately for me, an entry-level actuary should satisfy an entry requirement commensurate with "an actuary" as discussed in Section 4. In this case, I suggest:

Attribute	"Typical" Actuary	Entry-Level Actuary
Technical Skills	IAA Core Syllabus + industry experience	IAA Core Syllabus + basic experience
Project Management	Well practised	Good basic skills
Communication	Very competent	Basic but developing
Business acumen	Considerable	Noticeable
Professionalism	Sound, experienced	Awareness of issues

The description of a typical actuary may perhaps raise some CPD questions itself (including for existing Fellows!) but I will put those aside for now.

For the entry-level actuary this suggests a need for improved education in project management and communication beyond the basic technical skills. I argue for this as an important focus area in any event in Section 6.

The business acumen point would, *inter alia*, reflect a need for practical experience. See the next section.

5.3 Work Experience

Given the analysis above, I don't believe a new university leaver without any real world employment or business experience should be considered "an actuary". While it is true that we have a 1 year practical experience requirement for Fellows, in practice few achieve that qualification with less than 2 years work experience. In practice it is often longer.

Considering some other benchmarks (based on my understanding):

- Chartered accountants require 3 years experience.
- CFA's also require 3 years experience.

It appears to me a 3 year work experience requirement would be a reasonable, but not excessive, requirement. I suggest that this could be instituted as a general requirement for Fellows as well, especially if we are successful in improving our Part III pass rates! I note that a 3 year experience requirement was also proposed by Professor Baker in his review of Part III a couple of years ago.

5.4 Quality Control

If the award of "actuary" is to be a serious award, my view is that this should be subject to satisfactory performance at an examination controlled by the Institute with the "satisfactory" level determined by the Institute.

This is also discussed further in Section 6 of this address.

5.5 ERM – Actuary or Analyst

In terms of qualification, if we resolve to award the title "actuary" at around Part II + Investments + Professionalism, then given the future ERM qualification will likely involve Part II + ERM Specialist (involving a super set of the key actuarial aspects of Investment) + Professionalism, then this would also qualify for "actuary".

Nonetheless, there remains a naming issue. Will we award a "Chartered Risk Analyst" qualification or "Chartered Risk Actuary" qualification?

Ultimately, this is principally a marketing issue. What title will help the widest promotion and acceptance of the qualification?

The SoA concluded that the title "analyst" did not risk being lumbered with any baggage from the title "actuary" (i.e. not be presumed to be insurance focused, say).

This seems a practical strategy to me. We can tell the world our “ERM analysts” are also “actuaries” as and when it suits us and let these ERM members market themselves as “actuaries” or “ERM analysts” in the meantime as they see fit.

5.6 Practising Certificates and Fellowship

Some have asked the question: if the title “actuary” is in future awarded pre-Fellowship, will this not undermine the worth of the Fellowship? Factors acting against this would be:

- Employers in industries with a “traditional” Part III speciality (life, general, super, and health [when available]) should want their actuaries to achieve the full Part III knowledge/skills. If not, they would be more than happy now to discourage (not support) students proceeding past associate level.
- Actuaries in these industries will see higher remuneration for an FIAA.
- As actuaries gain substantive recognition in new domains, new Part III courses in these areas should be equally sought after and supported.
- Nonetheless, regulators should expect to see those fulfilling reserved roles achieve a full, relevant fellowship level. As a profession we should demand it. Practising Certificates (PC’s) would have a place in this context, for example:
 - Only being able to be awarded to FIAA’s (adding weight to the qualification).
 - Existing FIAA’s with an existing PC being able to get another one via CPD (e.g. doing the relevant Part III course via CPD).

This would also help manage issues with a global actuarial qualification in terms of controlling the qualifications of those who could undertake reserve roles and/or other high importance work in Australia and ensure they come under our control while practising in these areas in Australia. PC’s could be required for reserved roles and/or be prescribed by relevant Professional Standards.

That all said, I’m not sure that placing large additional requirements on PC’s in terms of significantly higher levels of CPD (relative to current Fellow requirements) or longer work experience requirements would have a material quality assurance benefit. It could, however, detract from their support of the Fellowship qualification.

5.7 CA’s and CFA’s

I set out in Appendices D and E a high-level overview of the Chartered Accountant and Chartered Financial Analyst education courses. I have included these for interested readers in considering the designation question (how does what is suggested benchmark against these sister professions), in considering some comments in the next section on education (what they do and what we can do better), and in considering to what extent we could share content in our education delivery (noting the universities already use their own basic accounting courses for the relevant parts of the actuarial course).

6 Education Syllabus & Quality Control

6.1 Need for Review

The new Strategic Plan includes an item that our pre-qualification education program should be reviewed and updated to align “needs and outcomes” with particular focus in the areas of skills, communication and ethics.

If a change in designations is pursued (along the lines mentioned in the previous section) then a review of the content of Part I and Part II would be in order to ensure we produce “an adequate baseline actuary”. Items in this review should include, at least:

- Ensuring the IAA core syllabus is adequately addressed within the education program provided (e.g. Part I, Part II, Investments, Professionalism).
- This would include capturing appropriate risk management content within this education level.
- Furthermore, we should look to see if this combination of courses could not be rationalised. In this context I note there is already some discussion within the Institute around swapping some elements of Investments, Part II and Finance between these three in future to assist with a more logical delivery.

Irrespective of the designations outcome, as pointed out in previous Presidential Addresses and elsewhere, we need to review the overall interaction of Parts I, II and III, and separate out the fundamental actuarial skills and content from the jurisdiction-specific content (i.e. regulation, taxation, etc) if our education program is to have longer term relevance in the region. This will include an ability to work with, support and leverage other associations’ programs and content in the region and globally.

Beyond this there are views that the communication content of our pre-qualification program is not all that it should be, and others are concerned that waiting until “the end” to directly deal with professionalism and ethics is too late. Others note that perhaps teaching more around communication, professionalism and “what actuaries are and do” earlier in the course would provide a better platform for those in their early years of study to understand and learn the various actuarial skills taught. Yet others believe a focus on “capabilities” rather than “skills” is relevant.

Furthermore, we should reconsider our current practice of tying our Part I courses to the UK Institute of Actuaries’ program. They have a great course, but it is structured for their delivery and examination approach:

- It doesn’t necessarily optimally lend itself to be replicated through a series of university courses and leverage content directly from other disciplines.
- It tends to involve some syllabus inefficiency and “overhead” that it would be good to avoid and use for other educational objectives we might like to pursue (see above and below).

