Report to ECC from the Board of Examiners

SEMESTER ONE 2008

PART III

BOARD OF EXAMINERS REPORT

(PUBLIC VERSION)

Institute of Actuaries of Australia

CONTENTS

SUMMARY

Examination Administration

The Semester One 2008 Part III examinations of the Institute of Actuaries of Australia ("Institute") were held between 28th April and 1st May 2008. Candidates attended the examinations in Australia (Sydney, Melbourne, Canberra, Perth, Adelaide and Brisbane) and overseas (New Zealand, Hong Kong, China, France, Fiji, Japan, Malaysia, Singapore, Switzerland, Taiwan, The Netherlands, United Kingdom and USA).

This is the fourth year in which twice yearly examinations have been held. The tables below show the number of candidates sitting each exam over recent years. The number of candidates sitting in the latest period shows a slight increase over that in Semester One 2007 and were slightly lower than Semester Two 2007.

Table A: Candidate Numbers Sitting by Part III Course

	Subject	2005 (1)	2005 (2)	2006 (1)	2006 (2)	2007 (1)	2007 (2)	2008 (1)
1	Investments	187	129	162	150	171	166	150
2A	Life Insurance	61	62	53	51	53	54	61
2B	Life Insurance	22	28	25	32	37	43	36
3A	General Insurance	68	79	69	65	64	82	69
3B	General Insurance	18	34	48	41	48	44	40
4A	Superannuation & Planned Savings	19	11	12	8	15	n/a[6]	n/a
4B	Superannuation & Planned Savings	5	10	n/a[1]	7	n/a[5]	16	n/a[10]
5A	Investment Management & Finance	20	19	14	18	17	n/a[6]	35
5B	Investment Management & Finance	10	16	14	15	n/a[5]	44	n/a[10]
6A	Global Retirement Income Systems							19[8]
10	Commercial Actuarial Practice	n/a	28	23[2]	47[3]	61[4]	70[7]	83[9]
	Total	410	416	420	434	466	519	493

1. The 4B Course did not run in 2006 (1).
2. In Semester One 2006 23 Individual Candidates enrolled, though some candidates only attempted either the Exam or the Case Study.
3. In Semester Two 2006 47 Individual Candidates enrolled, though some candidates attempted either the Exam or the Case Study.
4. CAP Semester 1 2007 61 individual candidates enrolled, 44 full course, 1 exam only, 12 case study only and 4 re-sat the case study and exam.
5. Course 4B and 5B did not run Semester 1 2007.
6. Course 4A and 5A did not run Semester 2 2007.
7. CAP Semester 2 2007 70 individual candidates enrolled, 47 full course, 6 exam only, 11 case study only (3 re-sat the case study and exam)
8. 6A GRIS introduced in Sem 1 2008 replacing Course 4A
9. CAP Semester 1, 2008, 83 candidates enrolled, 63 full course, 5 exam only, 13 case study only, 2 exam and case study only
10. Course 4B(to be replaced by 6B) and 5B did not run Semester 1 2008.

Results

Pass Rates

The number of candidates presenting for the Semester One 2008 Part III Exams, the recommended passes and the resulting pass rates are shown in the table below:

Table B: Recommended Number of Passes by Part III Course

	2008 (1) Sat	2008 (1) Pass	2008(1) %	2007 (2) Sat	2007 (2) Pass	2007 (2) %	2007 (1) Sat	2007 (1) Pass	2007 (1) %	2006 (2)	2006 (1)	2005 (2)	2005 (1)
1 Investments	150	59	39%	166	69	42%	171	56	33%	31%	28%	29%	24%
2A Life Insurance	61	21	34%	54	21	39%	53	18	34%	27%	32%	31%	23%
2B Life Insurance	36	14	39%	43	14	33%	37	8	22%	41%	32%	29%	50%
3A General Insurance	69	36	52%	82	17	21%	64	24	38%	38%	42%	35%	28%
3B General Insurance	40	16	40%	44	21	48%	48	23	48%	39%	50%	32%	50%
4A Super & PS	n/a	n/a	n/a	n/a	n/a	n/a	15	7	47%	38%	50%	18%	42%
4B Super & PS	n/a	n/a	n/a	16	7	44%	n/a			57%	n/a	60%	80%
5A Invest. Man. & Fin.	35	17	49%	n/a	n/a	n/a	17	6	35%	44%	50%	26%	35%
5B Invest. Man. & Fin.	n/a	n/a	n/a	44	15	34%	n/a			27%	43%	31%	40%
6A GRIS[5]	19	11	58%										
10 CAP – Case Study	78	51	65%	63	47	75%	59[2]	39	66%	64%	73%	68%	-
10 CAP – Exam	70	51	73%	57	49	86%	49[2]	37	76%	88%	78%	82%	-
Total	**493**	**215**	**44%[6]**	**519**	**211**	**41%**	**466[3]**	**177[4]**	**38%**	**38%**	**37%**	**34%**	**30%**

1. For CAP, in 2005 (2) the overall pass rate was 18/28 or 64%. In 2006 (1) the overall pass rate was 14/23 or 61%. In 2006 (2) the overall pass rate was 30/47 or 64%
2. CAP Numbers who presented for two different components
3. Includes all 61 CAP Candidates
4. Figure represents pass rate in respect of 61CAP students with 35 completing this module
5. 6A Global Retirement Income Systems new course Semester 1 2008
6. Figure represents pass rate in respect to all 83 CAP candidates

The Chief Examiners aim to produce a consistent standard of passing candidates, rather than a consistent pass rate from year to year. This semester, the recommended overall pass rate of 44% is slightly above the range achieved in recent years of 29% - 41%. The overall pass rate is in line with last semester with the latest results as a whole boosted once again by the strong results in Course 10 CAP. However, excluding the CAP results the overall pass rate would have still been 42%.

Prizes

Prizes are awarded only once in a calendar year following the Semester Two examinations. Each subject prize will then be awarded based on the performance of candidates in both semesters. The minimum standard for a subject prize has been set at 120% of the pass mark for both subjects. In addition, the candidate must have achieved A grades in at least 50% of questions in both exams.

Fellows

The Part III Examination transition period from the pre-2005 system to the new post-2005 system ended at the end of 2007. So that students in transition (i.e. those who have passed at least one paper of a pre-2005 subject) would not be disadvantaged, a variation on the new pathway was approved in 2006. There are two ways in which candidates can qualify as Fellows.

(i) Candidates must pass Module 1 (Investments), one full specialist subject (Modules 2 and 3) and Module 4 (Commercial Actuarial Practice).
(ii) Candidates in transition (ie. those who have completed at least one paper of a pre-2005 subject) must pass three Modules and Module 4 (Commerical Actuarial Practice), providing that the equivalent of Modules 2 and 3 in one special area have been completed.

If the Council adopts the recommended passes, the number of members that will be made Fellows (subject to attendance at a Professionalism Course, satisfying the Practical Experience Requirement and paying any relevant exemptions) will be:

Category	2008(1)	2007 (2)	2007 (1)	2006 (2)	2006 (1)	2005 (2)	2005 (1)
Pre-2005 system	0	1	1	7	14	19	7
Post-2005 system	37	41	32	25	10	14	-
Total New Fellows	**37***	**42**	**33**	**32**	**24**	**33**	**7**

* 38 candidates completed all the Part III exams but one of these candidates has yet to complete all Part I exams.

CHAIR'S REPORT

1. Examination Administration

1.1 The Board

The Board of Examiners oversees the Part III examination process of the Institute of Actuaries of Australia (Institute). The Board of Examiners consists of the Chair and her assistants and the Chief Examiners for each subject, supported by Institute staff.

For Semester One 2008 the Chair and her Assistants were:

Chair	Ms Caroline Bayliss
Assistant Chair	Mr Mike Fowlds
Assistant Chair	Mr Wesley Caine
Assistant Chair	Ms Raewin Davies
Assistant Chair	Ms Catherine Robertson-Hodder
Assistant Chair	Mr David Underwood

The Chief Examiners for Semester One 2008 were:

Course 1: Investments	Mr Tim Kyng
Course 2A: Life Insurance	Mr Rodney Scott
Course 2B: Life Insurance	Mr Andrew Gill
Course 3A: General Insurance	Mr Albert Napoli
Course 3B: General Insurance	Mr Brett Riley
Course 5A: Investment Management & Finance	Mr Francis Ratnasabapathy
Course 6A: Global Retirement Income Systems	Mr Stuart Cheetham
Course 10: Commercial Actuarial Practice	Mr Colin Westman

I would like to take this opportunity to thank all of the members of the Board of Examiners and their assistants for their efforts in preparing and marking the examination papers. The management of the examination process is an extremely important function of the Institute and it is currently being run by a small group of committed volunteers. I would also like to thank my assistants, Mike, Raewin, Catherine, David and Wesley for their support and untiring efforts in ensuring the overview process of the Chair worked smoothly and that the quality of the examinations and results was maintained.

1.2 Meetings of the Board

The Board met on three occasions as part of the Semester One 2008 exam process.

- The first meeting was held on 16th January. It was attended by representatives from each Course (Chief Examiners/Assistant Examiners). The purposes of this meeting were to:
    - update on enrolment numbers and course offerings for Semester One 2008
    - identify Chief & Assistant Examiners and Course Leaders for each course for Semester One 2008
    - outline the responsibilities of Chief Examiners and the Semester One schedule
    - review progress on the drafting of the exams to date
    - introduction to the on-line Learning Management system for new members

- The second meeting was held on 1st April. It was attended by a representative from all courses. The purposes of this meeting were to:

- discuss the status of Semester One 2008 examination papers, model solutions and sign-off process.
- discuss the marking spreadsheets review the recruitment of markers and arrangements for the marking day
- discuss feedback given on students results letters and exam performance interviews

- The third meeting was held on 11th June and was attended by Board of Examiners, Chief Examiners or their representative from all courses. The purposes of this meeting were to:
  - review the recommended pass lists and treatment of borderline candidates
  - review the recruitment of Chief Examiners for Semester Two 2008.