It is noted that one of the historic reasons for aligning with the UK was to allow students that did not achieve the required grades for exemption at University or who are unable to complete their university course, an option of making up the shortfall by taking the corresponding UK course(s).

However, it is unclear to me why at least for the first issue it would not be possible to work with our accredited universities to find a practical approach to allowing students (for an appropriate fee) to retake a course and/or resit an examination to achieve the required pass standard (even if the increased result would not count toward their underlying undergraduate degree). This already happens within Part II.

With distance education provided by some (if not all) of our accredited universities, the second problem should also be able to be addressed these days.

6.2 Communication (& Related) Skills

Particular mention has been made over recent years, including comments and recommendations from our Communications Taskforce, as to a perceived lack of communication skills amongst our profession. We have also had discussions and a taskforce addressing leadership. While there are many facets to "leadership", good communication skills and confidence in communication are, in my experience, a substantial foundation stone of leadership.

In discussing communication it is important to be clear on what exactly we mean by "communication" and "communication skills". When these phrases are used there is a tendency to think in terms of "reporting". By "reporting" I mean all of written reports, letters, PowerPoint presentations, through to verbal interaction (e.g. telephone conversations) and the various tools and skills we use for these.

However, we really should be thinking more broadly about communication, including **project management** and **empathy**, in terms of:

- Business acumen (or understanding "the client's³ expectations"). Also interpersonal skills / awareness.
- Focusing on the big picture (and not on distractions and trivia).
- Being "proactive". Structuring work in a way to be able to meet changed timeframes. Highlighting issues early.
- Reporting.

These four elements largely reflect the four "hot buttons" mentioned in the SoA survey referred to in the Vision 2020 Taskforce discussion paper - the areas where employers thought actuarial performance was weakest. These four issues are highly related, and arguably, all four combined are the real issue.

We can have the best presentation tools and explanations available, but if we fail on the first three points above, we are unhelpful, boffin actuaries.

³ The term "client" here is meant to be client, employer or other recipient of advice.

Contrary-wise, where we excel on the first three points, often the end report or communication is less critical.

In my experience, the situations where actuaries too often get themselves into difficulties is where they are asked, say, to do a liability valuation, and then:

- They beaver away in the backroom on the numbers, worry about \$1,000 anomalies in a \$100 million value;
- Don't talk to the client along the way;
- Start to write a report on the last day, after they are happy with the final numbers; and
- Then present the results 1 hour before the deadline, in a complex report, informing the client that the liability is \$20 million higher than the client had initially expected and therefore the annual profit for the client's business is suddenly dropped by, say, half.

This is the pattern of behaviour that gets the bad reputation (no matter how sound the liability assessment or how well expressed the final report).

The key here, between good and bad "communication" is being aware of the business context and big picture. In this case we probably don't really need "business acumen" in terms of understanding the client's business, but we need "business acumen" in an interpersonal sense, understanding and appreciating that the client has a result expectation and a different liability number will cause grief. We need to be sensitive (empathetic) to that. If it is looking like the result will vary from the client's expectation during our analysis, we need to identify that as soon as practical and inform the client, discuss why the result is varying and help the client manage the issues arising.

Good communication in this context actually starts with our approach to the whole assignment: our project management. We need to take an approach that will help highlight end result issues as early as practical. We need to start writing our reports early, giving us extra time to think about the key messages and measures, focusing on a top down approach with the overall result clearly identified and addressing the big issues first. At any point in time this puts us in the best position to meet all of the communication points above.

A related aspect is selection of calculation methods and models. Beyond these being sufficient and appropriate, considerations should include how well the approach (a) facilitates communication of results and understanding of the key drivers of change; (b) facilitates the client having a reasonable *a priori* expectation of the impact on the results as experience changes and facilitates efficient results recalculation; and (c) facilitates sound client decisions.

This is the communication and business acumen qualities that separates good, professional advisors from "menaces", and the overall holistic communication thing we should be trying to improve – with project management at the heart of this - and this is the area in particular where we should be improving actuaries' skills/capabilities.

6.2.1 A Powerful Profession

If we can get the project management, “business empathy” and communication aspects of our education to a level commensurate with our other skills, our skill set would comprise:

- Core skills in finance, statistics, economics, investment, modelling, ERM;
- Project management and clear communication;
- Intellectual clout; and
- Professionalism and ethics.

This is the image of a powerful and flexible professional that will remain in demand and can make a valuable contribution to society over the long term.

6.3 A New Board of Examiners

There are a number of education related changes we are now considering and/or implementing:

- Outsourcing Part III Investment and Finance to Macquarie University from 2009.
- “Insourcing” the remaining Part III specialities (life, general and GRIS) to Institute actuarial staff – but structured on an outsourced educator model. Pilot commencing in 2008.
- Potentially awarding a more meaningful “actuary” qualification somewhere around the Part II education level. Details and timing unclear.

Of course, Part I and Part II are already fully outsourced to the universities or the UK Institute, as are aspects of the CAP and professionalism courses.

It is one thing to set a syllabus and outsource tuition and education. It is another to not have a direct say in the examination process that ultimately determines the awarding of professional qualifications and the “licensing” of actuaries!

The CFA model is an interesting study in this context. They set a syllabus and 100% outsource tuition and education. While they have recently begun “endorsing” universities, they otherwise let the “education market” provide education solutions to would-be CFA’s. They do however set public examinations for all their courses and only accept performance in their examinations as relevant. Furthermore, I understand that they see separation of tuition and examination as sound governance.

As at the date of this address, our current examination oversight involves:

- A level of involvement in approving university Part II examinations. This is overseen by an accreditation committee, however the extent, nature and level of involvement has been variable by university and over time.
- For the insourced Part III courses from 2008 (including CAP) it is proposed to have a restructured Board of Examiners review proposed examinations.

- For the outsourced Investments and Finance courses “the Institute” will approve the examination. This is to be based on the model that applies to Part II exams, but with some additional controls. Details are under discussion.

It would seem appropriate that all this approval and oversight be brought together and be managed by one Institute body – a new broader Board of Examiners (BoE).

This BoE need not conduct examinations as happens today for Part III (including sourcing exam creators, markers etc). But rather it should be charged with being the specific body to liaise with all the above parties and provide the necessary approvals. Implementation aspects could include:

- Each of the outsource parties producing draft exams and model solutions.
- The BoE testing these for content, coverage, difficulty, “correctness”.
- Overseeing content and difficulty standards over time and by course.
- Working with universities to obtain a common Part II exam.
- Outsource parties to conduct the exams, mark them and report to the BoE.
- BoE reviews results and awards pass marks and/or other pass criteria. This may be different to the university’s or other provider’s internal standards.

6.4 Pass Rates

There have been historical concerns about our pass rates in Part III. Generally we think they are too low. Some have suggested we should achieve rates closer to “more normal education process” rates given the student talent involved in our programs (e.g. something nearer 80%). Historically, I have held a view along these lines and believed we were failing in areas such as education delivery and examination style/content/marking standards etc.

More recently I have been rethinking some aspects of this.

Our overall Part III pass rates are low (around 30%-35%). However, they are not universally poor. Pass rates in Sydney and Melbourne are materially above course averages and anecdotal evidence is that pass rates amongst large “blue chip” actuarial employers are better still (70% to 90%). Pass rates amongst distant, isolated overseas students are lowest. These observations are not inconsistent with beliefs that:

- Improved “teaching” will improve pass rates. The current outsourcing and insourcing of our Part III course to specialist and trained educators who will teach the courses, including to distance students, as discussed elsewhere in this address, should have a favourable effect.
- A separation of Australian jurisdiction specific content from within our courses and finding a way to “substitute” this for other relevant content for overseas students (or cutting it back) would be favourable for overseas students.

- Conducting exams in a form or manner more friendly to those for whom English is a second language. Our current trials of computer based examinations may assist here. However, longer-term consideration of inclusion of other examination techniques (e.g. “multiple choice”) may also be of help. [Note: Modern multiple choice is not simply “a, b, c or d” anymore.]

However, I wonder if we will ever see 80% pass rates, or indeed if this is even appropriate, for students’ first Part III subjects out of university. In this case I note:

- Anecdotally, the best performing subgroups (largest blue chip actuarial firms, in Sydney, running in-house student education support and attracting the top students) achieve 70%-90% pass rates...but only 70%-90%!
- There are various natural, environmental factors likely driving significant failure rates in the early Part III subjects:
 - As with other education processes, we no doubt attract some to continue into Part III for whom ultimate success will lie a little beyond their reach. Some underlying failure rate is natural in this respect.
 - It is a reality that our Part III students typically face a range of life changes at least somewhere during their Part III studies – changing from full time student to full time worker, family changes, etc. I remember during my studies losing a year to such distractions! Within my firm this seems to continue to claim a couple of students (out of about 15) each exam sitting.
 - Other education regimes we might benchmark often involve education and examination “synergies”. Teaching towards an exam or perhaps examining only on what was well taught. Independent examinations will likely result in lower pass rates from the lack of these “synergies”.
- The experience of other challenging vocational training programs involving independent examination is that it is typical to have pass rates well below 80% (e.g. The CFA course that has typical rates around 40% - 50%).

Something like 60% may be our “speed of light” (the natural limit) for students’ initial Part III subjects, albeit that later subjects could do better as some of the above factors wear off (and indeed already CAP does better).

This is not to suggest a target, rather to raise a warning that we should not become fixated on a specific outcome.

7 Some Other Issues

7.1 Professional Standards

A few years ago we set on a path of reviewing our professional standards to make them “mandatory” and “must” based. This was partly in response to developments and events overseas (Penrose and Morris) and the perceived regulatory approach locally (a “one size fits all”).

In practice, the implementation of such standards has proven difficult and as I write this address we have only finalised 1 of our 3 main areas of standards (general insurance done; life close and super not). Meanwhile, our regulator is considering whether its current “one size fit all” approach is the most appropriate.

The concept of mandatory professional standards with respect to the key principles and requirements remains, in my view, sound. However:

- Carrying the “must” condition to every detailed aspect of a standard places such a degree of precision and comprehensiveness of application on every word, that agreement and settling a standard becomes virtually impossible. Endless delay and debate become the natural result.
- While it is acknowledged that detailed professional standard requirements are subject to materiality, the overall application of the standards is not subject to such a test, nor a test of “sensibleness” or “appropriateness”.
- In practice, under the current strict approach, we will likely only see professional standards made in connection with regulatory requirements.

In reviewing the implementation of our revised professional standards approach some of these aspects need to be rethought. Mandatory standards in terms of key requirements – yes. However, provision for appropriate, justified departure and non-prescriptive secondary requirements are needed in practice.

I would also note that we have seen little in the way of updating or development of practice guidance in recent years. I can’t help feel that the exhausting effort and chafing caused by our currently adopted professional standard straitjacket is at least partly behind this.

7.2 Is ERM it?

During the Strategic Planning process some members asked questions such as: Does ERM have a longer-term future, or is it a fashion? What special aspect do actuaries offer? Is ERM all that we are?

I would offer and record the following brief observations on these points.

7.2.1 *Is ERM all that we are?*

No. Clearly a lot of our day-to-day activities and skills do not directly involve risk management. When I value an employee share option, risk management doesn’t come into it *per se*.

However, reflection upon the discussion in Section 4 makes it clear that risk management cuts horizontally and vertically through what we do and is an important part of our work. We can't afford to be left behind, or be seen to be left behind, at this time of considerable market interest in risk management.

7.2.2 Does ERM have a longer term future, or is it a fashion?

In terms of some of the current activity of putting in place (or rather documenting) risk management frameworks in insurers and banks, etc, in Australia, Europe and elsewhere, I am sure that after a wave of initial activity this aspect will die down.

Going forward, we as actuaries will continue to be involved in the actual day-to-day identification of new risks and management of old and new ones. However:

- Will we stay at the centre of the activity where we currently are?
- Is there an opportunity to gain centre stage elsewhere and help new clients do better?

We have to be "in it" on both of these fronts.

Nonetheless, I think the ambit of ERM will continue to grow and there is the potential for major long term, sophisticated development in areas such as strategic risk management. The conceptually harder and more complex it gets, the better for us!

7.2.3 What special aspect do actuaries offer?

From my experience with clients implementing recent APRA requirements in insurance in Australia, I would note that when existing "internal auditors" or "risk officers" have been charged with managing the implementation project, they start with existing risk frameworks built on approaches such as Australian Standard AS 4360 on risk management. On my observation, the result typically tends to be a risk reduction and control framework more applicable to a one-dimensional widget maker. For a financial services entity (in particular) this tends not to recognise that there are "two types of risk":

- Risks for which the institution receives no economic reward (typical widget maker type risks); and
- Risks that generate economic reward (financial institutions providing insurance pooling, guarantees and options) and are "the business".

While both should be addressed in cost-benefit terms, their characteristic, measurement and management/control can be fundamentally different. The second set of risks do not easily fit into the same simple "severity-impact" matrix and scale as the first set of risks. Enter the actuary.