- A further meetings was held on 17th June, to review revised results for the following subjects: C1, 2B, 3A, 5A, 6A and CAP

1.3 Administration and Exam Supervision

The Board of Examiners was ably assisted by a number of Institute staff, in particular Mr Stephen Wright, Mr Philip Latham, Mrs Robyn Bulless and Ms Lauren O'Donnell. Philip, Robyn and Lauren were responsible for administering the entire process and ensuring key deadlines were met, compiling and formatting the examination papers, distributing material to candidates and to exam centres, processing results and collecting historical information for the production of this report. They did a great job for Semester One 2008 and the Board of Examiners team is indebted to them all.

In particular the Board would like to gratefully acknowledge the level of assistance and the professional approach to the management of the examinations that Robyn has brought to the process. We wish her all the best for her next challenge.

The Semester One 2008 Part III examinations in Sydney and Melbourne were again run by an external consultancy – Language and Testing Consultancy (LTC). Other examinations were administered by Fellows or other approved supervisors. All examinations ran smoothly.

1.4 Course Leaders

In October 2004, Course Leaders were appointed by the Institute to undertake a variety of tasks relating to modules 1-3 of the new Part III education program. One of the roles of the Course Leaders was to draft examination questions in consultation with the Chief Examiners. The following is a list of the Course Leaders for Semester 1 2008:

Course 1 - Andrew Leung (assignments and exams) and Tim Furlan, Stephen Milburn-Pyle, Jeron Van Koert, Simon Eagleton and Andrew Leung(tutorials)

Course 2A and 2B - Sue Howes (Faculty Convenor), Ken Huynh (2A Assignment and Exams), Bruce Thomson (2A tutorials), David Su (2B Assignments and Exams), and Alan Udell (2B tutorials)

Course 3A and 3B - GI Faculty, David Heath (3A and 3B Assignments, Exams, tutorials and discussion forums)

Course 5A – Andrew Leung (Course Leader, Assignments, Exams, tutorials and discussion forums)

Course 6A – Peter May (Faculty Convenor), Jeffrey Chee (assignments and exams),David McNeice (tutorials and discussion forums)

Course 10 - David Service

Another role of the Course Leaders was to draft assignment questions in consultation with each subject Faculty. The Board of Examiners was not involved in this process.

1.5   The Examination Process

The Semester One 2008 examination process began with an initial meeting of the Board of Examiners and Course Leaders. Some had begun drafting examination questions from January 2008. Once Chief Examiners had been appointed in all subjects they met with Course Leaders (where applicable) to discuss the draft exam questions.

Question setting

The basic framework followed by each subject to setting exam papers is the same. The Semester One 2008 Part III examinations were run on an open book basis. Each subject includes rigorous review processes. The general framework used to set examination papers is described as follows:

- The Course Leader (or equivalent) drafts the examination questions in consultation with the Chief Examiners.
- Draft exams and solutions are reviewed by scrutineers for coverage and fairness. The scrutineers are a mix of newly qualified actuaries and experienced actuaries.
- At least one scrutineer 'sits' the paper under exam conditions to assess the length of the paper.
- Exams are redrafted after feedback from the scrutineers.
- Draft exams, solutions and marking guides are then submitted to the BoE team for review. Two members of the BoE team review the draft exams and solutions.
- Exams, solutions and marking guides are finalised by the Chief Examiners and their Assistants.
- The Course Chief Examiners sign off the final examination papers and solutions.
- A member of the BoE team also signs off on the examination papers and solutions.

Exam marking

The general framework used to mark examination papers, grade candidates and determine passes is described as follows:

- Two markers marked each question. For Investments, due to the large number of candidates, a team of six markers marked each question with each marker marking one third of the papers, in teams of two. Inconsistencies in marks for a candidate were discussed by the markers and resolved (in most cases), before the results were forwarded to the Chief Examiner.
- Marks were scaled to allow for the fact that some questions were more difficult than others.
- Each candidate was awarded a grade for each question of A, B, C, D or E, where A was regarded as a strong pass and B an ordinary pass.
- Candidates' overall performance was determined using several metrics including total raw mark, total scaled mark, weighted average grade, weighted average rank and number of pass grades per question. The key determinant however was total scaled mark.
- Candidates were ranked based on these metrics, particularly total scaled mark.
- Candidates' assignment grades and marks were added to the exam metrics, with a weighting of 15% for Course 1 Investments and Modules 2 and 3.

- Candidates were divided into clear passes, clear failures and a middle group that required further consideration.
- The Chief Examiner reviewed the middle group individually. The pass/fail decision was made after assessing the candidate's whole exam paper, his/her performance in the judgement questions, how badly he/she performed in the questions he/she failed and whether they were 'key' areas of the course and his/her performance in the assignments.

1.6   The Assignment Process (Modules 1-3)

Question Setting

The basic framework followed by each course to setting assignment questions is the same and all subjects contain review processes. The general framework used to set assignments is described as follows:

- The Course Leader drafts the assignment. They are each worth 15% of the total marks for the subject.
- Draft assignments and solutions are then reviewed by each Faculty for coverage and fairness.
- Each Faculty signs off the assignments.

Students were given access to the assignments via the specific link on the Institute web site.

The Board of Examiners did not review or comment on the assignments.

Assignment Marking

The general framework used to mark assignments, grade candidates and determine passes is described as follows:

- Each question was marked only once, with the assignments being divided up among multiple markers. Different markers had different marking standards and pass criteria. Course Leaders sample marked 5% of all assignments (or at least one assignment from each marker). Inconsistencies in marks for a candidate were to have been discussed by the relevant marker and the Course Leaders and resolved, before the results were forwarded to the Chief Examiner.
- Marks were not scaled to allow for the fact that some questions were more difficult than others.
- Each candidate was awarded a grade for each question of A, B, C, D or E, where A was regarded as a strong pass and B an ordinary pass.
- Candidates' results were based on total raw marks.

In Semester One 2008 assignments were submitted only electronically. Markers were allocated candidate numbers and accessed and marked on-line and or by hard copy forwarded by the IAA. Feedback was also posted electronically by the markers and/or IAA. This enabled a faster turn around and delivery of feedback as once all assignments were marked, students could access their feedback immediately.

1.7 Module 4 CAP - The Case Study Process

The CAP course was developed and originally delivered for the Institute by the ANU. Semester One was run directly by the Institute. The CAP team involved in the previous semester have been retained on individual contracts. The team included David Service, Elayne Grace, Richard Madden, Peter Martin, Colin Priest and Andrew Brown. The team also developed the assessment materials for the course and did the marking.

The development and delivery of the course was overseen by a Faculty, consisting of Ken McLeod (Chair), Andrew Brown, Arie van den Berg, David Knox and Donna Walker. Colin Westman also acted as Chief Examiner, assisted by the other members of the Faculty.

1.8 Examination Dates

The Semester One 2008 Part III examinations were held on the following dates:

Course 1:	Investments	Monday 28th April
Course 10:	Commercial Actuarial Practice	Monday 28th April
Course 2A:	Life Insurance	Tuesday 29th April
Course 2B:	Life Insurance	Tuesday 29th April
Course 3A:	General Insurance	Wednesday 30th April
Course 3B:	General Insurance	Wednesday 30th April
Course 5A:	Investment Management & Finance	Thursday 1st May
Course 6A:	Global Retirement Income Systems	Thursday 1st May

1.9 Assignment Dates

The Semester One 2008 Part III assignments were due on the following dates:

27th February (C1,2A, 3A & 5A)
12th March (6A, 2B)
19th March (3B)
29th March Case Study (CAP)

1.10 Examination Centres

Candidates sat the exams in 6 centres in Australia and 15 centres overseas. Individual exam locations were arranged in China (2), Japan (1), France (1), Fiji (1), Scotland (1),Switzerland (2), Taiwan (1), The Netherlands (1), and USA (2). This table includes candidates who sat the CAP Exam

Table 1: Candidates by Exam Centre – Semester One 2008

	Number of Candidates
Australia	
Adelaide	1
Brisbane	6
Canberra	5
Melbourne	70
Sydney	311
Perth	7
Overseas	
China	2
Fiji	1
France	1
Hong Kong	17
Japan	1
Malaysia	4
New Zealand	12
Singapore	21
Switzerland	2
Taiwan	1
The Netherlands	1
United Kingdom	15
USA	2
Total	480

1.11 Exam Candidature

Candidate Numbers
The number of candidates sitting the Part III exams in Semester One remained broadly consistent compared with the previous semesters, being higher than for Semester One 2007 and lower than Semester Two 2007. Unusually there was a slight decrease in the number of candidates sitting course C1 (Investments) over the previous semester. Typically this course has more candidates in Semester One than in Semester Two as this is the first course that recent graduates typically sit.

Table 2: Candidate Numbers Sitting by Part III Courses

	Subject	2005 (1)	2005 (2)	2006 (1)	2006 (2)	2007 (1)	2007 (2)	2008 (1
1	Investments	187	129	162	150	171	166	150
2A	Life Insurance	61	62	53	51	53	54	61
2B	Life Insurance	22	28	25	32	37	43	36
3A	General Insurance	68	79	69	65	64	82	69
3B	General Insurance	18	34	48	41	48	44	40
4A	Superannuation & Planned Savings	19	11	12	8	15	n/a[6]	n/a[8]
4B	Superannuation & Planned Savings	5	10	n/a[1]	7	n/a[5]	16	n/a[10]
5A	Investment Management & Finance	20	19	14	18	17	n/a[6]	35
5B	Investment Management & Finance	10	16	14	15	n/a[5]	44	n/a[10]
6A	Global Retirement Income Systems							19[8]
10	Commercial Actuarial Practice	n/a	28	23[2]	47[3]	61[4]	70[7]	83[9]
	Total	**410**	**416**	**420**	**434**	**466**	**519**	**493**

1. The 4B Course did not run in 2006 (1).
2. In Semester One 2006 23 Individual Candidates enrolled, though some candidates only attempted either the Exam or the Case Study.
3. In Semester Two 2006 47 Individual Candidates enrolled, though some candidates attempted either the Exam or the Case Study.
4. CAP Semester 1 2007 61 individual candidates enrolled, 44 full course, 1 exam only, 12 case study only and 4 re-sat the case study and exam.
5. Courses 4B and 5B did not run Semester 1 2007.
6. Courses 4A and 5A did not run Semester 2 2007.
7. CAP Semester 2 2007 70 individual candidates enrolled, 47 full course, 6 exam only, 11 case study only (3 re-sat the case study and exam)
8. Course 6A was introduced in Sem 1 2008, replacing Course 4A
9. CAP Semester 1, 2008, 83 candidates enrolled, 63 full course, 5 exam only, 13 case study only, 2 exam and case study only
10. Courses 4B (to be replaced by Course 6B) and 5B did not run Semester 1 2008.

Withdrawal Rates

In Semester One 2008, 542 candidates initially enrolled in courses, however 49 candidates subsequently withdrew from courses or did not present for the examination.

The number of candidates that enrolled for a course but withdrew prior to the examination was highest in absolute terms for Investments (11 officially withdrew prior to the examinations and 11 did not present for the exam, out of 172 originally enrolled). For other courses, the absolute number of withdrawals was slightly higher than in previous semesters. The overall percentages that withdrew were broadly consistent with past experience. The withdrawal rates for all subjects were:

Table 3: Withdrawal Rates by Part III Course – Semester One 2008

	Subject	Initially Enrolled	Withdrew prior to Exam	Absent from exam	Total Withdrawing	%
1	Investments	172	11	11	22	13%
2A	Life Insurance	64	2	1	3	5%
2B	Life Insurance	37	0	1	1	3%
3A	General Insurance	79	10	0	10	13%
3B	General Insurance	43	3	0	3	7%
5A	Invest Management & Finance	41	2	4	6	15%
6A	Global Retirement Income Systems	19	0	0	0	0%
10	Commercial Actuarial Practice	87[1]	4	0	4	5%
	Total	**542**	**32**	**17**	**49**	**9%**

1. Includes exam and case study CAP candidates

Candidate Mix

The mix of courses sat by candidates is broadly similar to that in previous years. The numbers for Investments has decreased compared with last Semester. Typically, the percentage enrolling in Investments will be higher in Semester One than in Semester Two as it is compulsory under the new Part III structure and new students are likely to sit it first.

The enrolments for Life Insurance have been fairly constant at approximately 20% for recent semesters, down from a previous trend of 27%. This pattern is reversed for the General Insurance Course, where the latest semesters show enrolments at 24% to 28%, while previously they were trending around the 20% mark. The enrolments in Superannuation continue to be low, reflecting the perceived reduction in employment opportunities in this area. The Investment Management and Finance enrolments show a slight decrease over the previous semester.

Table 4: Candidate Mix by Part III Course – Enrolments Semester One 2008

	Subject	2005 (1)	2005 (2)	2006 (1)	2006 (2)	2007 (1)	2007 (2)	2008 (1)
1	Investments[1]	46%	31%	39%	35%	38%	33%	32%
2	Life Insurance	20%	21%	19%	19%	20%	19%	19%
3	General Insurance	21%	27%	28%	25%	24%	24%	23%
4	Superannuation & P.S.	6%	5%	3%	3%	3%	3%	n/a
5	Investment Mgt & Finance[2]	7%	10%	7%	8%	4%	9%	8%
6	Global Retirement Income Systems							4%
10	Comm. Actuarial Practice	n/a	6%	5%	9%	12%[1]	12%[2]	16%[2]
	Total	100%	100%	100%	100%	100%	100%	100%

1. Includes all CAP candidates enrolled including case study and or exam only – 61
2. Includes all CAP candidates enrolled including case study and or exam only -70
3. Indicates all CAP candidates enrolled including case study and or exam only - 83

2. Examination Papers and Assignments

2.1 Examination Structure

The structure of the examinations in Semester One 2008 was a single three-hour exam paper for Modules 1-3 and a two-hour exam paper for Module 4 (Course 10 – Commercial Actuarial Practice). The exams for Modules 1, 2 & 3 were worth 85% of the final assessment, with the assignment worth 15%.

For Modules 1-3, each course was assessed individually. That is, a candidate can choose to sit (and subsequently pass or fail) only Course A (relating to Module 2) or Course B (relating to Module 3) of the subject. This differs from 2004 and earlier exams where candidates sat for the entire course (both A and B parts). For the 2004 exams, candidates were awarded a transitional pass for a paper if they passed either Paper 1 (Course A) or Paper 2 (Course B).

For Module 4, Commercial Actuarial Practice, assessment was determined as follows:

- *First piece*: participation in a one-week residential course (5%) and completion of a case study in a traditional practice area, over 8 hours, on the course's 5th day (45%).

- *Second piece*: two-hour exam paper on non-traditional areas of actuarial practice, answering 2 out of 4 questions (50%).

- In order for a candidate to obtain an overall pass in Module 4, both pieces of the assessment had to be passed. Students receiving an overall fail could be awarded a pass for either assessment piece and would only need to complete the other piece in a future semester, within a two-year period.

2.2 Assignment / Case Study Structure

The structure of the assignments in Semester One 2008 was one assignment for Modules 1, 2 and 3 with the assignment worth 15% of the final assessment.

Module 4 (Course 10 – Commercial Actuarial Practice) was assessed by 50% exam and 50% case study. Within the 50% case study assessment, which needed to be passed independently of the exam, the case study itself was worth 90% of the final assessment. Candidates completed the case study on the final day of the residential course, under exam conditions. In addition, general participation in the residential course was assessed at 10% of the case study marks.

2.3 Examination Standards

In each course there was a mix of questions covering three categories:

- applying bookwork to familiar and unfamiliar circumstances. This category is aimed at testing the candidates' knowledge and understanding (KU)
- problem solving requiring simple judgement (SJ)
- problem solving requiring complex judgement (CJ).

The questions aimed to cover the whole syllabus. In the case of Module 1 (Investments) the examination was based on the syllabus and a previously determined set of readings.

The standards to be achieved by candidates sitting each course, the principles on which papers are to be set and the marking procedures, are set out in the Guidelines to Examiners. To ensure the examination papers had proper balance, guidance as to the proportion of marks given to each category needed to be established. The standards of difficulty as determined by the Chief Examiners at the time they set the papers are set out below, with a comparison to the prior semester.

Table 5: Standards of Difficulty by Part III Course

		Knowledge & Understanding		Simple Judgement		Complex Judgement	
	Subject	2007 (2)	2008 (1)	2007 (2)	2008 (1)	2007 (2)	2008 (1)
1	Investments	21%	20%	40%	40%	39%	40%
2A	Life Insurance	20%	20%	44%	40%	36%	40%
2B	Life Insurance	22%	23%	38%	38%	40%	39%
3A	General Insurance	16%	23.5%	43%	43.5%	41%	33%
3B	General Insurance	24%	18%	40%	42%	36%	40%
5A	Invest. Management & Finance	n/a	20%	n/a	38%	n/a	42%
5B	Invest. Management & Finance	20%	n/a	40%	n/a	40%	
6A	Global Retirement Income Systems		19%		47%		34%
	Targets	**15% - 25%**		**35% - 45%**		**35% - 45%**	

The examination papers were broadly similar in standard of difficulty to prior periods.

Copies of the examination papers have not been included within this report in the interests of space. They are available from the Institute if required. Detailed comments on the quality of candidates' answers to the exam questions are contained in each Chief Examiner's report.

2.4   Assignment Standards

The setting of standards for the assignments used the same approach as for the examinations, that is, questions were set covering the following three categories:

- applying bookwork to familiar and unfamiliar circumstances. This category is aimed at testing the candidates' knowledge and understanding (KU)
- problem solving requiring simple judgement (SJ)
- problem solving requiring complex judgement (CJ).

Whilst the target weighting of each category for the exams was essentially 20% KU / 40% SJ / 40% CJ, the target weighting for the assignments was 40% KU / 40% SJ / 20% CJ. With the introduction of assessable assignments the exam is only worth 85% of the final assessment from 2007. This means that a higher component of the assessment is KU ("bookwork") and a lower proportion of the assessment is CJ ("complex judgement"), under the new system, compared with 2004 and earlier.

Although the target weightings of the assignments for each subject were 40%/40%/20% the Board of Examiners was not informed of the actual weightings of any of the assignments. Copies of the assignments were not supplied to the Board of Examiners, but should be available from the Institute if required.

2.5   Security of Examination Papers

Procedures adopted in 2002 to improve the security of examination papers were continued in 2008:

- Although offered no courses held a marking day.
- Overseas supervisors were required to photocopy papers before sending them by courier to the Institute office.
- Secure couriers were used to transport papers between markers.
- Chief Examiners allocated two markers from the same city for each question as far as were possible (so papers were not moving too frequently between cities).