8 Closing Remarks

Most of the issues discussed in this address are not new and some are the subject of other, detailed papers that are or have been before members already. Indeed, a number of issues with similar conclusions have been raised by other Presidents in their addresses in recent years. However, the issues are not closed and this address outlines my personal thinking on some of them. That is not to say that I believe that my view should carry – the issues will ultimately be decided by Council and/or the overall membership – but rather the aim was to help move some of the debate forward and engage some in that debate who have not engaged to date.

Despite comments in this address to the effect that the President “doesn’t work alone”, it remains a reality that the role of President does involve significant time commitment. Not just in terms of time away from working for one’s employer, but also time away from home because of travel. Such a commitment is not possible without the support of family and employer.

I would therefore like to record my sincerest thanks for the support and understanding that has been provided over recent years, and that I am sure will continue to be forthcoming from my family, especially my partner Karen, and my appreciation of the support that has been provided by my employer, KPMG Actuaries, over recent times and continuing over the year ahead.

I would also like to thank at this point Fred Rowley, Trevor Thompson, John Maroney and Martin Stevenson for their review and feedback on this address. Nonetheless, the opinions and views remain my responsibility, as do any errors or omissions made.

I look forward to the comments and guidance that the members of our Institute would care to offer on the contents of this address, our Institute’s current strategic plans and priorities, or any other relevant issue!

Appendix A

A Plan on a Page – Institute Strategic Plan 2008-2010

Whenever there is uncertainty as to future financial outcomes, actuaries will be sought for their valued advice and authoritative comment.

Goals	What Success Looks Like	Risks	Key Strategies	Key Actions
<ul style="list-style-type: none"> The Actuarial Profession is Growing and Diversifying with Increasing Influence. 	<ul style="list-style-type: none"> The number of actuaries is sound and growing, including in new areas. Sound remuneration. Senior role numbers increasing. 	<ul style="list-style-type: none"> Failure to move into new areas: <ul style="list-style-type: none"> – Actuaries not valued. – Oversupply. – Not attractive to new entrants. – Poor salaries. 	<ul style="list-style-type: none"> Change Institute focus to 'Member Services and Educator' (from 'Licensor'). Members join for value proposition. 	<ul style="list-style-type: none"> Implement Designations Taskforce outcomes. Articulate the value of actuaries. Proud to be an actuary program.
<ul style="list-style-type: none"> Actuaries have a High Reputation for Ethics and Sound Advice. 	<ul style="list-style-type: none"> Good flow of quality and diverse new entrants, associates and fellows. Limited negative press. 	<ul style="list-style-type: none"> Professional failures or poor performance: <ul style="list-style-type: none"> – Reputation. – Regulatory model changes. Failure to maintain skill base, relevance. Lack of leaders in the profession. 	<ul style="list-style-type: none"> Revise Institute operational model. Enable support of initiatives. Volunteer management 	<ul style="list-style-type: none"> Business and operational plans linked to strategy. IT resources, staffing.
<ul style="list-style-type: none"> The Profession and the Institute are Broadly Recognised and Actuaries have a Reputation for Highly Skilled Advice. 	<ul style="list-style-type: none"> Actuaries recognised by business and public sector for ethics and reliability. Actuaries valued for their contribution to business. Institute sought for contribution to public debate. Sound flow of R&D. 	<ul style="list-style-type: none"> – Reputation. – Regulatory model changes. Failure to maintain skill base, relevance. Lack of leaders in the profession. 	<ul style="list-style-type: none"> Pre-qualification education review. Align needs and outcomes. Skills, communication, ethics 	<ul style="list-style-type: none"> Stabilise current Part III delivery resources. Text books as products.
<ul style="list-style-type: none"> The Institute is valued and highly regarded by its members, with high member capture and retention rates. 	<ul style="list-style-type: none"> Members value Institute services and education. High membership take-up. Low lapses. Volunteer numbers are maintained. Volunteers are effective and feel valued. 	<ul style="list-style-type: none"> – Reputation. – Regulatory model changes. Failure to maintain skill base, relevance. Lack of leaders in the profession. 	<ul style="list-style-type: none"> Comprehensively implement the ERM domain initiative. RM review of Institute. 	<ul style="list-style-type: none"> CPD, Part III, Practice Committee. Institute risk management review.
<ul style="list-style-type: none"> The Actuarial Profession is Enjoying Global and Regional Success. 	<ul style="list-style-type: none"> Regional societies meeting the demand for actuaries. Institute contributing to and shares in regional success. Good global progress by the profession. 	<ul style="list-style-type: none"> Profession marginalised to back room / compliance. Institute fails broad membership service / value demand. Insufficient volunteers. Failure of regional engagement. International Actuarial Association (IAA) progress failure. 	<ul style="list-style-type: none"> Implement 'Life-Long education' CPD model. All members, networking. Marketing initiatives to support strategy. Broad based R&D. Academic (fundamental), applied, industry. Regional engagement. Strategic IAA engagement. Maintain professional standards and guidance. Disaster Recovery Plan. Strategic management focus. Improved data availability. 	<ul style="list-style-type: none"> ERM Seminar, marketing, international. Part I, II. Full program width. Finalise Health, record keeping. ASIC. Enlist University support (students) University accreditation, Academic Papers. Practitioner Papers. Key IAA actions/focus. Review cycle. Standing review of Code, PSC, governance. Council, Executive, PC, Council Committee interaction.

Appendix B

B Institute Core Syllabus to Fellowship (Parts I, II, III)

[Indicative summary only. Abbreviated from Institute website].

B.1 Part I – University

B.1.1 Financial Mathematics

The aim of the Financial Mathematics subject is to provide grounding in financial mathematics and its simple applications.

- Generalised cash-flow models, time value of money, compound interest and discounting, present values, accumulated values, net present value.
- Real and money interest rates.
- Important compound interest functions including annuities certain.
- Equations of value.
- Loans & discounted cash flow techniques used in investment appraisal.
- Investment and risk characteristics of Government borrowings; corporate fixed-interest borrowings; shares and equity-type finance; derivatives.
- Valuation of a forward contracts using arbitrage free pricing methods.
- Term structure of interest rates.
- Simple stochastic models for investment returns.

B.1.2 Probability and Mathematical Statistics

The aim of the Probability and Mathematical Statistics subject is to provide a grounding in the aspects of statistics, in particular actuarial statistical modelling.

- Features of a data set (exploratory data analysis).
- Concepts of probability, random variables, probability distributions, distribution function, expected value, variance and higher moments.
- Simple probability generating functions and moment generating functions.
- Basic discrete and continuous distributions. Simulation in simple cases.
- Independence, jointly distributed variables and conditional distributions.
- Central limit theorem.
- Concepts of random sampling, statistical inference etc.
- Main methods of estimation and the main properties of estimators.
- Confidence intervals for unknown parameters and hypothesis testing.
- Linear relationships between variables, correlation and regression analysis.
- Concepts of conditional expectation and compound distribution.

B.1.3 *Economics*

The aim of the Economics subject is to provide a grounding in the fundamental concepts of microeconomics and understanding of macroeconomics.

- Interaction between supply and demand and equilibrium market prices.
- Elasticity of demand and supply.
- Application of utility theory to economic and financial problems.
- Profit maximising and short run and long run production choices.
- Competition and the practical effect on supply and demand.
- Public sector finances of an industrialized economy.
- Propensity to save or to consume and impact on the economy.
- Fiscal and monetary policy and other forms of government intervention.
- Exchange rates and international trade and balance of payments.
- Inflation, level of interest rates, exchange rates, level of unemployment, and the rate of economic growth. GDP, GNP and Net National Product.

B.1.4 *Finance and Financial Reporting*

The aim of the Finance and Financial Reporting subject is to provide a basic understanding of corporate finance and interpret the accounts and financial statements of companies and financial institutions.

- Principal terms in use in investment and asset management.
- Key principles of finance.
- Joint stock company structure and financing alternatives.
- Basic principles of personal and corporate taxation.
- Principal forms of financial instruments issued or used by companies.
- Relevant factors for a company's capital structure and dividend policy.
- Company cost of capital and investment project interaction.
- Basic construction of company accounts and their principal features.
- Interpreting company/group accounts and their limitations.
- Techniques used in the assessment of capital investment projects.

B.1.5 *Models*

The aim of the Models subject is to provide a grounding in stochastic processes and survival models and their application.

- Principles of actuarial modelling.
- General principles of stochastic processes, and their different types.
- Markov chain. Markov process.
- Concept of survival models. Estimation procedures for lifetime distributions.

- Statistical models of transfer between multiple states, including single or multiple decrements, and probabilities of transfer and transition intensities.
- Binomial model of mortality, maximum likelihood, multiple state models.
- Estimate transition intensities depending on age.
- Graduation and test crude estimates for consistency, fit.

B.1.6 *Statistical Methods*

The aim of the Statistical Methods subject is to provide a further grounding in mathematical and statistical techniques of particular relevance to financial work.

- Concepts of decision theory.
- Probabilities and moments of loss distributions both with and without limits.
- Risk models involving frequency and severity distributions.
- Concept of ruin for a risk model.
- Fundamental concepts of Bayesian statistics and Bayesian estimators.
- Fundamental concepts of rating and simple experience rating systems.
- Techniques for analysing delay (or run-off) triangles and ultimate position.
- Fundamental concepts of a generalised linear model (GLM).
- Main concepts underlying the analysis of time series models.
- Concepts of Monte Carlo simulation using pseudorandom numbers.

B.1.7 *Contingencies*

The aim of the Contingencies subject is to provide a grounding in the mathematical techniques which can be used to model and value cash flows dependent on death, survival, or other uncertain risks.

- Simple assurance and annuity contracts, formulae means and variances of the present values, assuming constant deterministic interest.
- Practical methods of evaluating expected values and variances.
- Net premiums and net premium provisions of simple insurance contracts.
- Ultimate or select mortality. Increasing and decreasing benefits etc.
- Gross premiums and provisions of assurance and annuity contracts.
- Straightforward functions involving two lives.
- Methods to model cashflows contingent upon competing risks.
- Technique of discounted emerging costs; pricing, reserving and profitability.
- Heterogeneity within populations and the ways in which selection can occur.

B.1.8 *Financial Economics*

The aim of the Financial Economics subject is to develop the necessary skills to construct asset liability models and to value financial derivatives. These skills are required to communicate with other financial professionals and to critically evaluate modern financial theories.

- Advantages and disadvantages of different measures of investment risk.
- Assumptions of mean-variance portfolio theory and its principal results.
- Properties of single and multifactor models of asset returns.
- Asset pricing models: principal results, assumptions and limitations.
- Various forms of the Efficient Markets Hypothesis: evidence for and against.
- Basic stochastic models of the behaviour of security prices.
- Main concepts of Brownian motion (or Wiener Processes).
- Properties of option prices, valuation methods and hedging techniques.
- Models of the term structure of interest rates.

B.2 Part II – The Actuarial Control Cycle course - University

B.2.1 *Actuarial control cycle in a variety of practical commercial situations*

- Control cycle adding value in resolving issues between the stakeholders

B.2.2 *Apply the tests of professionalism*

- Principles of professionalism. Main features and functions of the professional association, code of conduct, professional standards etc
- Responsibilities of actuaries individually and in statutory roles.
- Materiality and peer review. Identify where actuarial expertise insufficient.

B.2.3 *Medium and long term commercial decisions in general environment*

- Economic conditions and social, demographic and economic trends.
- Impact of technological changes on the economic environment.

B.2.4 *Need and impact of regulation and government policy*

- Roles and objectives of regulators and of government policymakers.
- Main features of legislation and taxation framework.
- Statutory roles of actuaries, other professionals and their interactions.

B.2.5 *Features of financial products: Consumer and provider view points*

- Financial products overview. Needs of consumers. Consumer protection. Common financial services products. Financial, business and political risks.
- Main forms and ramifications of distribution for financial services products.
- Marketing strategies and impact quality and quantity of business generated.
- Application to products and contracts other than financial services.

B.2.6 *Risk assessment framework to identify and assess the risks*

- Risk analysis frameworks, including operational risk.
- Financial risk: asset risk, liability risk asset-liability management.
- Considerations for accepting, transferring or rejecting risk, including capital.
- Importance of quality data in the assessment of risks and use of checks.
- Identification and management of risk of general insurers, superannuation plans. Types and use of reinsurance. Guarantees and options.
- Principles of project management. Verification of client needs and communication.

B.2.7 *Process of product design*

- Factors for life insurance, general insurance, superannuation plans.
- Interaction between the different disciplines in a product development.
- Protections available to consumers: insurance and wealth creation products.
- Purpose and process of risk assessment (underwriting). Adverse selection.
- Concept of Policyholder Reasonable Expectations and its management.
- Group financial products versus individual financial products.
- Interests of various stakeholders.