2.6   Security of Assignments

In Semester 1 2008 markers were given three options for accessing, marking and returning results and comments to the IAA and students.
Accessing assignments: Markers could opt to proceed with marking and returning comments in one of the following three ways:
1. Access and load comments via the on-line learning management system (LMS)
2. Receive a hard copy of the assignment form the IAA but upload comments directly via the LMS
3. Receive a hard copy from the IAA. Return the Hard copy to the IAA who scanned and uploaded comments on the LMS.
The majority of markers opted for Method 1. This enabled students to receive feedback in a more timely manner to previous semesters.

For all results, spreadsheets were sent directly to either and/or the IAA and the Course Leader.

2.7   Comments on Candidates' Examination Performance

General observations on candidates' performance in each subject are as follows. These observations include my own comments.

Course 1 – Investments

The overall performance on this semester's exam is similar to that of last semester, with 39% of candidates passing the exam compared with 42% last semester. The exam was perhaps a little more difficult than last semester's exam. The exam and its individual questions had good discriminating power.

Question 3 was the one that students performed best on, as measured by the average mark and the proportion passing. Questions 2, 4 and 5 were the most difficult questions for students, with lower average marks and lower proportions passing. Question 1 was rated by the examiners as being easier than question 5 but the performance of the students on these questions was similar.

Course 2A - Life Insurance

Overall the exam paper acted as a reasonable discriminator, with raw marks (including the assignment) ranging from 67.7 to 136.2 (excluding the candidates who did not present for the exam). This was an equivalent range to that achieved in the previous semester. Overall student performance was slightly worse than in the previous semester, but better than in the semesters preceding that.

The examiners' impression of the paper was that it was interesting and challenging, although not too difficult in content. In many cases there were multiple ways to earn the available marks. On the other hand it was a reasonably long paper with significant time required for calculations in some of the questions. It is a paper that should have provided a good broad test of candidates' knowledge, understanding and judgement.

There is more detail in the question by question analysis provided below. Nonetheless some consistent messages from the markers were as follows:

- Candidates are failing to read the questions carefully, and to make sure they are answering everything that is asked of them.
- Candidates are generally good at repeating book work, but are often not able to consider how the book work may apply in the particular situation presented to them.

Course 2B - Life Insurance

Overall, the performance on this exam was similar to that of last semester. As detailed in the following sections, there were some questions that were answered reasonably, and others that were not answered well.

Some candidates clearly did not allow sufficient time to complete each question. Consequently, many marks were lost due to poor, rushed responses to the last two questions of the exam.

Course 3A - General Insurance

In setting the paper, the intention was to have a consistent level of difficulty with previous papers, although it has proved more straight forward than the paper in Semester 2 2007 which proved quite difficult for candidates (with only a 20% pass rate).

The pass rate is at the upper end of historic pass rates. Comments from candidates suggest the paper covered the course content well but that the paper was too long.

The average raw exam mark this semester was 110, relative to 74 for November 2007, and 104, 85, 100 and 86 for the May 2007, November 2006, May 2006 and November 2005 examinations.

The average raw marks in each of the six exam questions ranged from 36% to 57% of the total marks available, higher than November 2007 exam (27% to 45%) but similar to prior exams (47% to 59% in May 2007, 29% to 58% in November 2006, 43% to 55% in May 2006 and 26% to 57% in November 2005).

Question 6 had the lowest marks, as a lot of candidates seemed to run out of time.

Course 3B - General Insurance

Overall, the exam paper and assignment (combined) acted as a reasonable discriminator, with raw marks ranging from 66 to 137 out of 200. Overall student performance was similar to that in prior semesters.

The impression that the examiners had after setting the paper was that it was not a particularly difficult paper, in the sense that it did not contain one or more questions that required students to apply core concepts in extraordinary new areas. However, we felt that on balance it was a reasonably long paper that would provide a good broad test of students' knowledge and understanding and ability to apply this, and their judgement, to some practical situations.

Question 6 was poorly attempted. Few students answered this in the precise manner expected by the examiners. We think this was largely due to some aspects of the question's wording and the length of the paper. For these reasons, as noted previously, this question was marked again by the examiners for all students to ensure all candidates were treated fairly. We concluded that this question was marked fairly and did not distort the overall assessment process.

The overall pass rate is broadly comparable to recent semesters for this course.

Candidates found question 3 the easiest of the exam questions (59% pass rate) and question 6 the most difficult (20% pass rate).

Some consistent messages from the markers were as follows:

- Candidates are not going beyond "stock" answers. They often ignore information given in the question in favour of "lists" of responses and standard approaches, without adapting these for the situation or considering the appropriateness in the circumstances. It is sometimes difficult to conclude whether the candidates have the requisite skills to apply their knowledge, or if this is exam technique issue. We identified this comment in the corresponding Chief Examiner's report for Course 3B: General Insurance last semester.
- Candidates do not necessarily respond to all points raised in a question, even where the question specifically asks them to consider these.

Course 5A- Investment Management and Finance

Candidates performed best in Question 1 which was a reasonably straightforward question with a large numerical component. The responses to the more abstract questions were generally weaker.

Candidates performed quite poorly in Question 2 which was a somewhat traditional investments question.

Question 3 was a reasonably straightforward question about a public-private partnership. Candidates were able to present general points about capital structure but some struggled to apply the theory to the specific nature of the PPP.

Candidates performed better (in raw scores) in Question 4 which was a more non-traditional question about Emission Trading Systems. However, many students also struggled with some parts of this question as their responses tended to be quite different from the intended focus of the question.

Question 5 was a somewhat generic question about using a VAR model and tactical asset allocations. Unfortunately, many Candidates struggled with the question.

The overall pass rate is higher than the 5A pass rate last year. However, the small number of candidates in the prior year (17) makes it difficult to draw any conclusion.

Course 6A – Global Retirement Income Systems

Overall candidates did well in questions 1, 2 and 6. These covered topics of funding methods, and the nature of the provision of benefits. The questions involved largely knowledge and understanding with only some analysis and judgment involved.

Question 3 on investment risk aversion was answered reasonably well by half the candidates.

Questions 4 and 5 proved to be the discriminator questions. They covered asset liability modeling and application of accounting standards. Comments from the markers indicated that candidates were probably under time pressure at this stage.

Question 5 on accounting standards proved the most difficult. No student came close to getting all the numeric answers or formulae correct. However, the good candidates made a solid attempt at some of the components of the answer and prepared a neat template of the required report.

Any candidate who passed question 4 or question 5 passed overall. A few candidates passed overall without passing either question 4 or question 5.

Course 10 – Commercial Actuarial Practice

The Commercial Actuarial Practice (CAP) Course was conducted for the sixth time in Semester One 2008. The overall assessment was focused on the practical application of judgement and on the communication skills of the students, rather than on bookwork.

There were two separate pieces of assessment. The first assessment was based on participation in a one-week residential course and on completion of a case study in one of the traditional areas of actuarial practice on the last day of the residential course. The second assessment was a 2-hour examination on non-traditional areas of actuarial practice. Students were required to pass each of these assessments in order to pass the Module.

The pass rate for this subject is lower than has been typical in past semesters. It is noted that there are more candidates that usual taking this subject without having first passed all other elements of the professions examinations. This may be a reason for the lower pass rate, as students with less experience in the workplace, or possibly lower motivation (this not being their final exam) are sitting the course this time

2.8   Comments on Candidates' Assignment Performance

As the Chief Examiners were unable to review candidates' assignments, no comments on assignment performance can be provided.

3. Results

3.1 Pass Standards

The standards for determining whether a candidate should be granted the status of Fellow of the Institute of Actuaries of Australia are based on whether an individual demonstrates core capabilities required for an actuary practicing professionally in their specialty area(s). Candidates are required to demonstrate:

- a strong knowledge of the nature, operations, legislation and current issues of the selected practice area(s)
- a detailed knowledge and understanding of the application of actuarial concepts and skills to the chosen practice area(s)
- an ability to apply judgement to solve problems in the chosen practice area(s) that may be characterised by complexity, varying degrees of clarity of definition and novel or unseen circumstances.

A candidate is not expected to demonstrate these capabilities at the level of an experienced and skilled practitioner. It is unreasonable to expect candidates to demonstrate the degree of understanding of an actuary of some year's experience. Rather, the benchmark is whether the candidate is proficient to commence practicing professionally in their specialty area(s). Provided the candidate shows a grasp of the main principles, a pass should be awarded. Conversely, a candidate who demonstrates dangerous misconceptions or misapplication of concepts or ideas is viewed more seriously than a candidate who shows a simple lack of knowledge.

The Chief Examiners in the Part III Courses place greater emphasis on the questions that require the candidate to demonstrate the ability to apply bookwork to specific situations and show judgement to solve problems. When grading borderline candidates, their ability to do well in such questions has a greater bearing on whether they pass or fail. The Chief Examiners however, are very conscious of the fact that it is unreasonable to expect candidates to demonstrate the degree of understanding of an actuary with years of experience. In addition, actuaries are expected to be able to demonstrate their skills to those outside the profession. Candidates are expected to be able to communicate clearly and may be penalised if their answers are not clearly expressed.