B.2.8 *Select an appropriate model to solve client problems*

- Objectives of building models. Basic features of commonly used models, their limitations and data needs. Model parameters and the assumptions and their interrelationships.
- Assessing the sensitivity and the role of scenario testing.
- Stochastic and deterministic models, and choice of model.

B.2.9 *Importance of capital*

- Importance of capital for different types of entities. Projecting capital needs.
- Risks and level of capital and risk based capital methodologies.
- Interaction between the management of risk and capital requirements.

B.2.10 *Approaches and techniques to the valuation of liabilities*

- Different purposes for which a valuation of liabilities may be needed.
- Data: requirements, specification, verification, correction and materiality.
- Major criteria in the selection of discount factors.
- Assessing sensitivities, reasonableness and major drivers of change.
- Valuing guarantees and other options in long-term products.

B.2.11 *Appropriate techniques to the pricing of products and contracts*

- Assumption: information required, relevance, problems, data.
- Setting margins (implicit or explicit) in the pricing process.
- Profit testing and return on capital invested.

B.2.12 *Different types of investment*

- Behaviour of different investment types: risk factors, issuer default, counterparty failure, systemic liquidity, speculative bubbles, system shocks.
- Application and limitations of major capital markets theories. Behavioural finance.
- Main methods to value common debt, equity, property and derivatives.

B.2.13 *Investment portfolios process*

- Needs of different investors. Establishing an investment strategy.
- Strategic asset allocation, including using an asset-liability models.
- Practical implementation of investment mandates.

B.2.14 *Monitoring investment results*

- Portfolio returns monitoring and assessment. Methods and attribution. Monitoring validity of strategic asset allocation. Assessing investment decision success.
- Operational risks in investment management process.

B.2.15 *Measure, report and manage solvency*

- Different purposes for valuation of liabilities and assets may be needed.
- Alternative measures of solvency with reference to assets and liabilities.
- Dealing with uncertainty in liabilities and assets. Valuing risk issues.
- Interaction between solvency, liabilities and release of profit.
- The role of regulators, professions and guarantee schemes. Dealing with insolvency.
- Communicating valuation methodology and results to stakeholders.

B.2.16 *Measure and report emerging profits and/or costs*

- Interaction between the valuation process and the release of profit.
- Techniques used to manage the release of profit on ongoing contracts.
- Issues in spreading the cost for commitments and the techniques used.
- Embedded value and appraisal values, and their uses.
- Communicating the results to stakeholders

B.2.17 *Monitor and assess experience*

- Need for experience monitoring. The critical elements of experience.
- Measures of experience. Undertaking experience analysis. Issues & data.
- Need for analysis of the financial impact. Place in the Control Cycle.

B.2.18 *Manage the business and respond to the experience*

- Impact of experience on the management of businesses.
- Responding to the experience. Issues in distribution of surplus.
- Methodologies for allocating investment return to individual accounts.
- Allocating profit. Achieving equity between policyholders and shareholders.
- Managing surpluses and deficits within superannuation plans.
- Management processes such as claims control, expenses control, financial control systems and audit controls.

B.3 Part III – Fellowship - Institute

B.3.1 Investments

- Asset models of a stochastic nature for management of liabilities.
- Investment strategy for managing liabilities.
 - Investment objectives based on the liability profile
 - Investment constraints based on the liability profile
 - Characteristics of different types of asset models
 - Appropriateness of asset models for a given context.
 - Asset assumptions, historical data, prevailing industry expectations, practical considerations such as tax
 - Asset assumptions and the linkages to real world situations
 - Approaches to asset allocation
 - Monitoring investment arrangements as part of the process for implementing an investment strategy.
 - Main passive equity investment approaches
 - Main active equity investment approaches
 - Investment managers evaluation using qualitative and quantitative techniques
 - Approaches to portfolio construction and their merits
 - Information required to effectively monitor a portfolio
 - Performance benchmarking for various asset classes
 - Risk management principles and techniques in investment management

B.3.2 Life Insurance (as indicative of a specialist 2 course stream)

- General Economics & Commercial Environment
 - Components and trends within the Australian life insurance and funds management markets
 - Functions of life insurer/retail funds management business
 - Legislative environment in Australia
- Risk Management Issues and Tools
 - Methods used to identify and manage risk
 - Investment strategy for a life insurance or funds management companies and products
 - Operational risks associated with a life insurance company or funds manager

- Monitoring Experience and Determining Assumptions
 - Monitoring the experience of a life insurance or funds management company
 - Determine assumptions for the experience.
 - Determine assumptions for expenses. Expense allocation and analysis.
 - Determine the assumptions for the economic factors.
- Product Development and Profit Testing
 - Typical product development processes
 - The role of the valuation basis in pricing.
 - Profit-testing techniques.
- Product Design - Surrender Values and Crediting Rates
 - Bases for determining surrender values and alteration terms
 - Bases for determining crediting/bonus rates
- Liability Valuations
 - Process for calculating the value of liabilities. Methods, model points and model validation.
 - The requirements of the life insurance Valuation Standard.
- Valuation outcomes to other aspects of the Control Cycle
 - Valuation of assets and relationship to liability valuation
 - Life insurance Solvency Standard and Capital Adequacy Standard
- Analysis of Profit
 - Determining the sources and uses of profit
 - Budgeting and planning processes
- Appraisal Values
 - Life insurer or retail funds manager appraisal values
 - Sources of AV profit
- Reporting Results
 - Methods of financial reporting.
 - Actuarial input required to formally communicate company results.
 - Financial statements of life insurers and funds managers
 - Analyse and interpret the financial statements of a life insurer or funds management company.
- Professionalism
 - Principles of professional behaviour
 - Skills and abilities of a life/funds management actuary outside Australia.

B.3.3 *Commercial Actuarial Practice (CAP)*

- Application of Actuarial Skills in a Business Environment
 - Overall environment in which businesses operate
 - Key drivers of the business and the underlying business models which apply
 - The major risks faced by the business from an holistic perspective
 - Traditional products pricing. Optimise the price / volume / capital matrix
 - Medium term financial projections
 - Measure the risks involved in alternative solutions
 - The concept of materiality
 - Contextualise proposed actuarial solutions, including constraints and risks
- Communication in Written Form
 - Different needs of various audiences
 - Requirements for written actuarial communications
 - Preparing actuarial reports
- Application of Ethical, Corporate Governance and Professional Standards
 - General ethical business requirements
 - Emerging standards of corporate governance
 - Ethical, corporate governance and professional standards

B.4 Professionalism Course – Fellowship - Institute

[Not detailed]

Appendix C

C IAA Core Education Syllabus (2007 Draft)

The following is the current (October 2007) draft of the IAA's core education syllabus. This represents the minimum education content the IAA specifies for the international standard "actuary". In very broad terms, this probably is similar to the Institutes course up to Part II+½.