3.2 Candidates' Results

Candidates' results in each subject and at each level are set out in the attachments to each Chief Examiner's report. In summary the results are:

Table 6: Recommended Candidate Passes by Part III Course

	Subject	2005 (1)	2005 (2)	2006 (1)	2006 (2)	2007 (1)	2007 (2)	2008 (1)
1	Investments	45	38	45	46	56	69	59
2A	Life Insurance	14	19	17	14	18	21	21
2B	Life Insurance	11	8	8	13	8	14	14
3A	General Insurance	19	28	28	25	24	17	36
3B	General Insurance	9	11	24	16	23	21	16
4A	Superannuation & P.S.	8	2	6	3	7	n/a	n/a
4B	Superannuation & P.S.	4	6	n/a	4	-	7	n/a
5A	Invest. Mngmt & Finance	7	5	7	8	6	n/a	17
5B	Invest. Mngmt & Finance	4	5	6	4	-	15	n/a
6A	Global Retirement Income Systems							11
10	Comm. Actuarial Practice	-	18	14[1]	30	35[2]	47[3]	41[4]
	Total (pre 2005)[4]	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Total (post 2005)	**121**	**140**	**156**	**163**	**177**	**211**	**215**

1   CAP had 30 overall passes. out of 47 candidates presenting. It had 28 passes out of 44 candidates presenting for the case study and 38 passes out of 43 presenting for the exam.
2   61candidates, 35 passes in the course (including case study and/or exam)
3   70 candidates, 47 passes in the course (including case study and/or exam)
4   83 candidates, 41 passes in the course (including case study and/or exam)

Table 7: Recommended Pass Rates by Part III Course

	Subject	2005(1)	2005(2)	2006(1)	2006(2)	2007 (1)	2007 (2)	2008 (1)
1	Investments[1]	24%	29%	28%	31%	33%	42%	39%
2A	Life Insurance	23%	31%	32%	28%	34%	39%	34%
2B	Life Insurance	50%	29%	32%	41%	22%	33%	39%
3A	General Insurance	28%	35%	42%	38%	38%	21%	52%
3B	General Insurance	50%	32%	50%	39%	48%	48%	40%
4A	Superannuation & P. S.	42%	18%	50%	38%	47%	n/a	n/a
4B	Superannuation & P. S.	80%	60%	n/a	57%	-	44%	n/a
5A	Invest. Mngmt & Finance[2]	35%	26%	50%	44%	35%	n/a	49%
5B	Invest. Mngmt & Finance[3]	40%	31%	43%	27%	-	34%	n/a
6A	GRIS							58%[3]
10	CAP – Case Study	-	68%	73%	64%	66%	75%	65%
10	CAP – Exam		82%	78%	77%	76%	86%	73%
	Total	**30%**	**34%**	**37%**	**38%**	**38%[1]**	**41%[2]**	**44[4]%**

1   Based on CAP results of 61candidates, 35 passes in the course (including case study and or exam) = 57%
2   Based on CAP results of 70 candidates, 47 passes in the course (including case study and or exam) = 67%
3   6A GRIS –new course Semester 1 2008.
4   Based on CAP results of 83 candidates, 41 passes in the course (including case study and or exam) = 49%

The Chief Examiners aim to produce a consistent standard of passing candidates, rather than a consistent pass rate from year to year. This semester, the recommended overall pass rate of 44% is slightly above the range achieved in recent years of 29% - 41%. The overall pass rate is in line with last semester with the latest results as a whole boosted once again by the strong results in Course 10 CAP of 65% for the Case Study and 73% for the Exam. However, excluding the CAP results the overall pass rate would have still been 42%.

The pass rate for Course 10, Commercial Actuarial Practice (CAP), of 49% overall and 65% for the Case Study and 73% for the exam was significantly higher than the average pass rate for Modules 1-3 of 42%. We believe that this is due to the following factors:

- CAP is a fundamentally different subject to those in Modules 1-3. It is undertaken as a one-week taught residential course, rather than as distance education, and has two assessment pieces, that is, the case study and the exam.
- CAP is undertaken by more experienced candidates that are generally closer to final qualification. These candidates would be expected to achieve a higher pass rate than the average rate across all candidates.
- Each assessment piece was double marked and then reviewed by the CAP Chief Examiner. To ensure consistency across the different subjects, one of the markers marked all case studies and all exams.
- CAP will be compulsory to all Part III students once transition ends. Any fundamental differences between CAP and Modules 1-3 will impact equally on all students.

We note however that the pass rates for the CAP course, both in respect of the individual elements and as a whole are lower than is typically the case. Marks exhibited a greater spread than usual and we understand that there were more students than is usually the case taking this subject without having passed all of the earlier modules. We expect that this has contributed to the lower pass rate and will be reviewing this hypothesis against the data at a later date.

The Board agreed that the standard applied to marking the exams for all subjects was ultimately the same as in previous years.

Further detail on the deliberations of each Chief Examiner is contained in their individual reports. I am satisfied that the processes adopted in the marking of papers and grading of exam papers have been fair and robust. The single marking of assignments may have led to some discrepancies among candidates, though due to the relatively few candidates whose results were changed by their assignment result (partly as a result of the reduced weighting given to assessments), this would not have had a big impact overall. Every effort has been made to ensure consistency between years and between subjects.

3.4 Pass Rates by Centre

The pass rates by exam centre were as follows:

Table 8: Comparison of Pass Rates by Centre

	2005(1)	2005(2)	2006(1)	2006(2)	2007 (1)	2007 (2)	2008 (1)
Sydney	33%	43%	36%	42%	40%	45%	47%
Melbourne	33%	30%	38%	37%	50%	44%	50%
Other*	21%	19%	39%	25%	34%	29%	43%
Total	**30%**	**34%**	**37%**	**38%**	**38%**[1]	**41%**[2]	**47%**[3]

* Other Australian and overseas exam centres
1.   Number incorporates only 49 CAP students sitting the exam out of a total of 61 candidates
2.   Number incorporates only 57 CAP students sitting the exam out of a total of 70 candidates
3.   Number incorporates only 70 CAP students sitting the exam out of a total of 83 candidates

I have examined the pass rates by specialist subject and examination centre. This analysis revealed a number of interesting features, including:

- The overall pass rate for non-Sydney/Melbourne examination centres is only marginally lower than the overall pass rate for the Sydney/Melbourne examination centres (43% compared with 48%). The difference between Sydney/Melbourne and other centres was much more marked in Semester 2 2007

- The pass rate in Sydney, the largest centre with 66% of all candidates, was 47% this semester.
- In New Zealand only 4 candidates from 12 attempts passed (33%).
- Hong Kong was the largest overseas centre (previously London). There were 5 passes from 17 attempts (29%).

3.5 Pass Marks and Scaling

The scaled pass marks for 2005 Semesters one and onward, out of 200 marks have been as follows:

Table 9: Scaled Pass Marks by Part III Course

	Subject	2005 (1)[4]	2005 (2)[4]	2006 (1)[4]	2006 (2)[4]	2007 (1)	2007 (2)	2008 (1)
1	Investments[1]	103	114	103	120	121	90[1]	100
2A	Life Insurance	121	115	114	122	115	123	123
2B	Life Insurance	123.5	110	119	124	111	110	110
3A	General Insurance	117	109	116	113	111	113	115
3B	General Insurance	116	112	115	118	120	120	120
4A	Superannuation & P.S.	111	115	122	127	120	-	n/a
4B	Superannuation & P.S.	112	115	n/a	128	-	122	n/a
5A	Invest. Mngmt & Finance[2]	120	107	120	102	100	-	120
5B	Invest. Mngmt & Finance[3]	110	108	120	123	-	121	n/a
6A	Global Retirement Income Systems							120
10	Comm. Actuarial Practice[1]	-	50 – 50	50 - 50	50 - 50	50-50	50-50	50-50

1   For CAP, the case study and the exam each had a pass mark of 50%.
2   Grossed up from 45/100 for consistency with historic data

The relationship between scaled and raw marks for 2008 Semester One was:

Table 10: Raw and Scaled Pass Marks by Part III Subject

	Subject	Raw	Scaled
1	Investments	90	100
2A	Life Insurance	112	123
2B	Life Insurance	100	110
3A	General Insurance	100	115
3B	General Insurance	100	120
5A	Investment Management and Finance	90	120
6A	Global Retirement Income Systems	115	120

Consistent pass criteria have been used for all subjects. The criteria are:

- the scaled mark
- a grade point average of around 2.5
- number of questions passed being "50% of questions + 1, rounded down" e.g. pass 4 from 6 questions; pass 4 from 7 questions or pass 3 from 5 questions.
- no more than 1D and no E grades.
- borderline candidates are to be assessed carefully, with the examiners re-marking their papers, as in previous years.
- assignments were included in the assessment process, being weighted at 15% of the overall assessment.

The range of scaled marks in Semester One 2008 was 100-123 out of 200, a range of 23 marks. This compares to Semester Two 2007 being 100-121 out of 200, a range of 21 marks.

It should be noted that, as discussed above, the scaled mark was not the sole factor used to determine whether a candidate passed or did not pass.

3.6   Andrew Prescott Memorial & Katherine Robertson Prizes

In December 1978, Council agreed to establish the Andrew Prescott Memorial Prize, in honour of the late Andrew Prescott, for meritorious performance in the Institute's examinations. Prizes are awarded in two divisions:

- Prizes for the highest mark in the examination in each Part III subject provided a certain minimum standard is attained.
- A prize for outstanding performance over the whole examination process on completing the Fellowship.

Since 2001, the Katherine Robertson Prize has been awarded for General Insurance in lieu of the Andrew Prescott Memorial Prize. Katherine Robertson was an outstanding young actuary working in General Insurance who passed away in October 2000.

Subject Prizes
Prizes will be awarded only once in a calendar year following the Semester Two examinations based on the performance of candidates in both semesters. The minimum standard for a subject prize has been set at 120% of the pass mark for both subjects. In addition, the candidate must have achieved A grades in at least 50% of questions in both exams. Outstanding candidates from Semester One will be considered in conjunction with the Semester Two candidates.

3.7   Fellows

The Part III Examination transition period from the pre-2005 system to the new post-2005 system ended at the end of 2007. So that students in transition (i.e. those who have passed at least one paper of a pre-2005 subject) would not be disadvantaged, a variation on the new pathway was approved in 2006. There are two ways in which candidates can qualify as Fellows.

(iii) Candidates must pass Module 1 (Investments), one full specialist subject (Modules 2 and 3) and Module 4 (Commercial Actuarial Practice).
(iv) Candidates in transition (ie. those who have completed at least one paper of a pre-2005 subject) must pass three Modules and Module 4 (Commerical Actuarial Practice), providing that the equivalent of Modules 2 and 3 in one special area have been completed.

If the Council adopts the recommended passes, the number of members that will be made Fellows (subject to attendance at a Professionalism Course, satisfying the Practical Experience Requirement and paying any relevant exemptions) will be:

Category	2008(1)	2007 (2)	2007 (1)	2006 (2)	2006 (1)	2005 (2)	2005 (1)
Pre-2005 system	0	1	1	7	14	19	7
Post-2005 system	37	41	32	25	10	14	-
Total New Fellows	**37***	**42**	**33**	**32**	**24**	**33**	**7**

4. Recommendations for Semester Two 2008

4.1 Board of Examiners

The recommended constitution for the Board of Examiners for Semester Two 2008 is as follows:

Chair and Assistants
Chair	Ms Caroline Bayliss
Assistant Chair	Mr Wesley Caine
Assistant Chair	Ms Raewin Davies
Assistant Chair	Mr David Underwood
Assistant Chair	Ms Catherine Robertson-Hodder
Assistant Chair	Mr Mike Fowlds

Chief Examiners
Course 1:	Investments	Mr Tim Kyng
Course 2A:	Life Insurance	Mr Ian Werner
Course 2B:	Life Insurance	Mr Andrew Gill
Course 3A:	General Insurance	Mr David Gifford
Course 3B:	General Insurance	Mr Adam Payne
Course 5B:	Investment Management & Finance	Mr David Pitt
Course 6B:	GRIS	Mrs Debra Lewis
Course 10:	Commercial Actuarial Practice	Mr Colin Westman

A number of the Assistant Examiner positions are yet to be confirmed for Semester Two 2008.

4.2 Examination Dates

The dates for the examinations in Semester Two 2008 are as follows:

Semester 1 2008
Module 1	Investments	Mon 20th October
Module 4 (10)	Commercial Actuarial Practice	Mon 20th October
Modules 2/3 (2A/2B)	Life Insurance	Tues 21st October am and pm
Modules 2/3 (3A/3B)	General Insurance	Wed 22nd October am and pm
Modules 2/3 (5B)	Investment Management & Finance	Thur 23rd October am
Modules 2/3 (6B)	Global Retirement Income Systems	Thur 23rd October pm

4.3 Exam Solutions

The Board of Examiners has agreed to release the Semester One 2008 examination papers along with the examination specimen solutions and marking guides. It is recommended that the 2008 Semester One examination papers and exam solutions and marking guides be released on 25th June or as close to this time as possible

Caroline Bayliss
Chair, Board of Examiners
23 June 2008

Subject C1:Investments Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

172 Candidates enrolled for the Semester 1 2008, Investment Management exam. Of these, 22 did not present at the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 59 Candidates be awarded a pass, which implies a pass rate of 39% of those who attended the exam. This compares with a pass rate of 42% for the 2007, Semester 2 exam.

Pass rates in recent sessions are as follows:

Year	Semester 1	Semester 2
2008	39%	
2007	33%	42%
2006	28%	31%
2005	24%	29%

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:
Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	172
Withdrawn prior to exam	11
Absent from exam	11
Presented at exam	150
Passed	59
Failed	91

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Auckland	1	0	0.0%
Brisbane	3	1	33.3%
Canberra	4	2	50.0%
Hong Kong	6	2	33.3%
Kuala Lumpur	1	0	0.0%
London	2	1	50.0%
Melbourne	25	14	56.0%
Other	4	3	75.0%
Perth	3	0	0.0%
Singapore	8	3	37.5%
Sydney	93	33	35.5%
All	150	59	39.3%
All Australia	128	50	39.1%
Ex Australia	22	9	40.9%

2. Examination Administration

2.1. Examiners

The examiners for this semester were:

Chief Examiner: Timothy Kyng

Assistant Examiners: Hun Kim
Ren Lin
Agnes Wong

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	BM (*)	4			4
1b	BM	6			6
1c	BM			4	4
1d	BM		4		4
1e	BM			2	2
2a	1	3			3
2b	1		4		4
2c	1			2	2
2d	1		4		4
2e	1			4	4
2f	1			3	3
3a	1		4		4
3b	1	4			4
3c	1			5	5
3d	1		4		4
3e	1	3			3
4a	2		2		2
4b	2			4	4
4c	2		5		5
4d	2			6	6
4e	2		3		3
5a	2		2		2
5b	2			3	3
5c	2		3		3
5d	2			3	3
5e	2		5		5
5f	2			4	4
TOTAL		20	40	40	100

(*) BM means background material to the course

3.6. Question by Question Analysis

Question 1:

This was about Stock, commodity and futures exchanges and covered the background material to the course. Student performance on this question was worse than expected.

Many students did not understand that demutualisation was not the opposite of amalgamation.

Many students lost marks due to not writing enough in response to parts (c), (d) and (e) of the question. Parts (a) and (b) were generally answered well.

Question 2:

This was about Collateralised Debt Obligations (CDOs), which are a special type of credit-risky investment. Overall, this was a difficult question on what is a complex security, hence the question was poorly answered in general. However subprime mortgages is an example which has had a lot of press coverage lately.

Parts (b), (c) and (f) were relatively straightforward; however, on average students only got about half the available marks. This reflected a lack of basic knowledge of CDO style investments, mainly that unlike a corporate bond where you invest in an entity, with a CDO you are investing in a securitised bundle of assets run by an asset manager and complicated by a waterfall payoff structure in the case of a default.

Parts (a), (d) and (e) were poorly answered. The responses demonstrated clear misunderstanding of the investment being examined. In particular, In (a) most students did not realise that the borrower effectively gets a payoff when value of the loan exceeds the value of the assets, since can only repay the asset value. This is similar to owning a put option where the premium is represented by the credit spread (or additional yield) the borrower pays relative to a risk free investments. In (e), the few marks awarded were generally for noting that CDOs are more complicated due to the differing risks in the tranche structure and hence the approach in (d) would require more assumptions

Question 3:

This was about asset liability modelling and projections of superannuation fund members' benefits. It is a standard type of question for this course and similar questions have appeared in many previous year's exams.

Part (a) was generally answered well. Many students gave the model answer. Irrelevant answers included discussion of the appropriateness of asset classes for superannuation, which was not asked for in the question. Nearly all candidates failed to mention long term inter-relationships between asset classes. Marks were awarded for a limited range of suitable points not included in the solutions.

Part (b) was also generally answered quite well. A number of students missed out on the mark about adjusting equity returns for current prices.

Part (c) was the most difficult part of the question. Many candidates did not understand what was required. The key expectation of markers was the setting out of a sensible model fitting process, including reasonableness checking of results against long term expectations and iterating the process as required. Many candidates simply repeated much of the content of their responses to parts (a) and (b). The words "estimate" and "calibrate" in

relation to risk aspects of the model should have allowed candidates to realise that what was required was quite different to the preceding parts.

Part (e) was disappointingly answered. Most students failed to consider the impact of tax, fees and switching costs on the benefit accumulation. Marks were awarded for relevant points not included in the solution guide.

Question 4:

This was about the Kyoto Protocol and the possible introduction of an Emissions Trading Scheme (ETS), and its possible investment implications. It was a difficult question.

Part(a) - This question had a wide range of answers and was difficult to mark. Most people made a reasonable attempt at this question.

Part (b) - Overall most students generally answered it reasonably. Some of the answers provided in parts (b) and (c) were very similar. Some misunderstood the concept of an ETS and thought the price would be company-specific

Part (c) - This was generally well done. Most students provided reasonable description of the information required.

Part (d) - Overall, this was done badly. Some students provided book work type answers on what is thematic and what is quant and did not apply it to the question. Marks were awarded for recognising that Thematic would have identified industry specific aspects and that while 'quant' is often more accurate the information needed will be harder to obtain.

Part (e) - Overall, this was done poorly. Marks were awarded for reasonable attempts. Few candidates were able to identify where Value works best and where Growth works best - especially in relation to newer and established industries

Question 5

Part (a) - Most candidates got 1 mark for answering the first part of the question correctly. Many candidates missed/overlooked the second part of the question, so missed out on an easy mark.

Parts (b), (c) and (d) required students to demonstrate understanding of concepts relating to international investments, eg. parity, hedging, long term vs short term investment considerations and the different attributes of debt vs equity. This provided the best discriminator as students who demonstrated understanding of these concepts were rewarded with higher marks.

Part (e) - Mostly bookwork answers were provided, and students either knew the answer and relevant formulae or they didn't.

Part (f) - Most students interpreted the previous parts of the question correctly. However, part (f) required much more extension of existing knowledge, and being the last part of the last question, wasn't well answered. Students were rewarded marks for giving reasonable explanation of how to attribute performance from duration and convexity decisions.

Subject 2A: Life Insurance Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

64 Candidates enrolled for the Semester 1 2008, Life Insurance 2A exam. Of these, 3 did not present at the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 21 Candidates be awarded a pass, which implies a pass rate of 34% (of those sitting the exam). This compares with a pass rate of 39% for the 2007, Semester 2 exam.

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:

Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	64
Withdrawn prior to exam	2
Absent from exam	1
Presented at exam	61
Passed	21
Failed	40

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	34	11	32%
Melbourne	11	4	36%
Sub-Total Australia	45	15	33%
Hong Kong	4	1	25%
Singapore	4	1	25%
London	3	2	67%
Auckland	2	0	0%
Malaysia	1	1	100%
Other	2	1	50%
Sub-Total Overseas	16	6	38%
Total	61	21	34%

It is noteworthy that overseas candidates performed slightly better than Australian-based candidates.