C.1 Financial Mathematics

C.1.1 Aim:

To provide a grounding in the techniques of financial mathematics and their applications.

C.1.2 Topics:

- Deterministic theory of interest rates
- Generalised cash-flow models
- Introduction to contingent claims analysis
- Term structure models
- Risk neutral valuation, including derivative pricing and deflators
- Stochastic calculus for finance
- Stochastic theory of interest
- Dynamic portfolio management
- Introductory applications to insurance and other financial liabilities

C.2 Probability and Mathematical Statistics

C.2.1 Aim:

To provide a grounding in probability and mathematical statistics.

C.2.2 Topics:

- Concepts of probability
- Random variables and their characteristics
- Methods and properties of estimation
- Correlation and regression analysis
- Hypothesis testing and confidence intervals
- Data analysis

C.3 Economics

C.3.1 Aim:

To provide a grounding in the fundamental concepts of both microeconomics and macroeconomics.

C.3.2 Topics:

- Microeconomics
- Macroeconomics

C.4 Accounting

C.4.1 Aim:

To provide the ability to interpret the accounts and financial statement of companies.

C.4.2 Topics:

- Basic principles of accounting
- The role of accounting standards
- Different types of business entity
- Basic structure of company accounts
- Interpretation and limitation of company accounts

C.5 Modelling

C.5.1 Aim:

To provide an understanding of the principles of modelling and its applications.

C.5.2 Topics:

- Model structures
- Selection process
- Calibration
- Validation
- Scenario setting
- Sensitivity testing
- Limitations
- Computer applications of modelling
- Documentation and audit trail

C.6 Statistical Methods

C.6.1 Aims:

To provide the skills and expertise in the use of statistical methods for the understanding of risk in a range of actuarial work.

C.6.2 Topics:

- Statistical models, such as regression and time series
- Survival and multi-state models
- Risk models (individual and collective)
- Parametric and non parametric analysis of data
- Graduation principles and techniques
- Estimation of frequency, severity and survival distributions
- Credibility theory
- Ruin theory
- Concepts of stochastic processes
- Simulation methods

C.7 Actuarial Mathematics

C.7.1 Aim:

To provide the skills and expertise in the application of the mathematics of contingent payments to common problems in actuarial practice.

C.7.2 Topics:

- Nature of the events giving rise to a contingency
- Typical solutions offered by insurance, social insurance, other financial services, or risk management e.g. products, schemes, contracts or transactions that will provide payments or benefits on future financial events in relation to:
 - The risk profile and aims of the parties involved
 - The concepts of risk avoidance, risk transfer and risk retention
 - The level and form of cash flows to be provided
 - Any options or guarantees that may be included
 - The method of financing the cash flows to be provided
 - The choice of assets when payments or benefits are funded
 - The charges that will be levied
 - The capital requirements

- Actuarial methods for evaluating the prospective cost of solutions, e.g.:
 - Pricing of insurance contracts
 - Financing methods for other products or plans
 - Financial effects of other risk management solutions
- Actuarial methods for monitoring the results and maintaining financial stability, such as:
 - Reserving
 - Financial Reporting
 - Reinsuring
 - Profitability analysis
 - Financial condition analysis

C.8 Investment and Asset Analysis

C.8.1 Aim:

To develop the ability to apply actuarial principles to the valuation, appraisal, selection and management of investments and to liaise with other investment professionals.

C.8.2 Topics:

- The objectives of institutional and individual investors
- Types of investment (bonds, shares, property and derivatives)
- Valuation of investments
- Portfolio selection - incorporating assessment of relative value
- Performance measurement
- Portfolio management
- Management of investments with respect to liabilities using techniques such as immunisation, asset-liability management and liability driven investment.

C.9 Actuarial Risk Management

C.9.1 Aim:

To develop the ability to apply the principles of actuarial planning and control needed for the identification and quantification and management of risks for the operation of risk related programs on a sound financial basis.

C.9.2 Topics:

- The general operating environment of the enterprise
- Assessment of risks; risk types and risk measures
- Design and development of products and/or services

- Pricing of products and services and assumptions underlying the pricing
- Reserving and valuation of liabilities
- Management of risks and methods of reducing risk exposure, such as reinsurance
- Management of the relationships between assets and liabilities
- Monitoring the experience and exposure to risk
- Solvency and profitability of the enterprise and the management of capital
- Principles of regulation of financial institutions

C.10 Professionalism

C.10.1 Aim:

To develop awareness of the meaning of professionalism, the importance of professionalism in the work of an actuary and the professionalism issues that may arise in the course of that work.

C.10.2 Topics:

- Characteristics and standards of a profession including the need for:
 - Specialised skill and education
 - Ongoing training and development
 - High quality of advice
 - Exercise of independent judgement
 - Objectivity, integrity and accountability
- Code of conduct
- Discipline process
- Practice standards set by actuarial bodies and other stakeholders
- Regulatory roles of actuaries
- The professional role of the actuary
 - Analysis and resolution of ethical issues
 - Identifying and managing conflicts, misuse of or undue influence on advice
 - Nature of advice
 - The public interest

Appendix D

D CFA Core Education Syllabus

The following is intended as a high-level overview of the general nature and content of the Chartered Financial Analyst (CFA) course - Levels I to III.

D.1 Ethical and Professional Standards

- Professional Standards of Practice
- Ethical Practices

D.2 Quantitative Methods

- Time Value of Money
- Probability
- Probability Distributions and Descriptive Statistics
- Sampling and Estimation
- Hypothesis Testing
- Correlation Analysis and Regression
- Time Series Analysis
- Simulation Analysis
- Technical Analysis

D.3 Economics

- Market Forces of Supply and Demand
- The Firm and Industry Organization
- Measuring National Income and Growth
- Business Cycles
- The Monetary System
- Inflation
- International Trade and Capital Flows
- Currency Exchange Rates
- Monetary and Fiscal Policy
- Economic Growth and Development
- Effects of Government Regulation
- Impact of Economic Factors on Investment Markets

D.4 Financial Reporting and Analysis

- Financial Reporting System (IFRS and GAAP)
- Principal Financial Statements
- Financial Reporting Quality
- Analysis of Inventories
- Analysis of Long-Lived Assets
- Analysis of Taxes
- Analysis of Debt
- Analysis of Off-Balance-Sheet Assets and Liabilities
- Analysis of Pensions, Stock Compensation, and Other Employee Benefits
- Analysis of Inter-Corporate Investments
- Analysis of Business Combinations
- Analysis of Global Operations
- Ratio and Financial Analysis