2. Examination Administration

2.1. Examiners

The examiners for this semester were:

Chief Examiner: Rodney Scott
Assistant Examiners: Ian Werner
                          Anthony Brien

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	5	2		1	3
1b	5	2			2
1c	2		2		2
1d	1			4	4
1e	2		4		4
1f	2			3	3
2a	3	3			3
2b	2		3		3
2c	1,3	2	4	2	8
2d	3			3	3
3a	2	4			4
3b	2		4		4
3c	2		3	1	4
3d	2			2	2
3e	2	2			2
4a	2	4			4
4b	1,2		3		3
4c	1,2	1	2		3
4d	2		2	3	5
5a	2		3		3
5b	3		3		3
5c	3		4		4
5d	1			3	3
5e	1			4	4
6a	1		3		3
6b	2			7	7
6c	2			7	7
TOTAL		20	40	40	100

Table 4 – Course Coverage

Question	Units	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1, 2, 5	4	6	8	18
2	1, 2, 3	5	7	5	17
3	2	6	7	3	16
4	1, 2	5	7	3	15
5	1, 2, 3	0	10	7	17
6	1, 2	0	3	14	17
Total		20	40	40	100

The allocation of marks between KU, SJ and CJ varies significantly by question. In particular questions 5 & 6 had no Knowledge and Understanding component, while questions 3 & 4 were light on the complex judgement component.

While this suggests that questions 3 & 4 were easier questions, and 5 & 6 were harder questions, this was to some extent counter balanced by the significant time required to carry out calculations required by parts of questions 3 & 4.

3.5. Overall Performance

Overall the exam paper acted as a reasonable discriminator, with raw marks (including the assignment) ranging from 67.7 to 136.2 (excluding the candidates who did not present for the exam). This was an equivalent range to that achieved in the previous semester. Overall student performance was slightly worse than in the previous semester, but better than in the semesters preceding that.

The examiners' impression of the paper was that it was interesting and challenging, although not too difficult in content. In many cases there were multiple ways to earn the available marks. On the other hand it was a reasonably long paper with significant time required for calculations in some of the questions. It is a paper that should have provided a good broad test of candidates' knowledge, understanding and judgement.

There is more detail in the question by question analysis provided below. Nonetheless some consistent messages from the markers were as follows:

- Candidates are failing to read the questions carefully, and to make sure they are answering everything that is asked in them.
- Candidates are generally good at repeating book work, but are often not able to consider how the book work may apply in the particular situation presented to them.

3.6. Question by Question Analysis

QUESTION 1 (18 MARKS)

Course coverage: Units 1, 2 & 5, Syllabus Aims 1, 4, 5, 6, 12 & 16

Mark allocation:

	Knowledge and Understanding	4 marks
	Straightforward Judgement	6 marks
	Complex Judgement	8 marks

This question tested a candidate's knowledge and judgement with respect to traditional business. In particular it looked at bonus setting, underwriting, risks and investment strategies.

On the whole it was a straight-forward question that was well answered. Of the candidates who sat the exam 64% passed.

Part (a) – This was a bookwork question that was well answered, although a number of students ignored the required formatting and forfeited easy marks.

Part (b) – This part was generally poorly answered, with many students showing a significant lack of knowledge with respect to the bonus setting process.

Part (c) – Most candidates demonstrated reasonable judgement with respect to medical underwriting, but many failed to consider the implications for financial underwriting of traditional business.

Part (d) – Candidates were generally able to identify the advantages and disadvantages of traditional policies for policyholders, although some failed to take their explanations far enough – e.g. they identified that traditional premiums would be higher than YRT premiums, but failed to go on and say that therefore less cover could be afforded. Some students also discussed advantages and disadvantages to the life office, which was not asked.

Part (e) – This was an open-ended sort of question, asking candidates to explain the major risks facing a writer of conventional business. Many students failed to identify that, unless the loss was severe, policyholders would bear the lion's share of mortality, expense and investment risks.

Part (f) – Candidates were asked to discuss investment strategies for traditional participating, investment linked and lifetime annuity business. This part was often poorly answered, with many candidates incorrectly stating that the life office would bear all the investment risk for traditional par business.

Final grades for this question were:

A	Strong Pass	7
B	Pass	32
C	Slightly Below Standard	11
D	Weak	7
E	Showed Little Knowledge	3

QUESTION 2 (17 MARKS)

Course coverage: Units 1, 2 & 3, Syllabus Aims 3, 4, 5, 8, 9, 12 & 14

Mark allocation: Knowledge and Understanding   5 marks
                                Straightforward Judgement   7 marks
                                Complex Judgement   5 marks

Candidates were presented with a large voluntary group – the Free Tigers Association – and asked to consider the design of a simple group life cover for them. Group cover is a new market segment for their life office.

Overall this question revealed a limited understanding of the group insurance market among candidates. The pass rate, at 41% of those who sat the exam, was only moderate.

Part (a) – Candidates were asked how to set the mortality assumption for the Free Tigers Association group cover. Listing the sources of information was generally well answered. However most candidates showed a general lack of understanding of the methodology of group life pricing, especially where the risk was largely unknown. A lot of candidates listed points which were not relevant to the question, such as the history of claims and anti-selection. Almost every solution recommended adjusting the rates for additional risks but did not specify how to do this or did not consider excluding the risks which could not be quantified. Some candidates didn't mention a base mortality table.

Part (b) – Candidates were asked to list eligibility conditions and exclusion clauses for the association's group cover. In general, the eligibility conditions part of the question was answered poorly. Many candidates quoted standard clauses which would be found in a large group life scheme and did not tailor their answer to the specific group in the question e.g. a lot of solutions mentioned AALs, minimum take-up rates, "at work" requirements, underwriting requirements etc when all these were specifically excluded from the question since the cover was designed to be very simple and offered "free" and automatically to members. For the exclusions, more than half of the candidates correctly mentioned self inflicted injuries / suicides. Quite a few candidates suggested that we limit cover to when the members are participating in volunteering activities and other such restrictions which would be difficult and expensive to monitor. Only a few candidates mentioned that cover should start immediately upon joining the association. No marks were awarded for general exclusions such as wars, deaths, overseas etc as there were plenty of marks available specific to the question.

Part (c) (i) – This part requested reasons as to why quotes may come in at different prices, and was generally well answered.

Part (c) (ii) – This part requested an explanation of marginal and full costing and was poorly answered. Most candidates were narrowly focused on fixed and variables expenses in their answers. The question specifically asked candidates to relate their answer to the specific example in the question and most candidates did not do this and immediately forfeited 1 mark.

Part (c) (iii) – This requested advantages and disadvantages of marginal and full costing and was generally not well answered. The text book was regurgitated in a number of solutions e.g. what-if analysis, budgeting and profit testing were not relevant to the question. Many students mentioned the exact text book wording and it was not clear that they understood how marginal costing would apply in practice, particularly for a simple group product. Many candidates did not provide a recommended method and immediately forfeited 1 mark. Many solutions did not set out the advantages and disadvantages of both methods and therefore did not maximize marks. Saying all points were opposite for the other method did not receive double marks!

Part (d) – Candidates were asked for a definition of "adverse claims experience". Only half of the candidates were able to mention "actual claims higher than expected", but

didn't go further to give the definition of actual and expected e.g. including RBNA, IBNR, expected related to pricing assumptions adjusted for exposure etc. Some candidates recommended using loss ratios but used premiums received instead of earned premiums. Almost no candidate mentioned IBNR and RBNA. Some candidates provided suggestions how to improve adverse claims experience but this was not requested and received no marks.

Final grades for this question were:

A	Strong Pass	8
B	Pass	17
C	Slightly Below Standard	18
D	Weak	17
E	Showed Little Knowledge	0

QUESTION 3 (16 MARKS)

Course coverage:	Units 2, Syllabus Aims 4, 5, 7 & 13	
Mark allocation:	Knowledge and Understanding	6 marks
	Straightforward Judgement	7 marks
	Complex Judgement	3 marks

This was a mostly straightforward question dealing with the reinsurance arrangements for a small company offering YRT death cover.

Overall, the question was not particularly well answered, with few candidates scoring well across all sections of the question. The average raw mark (excluding three absent candidates) was about 5.9 out of 16, and only 38% of the candidates were awarded a pass grade. The standard deviation was about 2.5, indicating the question had moderate discriminating power.

A number of students have expressed considerable concern with respect to part (a) of this question. It was computationally intensive (requiring 25 calculations) for not many marks (4, of which one was in respect of assumptions made). It is clear from the responses that this lead some students to spend an inordinate amount of time, and others to skip part (a) (and in some cases part (b) as well) altogether.

Prior to the exam the examiners wished to award one additional mark in respect of this question, but were unable to find another question in the paper from which this mark could be taken. To simplify matters, additional information was provided in the question to minimise the calculations required, and the parameters of the reinsurance arrangements were made sufficiently extreme that there was no need to complete part (a) in order to answer any other parts of the question. It was noted also that the scrutineers had not raised any concerns about the computational load involved.

Following the exam, the marking was carefully reviewed. Unfortunately the markers had failed to reconcile their gradings to a sufficient degree, which complicated this review. The original raw pass mark was set at 14.5 (out of 32), with a pass rate of only 25%. The examiners noted that there was a significant spike of 7 candidates who scored 14.0, and in recognition of the time pressures caused by the question they reduced the pass mark by 0.5 to 14.0. This increased the pass rate to 38%.

As a result of these measures the examiners believe that no candidate should have been unfairly disadvantaged by this question. Poor exam technique could however have led this question to have an adverse affect on some candidates.