D.5 Corporate Finance

- Corporate Governance
- Dividend Policy
- Capital Investment Decisions
- Business and Financial Risk
- Long-Term Financial Policy
- Short-Term Financial Policy
- Mergers and Acquisitions and Corporate Restructuring

D.6 Equity Investments

- Types of Equity Securities and their Characteristics
- Equity Markets: Characteristics, Institutions, and Benchmarks
- Fundamental Analysis (Sector, Industry, Company) and the Valuation of Individual Equity Securities
- Equity Market Valuation and Return Analysis
- Special Applications of Fundamental Analysis (Residual Earnings)
- Equity of Hybrid Investment Vehicles

D.7 Fixed Income

- Types of Fixed Income Securities and their Characteristics
- Fixed Income Markets: Characteristics, Institutions, and Benchmarks
- Fixed Income Valuation (Sector, Industry, Company) and Return Analysis
- Term Structure Determination and Yield Spreads
- Analysis of Interest Rate Risk
- Analysis of Credit Risk
- Valuing Bonds with Embedded Options
- Structured Products

D.8 Derivatives

- Types of Derivative Instruments and their Characteristics
- Forward Markets and Instruments
- Futures Markets and Instruments
- Options Markets and Instruments
- Swaps Markets and Instruments
- Credit Derivatives Markets and Instruments

D.9 Alternative Investments

- Types of Alternative Investments and their Characteristics
- Real Estate
- Private Equity/Venture Capital
- Hedge Funds
- Closely-held Companies and Inactively Traded Securities
- Distressed Securities/Bankruptcies
- Commodities
- Tangible Assets with Low Liquidity

D.10 Portfolio Management and Wealth Planning

- Portfolio Concepts
- Management of Individual/Family Investor Portfolios
- Management of Institutional Investor Portfolios
- Pension Plans and Employee Benefit Funds
- Investment Manager Selection
- Other Institutional Investors
- Mutual Funds, Pooled Funds, and ETFs

- Economic Analysis and Setting Capital Market Expectations
- Tax Efficiency
- Asset Allocation (including Currency Overlay)
- Portfolio Construction and Revision
- Equity Portfolio Management Strategies
- Fixed Income Portfolio Management Strategies
- Alternative Investments Management Strategies
- Risk Management
- Execution of Portfolio Decisions (Trading)
- Performance Evaluation
- Presentation of Performance Results

Appendix E

E Chartered Accountant Core Education Syllabus

The following is intended as a high-level overview of the general nature and content of the Chartered Accountants educational syllabus. It represents an approximate synthesis of a typical university course plus the Institute of Chartered Accountants (ICA) professional examinations.

E.1 University Content (Not Also In ICA Course)

E.1.1 *Accounting & Financial Management*

- Analysis and design of a financial accounting system
- Financial data and producing financial reports
- Accounting systems design, double-entry book-keeping and other controls
- Accounting for cash, debtors, inventories and property plant and equipment
- Introduction to accounting practice
- Uses and limitations of traditional financial reports
- Regulatory environment of financial reporting
- Definition and recognition of assets, liabilities, revenues and expenses
- Accounting for corporations.
- Managerial and investor decision-making
- Financial statement and cash flow analysis
- Cost/volume/profit relationships in a single product firms
- Short term budgeting.

E.1.2 *Corporate Financial Reporting and Analysis*

- Preparation or use of corporate financial reports
- Financial reporting for more complex business transactions and events
- Tax effect accounting, preparation of consolidated financial statements
- Accounting for specific industries (e.g. insurance and superannuation)

E.1.3 *Issues in Financial Reporting and Analysis*

- Accounting and analysis for associates and joint ventures
- Foreign currency transactions, offshore operations
- Diversified operations and derivative financial instruments
- Scope and quality of financial reports

E.1.4 *Management Accounting: Process Improvement and Innovation*

- Management accounting and the effective use of organisational resources

E.1.5 *Business Finance*

- Financial decision-making.
- Financial mathematics: valuing securities and to make capital expenditure decisions.
- Introduction to portfolio theory
- The relationship between expected risk and returns in financial and real asset investments.
- Dividends and the choices between debt and equity financing
- Conflict of interest between managers and investors

E.1.6 *Auditing and Assurance Services*

- Auditing and its underlying concepts
- Auditors responsibilities and the audit environment
- Overview of the audit process as it exists in Australia

E.1.7 *Legal Environment of Commerce*

- The Australian legal system; the Constitution and Commonwealth/State relations; Parliament and statute law; the courts and case law; the executive and administrative law; the legal process and alternative dispute resolution.
- Property law (incl. intellectual property), torts law (incl. negligence), contract law, criminal law, commercial entities and transactions

E.1.8 *Business Transactions*

- General principles of contract law and commercial transactions
- Agency, sale of goods, guarantees, bankruptcy, negotiable instruments, securities and insurance law
- Consumer protection and competition law

E.1.9 *Business Entities*

- The company and its operation under the Corporations Act
- The nature of the corporate entity; establishing a company
- Fund raising; shares and dividends
- The rights and duties of directors. The position of management.
- Shareholders rights. Insolvency and liquidation.

E.1.10 *Business Taxation*

- The Australian taxation system and government policy
- Concepts of income; allowable deductions; tax accounting; taxation of partnerships, trusts and corporations; anti-avoidance provisions; tax administration; capital gains tax; fringe benefits tax

E.2 **ICA Professional Course Content**

E.2.1 *Financial Accounting & Reporting*

- Framework for financial accounting
- Applying fundamental standards and pronouncements
- Disclosures and consolidated financial reporting.
- Cash flow statements
- Practical application and understanding of ethics

E.2.2 *Taxation*

- Aspects of taxation law, including the environment and regulatory framework
- Australian tax system: entities, capital and non-capital assets
- GST, FBT, international transactions, tax administration ethics and advice

E.2.3 *Audit & Assurance*

- Use of professional and ethical judgement in an assurance engagement
- Applying relevant legal and professional pronouncements
- Planning for, performing, and reporting on an assurance engagement.

E.2.4 *Management Accounting & Analysis*

- Core concepts of management accounting
- Forecasting & budgeting (decision tools, investment analysis tools)
- Risk management, strategic planning and analysis,
- Ethics and performance reporting

E.2.5 *Ethics & Business Application*

- Consolidation of learning from the previous technical modules.
- Identify, evaluate and resolve ethical and corporate governance issues