Part (a) – This part required the quantification of reinsurance cash flows for surplus and quota share arrangements, and was computationally intensive. Candidates were required to perform about 25 calculations for just 3 marks. A disproportionate amount of time would

have been needed relative to the number of marks available, and so it was not surprising that only about 10% of students got all the numbers correct. Some candidates bypassed this section altogether, and others would have wasted a lot of time for (at most) half a mark. The average mark for the section was very low.

Part (b) – Candidates were asked to comment on the suitability of each proposed arrangement. Some candidates reproduced textbook-style comments on surplus reinsurance, without recognising that they weren't really applicable to this example because the retention was so high. A similar misconception also featured in a few of the part (d) answers. The better candidates noted that the degree of risk transfer in the surplus reinsurance was quite small.

Part (c) – The question asked for other considerations (besides price and treaty design) in choosing a reinsurer, but many answers focussed incorrectly on the type of reinsurance treaty. Disappointingly few candidates commented on the credit rating of the reinsurer, although most were able to refer to ancillary services.

Part (d) – This part required candidates to propose an appropriate reinsurance arrangement to meet the CEO's objectives. Many candidates did not propose a specific retention level but instead made some general comments regarding the reinsurance structures provided. Very few mentioned catastrophe cover or the possibility of having both quota share and a surplus arrangement.

Part (e) – Candidates were asked to list the steps required to determine an appropriate retention level given a ruin probability. Most candidates were able to mention simulation or stochastic modelling, but many were unable to explain coherently how this would be applied.

Final grades for this question were:
A   Strong Pass   3
B   Pass   20
C   Slightly Below Standard   12
D   Weak   16
E   Showed Little Knowledge   10

QUESTION 4 (15 MARKS)
Course coverage: Units 1 & 2, Syllabus Aims 2, 3 & 7
Mark allocation: Knowledge and Understanding   5 marks
                          Straightforward Judgement   7 marks
                          Complex Judgement   3 marks

The question tested candidates' understanding of unit pricing, and how to fix (and avoid) errors.

Well over half the candidates passed (67%), but there was a good range of marks on all 4 parts of the question. This indicated a question with reasonable discriminatory powers.

Part (a) – This part required the calculation of dollar amount of the error for each of five customers. The only part of the response that surprisingly puzzled candidates was the final example Customer E, where many thought there was no impact because the transaction was a fee rather than a contribution or withdrawal.

Part (b) – Candidates were asked to comment on the suggestion that no adjustments were required because "the amounts should average out". This was generally well answered.

Part (c) – Candidates were required to suggest procedures to prevent a recurrence of the error, and most answered acceptably.

Part d) – This part required the drafting of a memo commenting on historical unit pricing. Many answers were a little thin in places, probably due to time pressure.

Final grades for this question were:
A   Strong Pass   5
B   Pass   36
C   Slightly Below Standard   12
D   Weak   6
E   Showed Little Knowledge   0

QUESTION 5 (17 MARKS)
Course coverage: Units 1, 2 & 3, Syllabus Aims 1, 3, 4, 6, 8, 9, 11 & 12
Mark allocation: Knowledge and Understanding   0 marks
                          Straightforward Judgement   10 marks
                          Complex Judgement   7 marks

Candidates were asked to consider and contrast the pricing and risks inherent in a YRT product versus a 10-year single premium term and trauma cover. The question covered the setting of mortality, morbidity and investment earnings assumptions, the risks to be considered, surrender values and the advantages and disadvantages to potential policyholders.

There was an unintended ambiguity in the question. It could be interpreted to state that the YRT trauma rider was optional while the 10-year single premium rider was mandatory. This was not intended, but marking was reviewed to ensure as far as possible that no candidate was disadvantaged by the ambiguity.

Overall, candidates performed better in parts d) and e). It seemed many misunderstood the requirements for parts a) to c), especially in b). There was a tendency for candidates to shy away from being specific, and to try to answer in generalities. The pass rate among those who sat the exam was relatively low at 39%.

Part (a) – Candidates tended to concentrate on Protection Plus, with very brief references to Mortgage Protection and its short term characteristics. Also, many failed to note that MP was safer than PP.

Part (b) – This part asked candidates to describe how they would arrive at appropriate interest rate assumptions. Most responses gave a description of the steps taken to calculate the rate (e.g. average of asset class returns weighted by asset allocation) rather than indicating the backing assets they thought would be appropriate.

Part (c) – This part covered the setting of mortality and morbidity assumptions. Suitable starting bases and morbidity diagnosis improvements / changes to morbidity basis were identified by most candidates, but many failed to recognize the likelihood of mortality improvements.

Part (d) – Candidates were asked the issues arising from not offering a surrender value on the 10-year single premium contract. This was generally well answered although most candidates didn't identify the "lapse supportive" characteristic of the contract.

Part (e) – This asked candidates to consider the advantages and disadvantages of each product design to potential policyholders. It was generally well answered although some candidates answered from the insurer's point of view rather than the mortgagee as required in the question.

Final grades for this question were:

A	Strong Pass	6
B	Pass	19
C	Slightly Below Standard	13
D	Weak	18
E	Showed Little Knowledge	5

QUESTION 6 (17 MARKS)

Course coverage:	Units 1 & 2, Syllabus Aims 1, 3, 4, 6 & 7	
Mark allocation:	Knowledge and Understanding	0 marks
	Straightforward Judgement	3 marks
	Complex Judgement	14 marks

This question was about advising your life insurance company's new Head of Strategy, from overseas, on retirement products. It covered reasons for the unpopularity of Lifetime Annuities in the Australian market and the risks (and possible risk mitigation strategies) surrounding two proposed retirement related products.

Overall, the performance on this question was reasonable. 44% of candidates sitting the exam passed this question.

Part (a) – This part covered the reasons for the unpopularity of lifetime annuities. It was generally answered okay, but some of the key points were not picked up by many students, for example, that there is no death benefit and that surrender values are not attractive - these were relatively obvious but missed by many students. Also many students considered the discussion from the Insurer's perspective rather than the consumer's perspective. If the consumers saw the need for the product, insurers would find a way to deliver it. Most students got some marks for identifying that annuities are perceived as being expensive, and that consumers require more flexibility in terms of withdrawals and investment choice. Additional marks were awarded for mentioning that Government pensions may impact the demand for annuities, if the point was well explained.

Part (b) – Candidates were asked to consider a "Lifetime for Nothing" product, which funds a lifetime annuity using part of the equity of the retirees house. As there were relatively easy marks to pick up with the more obvious risks, the longevity risk and property value risk, most students did reasonably well on this part. However not many students picked up on risks associated with mis-selling, which is surprisingly given the various public news and debates about the roles of financial advisors, associated regulation, and the welfare of the public at large from such practice(s). In addition points about negative equity risk, legal risk and reputation risk were also unpopular, with marks for mitigating these risks even more so. Additional marks were awarded for well explained points relating to the liquidity risks, and subsequent capital issues, and risks relating to moral hazard regarding maintaining the property.

Many students mentioned mitigation techniques of Asset Liability matching and purchasing options, as well as including margins in pricing, particularly for mortality improvements. Additional marks were awarded for mentioning reinsurance and sensible mitigation techniques for the liquidity and moral hazard risks. Comments about mitigating risk by simply not selling the product with any useful features didn't get marks! In addition, for these products there are subtle differences between product features and risks, so marks for listing the product features were also not awarded marks.

Part (c) – This time candidates were asked to consider a "Forever Rising" product, where the retirees select an asset mix to grow their income payments. In addition, an option is available to guarantee the income does not fall. This in general was not answered as well as part (b). There seemed to be some confusion as to what the product actually is. Also

some mis-interpretations about what a guarantee means in this context - it does not mean that policyholders can wait for investment returns to reach historically high levels, then lock it in at that point at little cost. In general the key points, regarding matching risk and longevity risk, were not picked up, and students seemed hesitant to state some of the same risks that were identified in part (b) - for example, longevity risk, which is a risk with both products. Few students mentioned 3rd party default risk and mis-selling risk, and consequently mitigation techniques. Additional marks were awarded for discussing capital issues for the insurance company, and for mentioning reinsurance as a mitigation technique if used in conjunction with a valid risk. Most students received marks for mitigating matching risks. As for (b), comments to mitigate risks by "not selling the product", and listing the product features, are clearly not going to achieve marks.

Final grades for this question were:
A   Strong Pass   6
B   Pass   21
C   Slightly Below Standard   22
D   Weak   10
E   Showed Little Knowledge   1

Subject 2B: Life Insurance Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

37 Candidates enrolled for the Semester 1 2008, Life Insurance 2B exam. Of these, 1 did not present at the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 14 candidates be awarded a Pass, which implies a pass rate of 39%. This compares with a pass rate of 33% for the Semester 2 2007 exam.

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:

Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	37
Withdrawn prior to exam	0
Absent from exam	1
Presented at exam	36
Passed	14
Failed	22

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	21	11	52%
Melbourne	3	0	0%
Canberra	1	0	0%
Subtotal: Australia	25	11	44%
Hong Kong	3	1	33%
Japan	1	1	100%
New Zealand	4	0	0%
Singapore	1	1	100%
Taiwan	1	0	0%
United Kingdom	1	0	0%
Subtotal: International	11	3	27%
Total	**36**	**14**	**39%**

2. Examination Administration

2.1. Examiners

The examiners for this semester were:

Chief Examiner: Andrew Gill

Assistant Examiners: Damian Thornley
                                  Kirsty Hogan

From a continuity perspective, Andrew Gill was the only continuing member of the examination team from last semester. However, Damian Thornley has been involved in the scrutineering process in past semesters and Kirsty Hogan has marked the 2B exam in past semesters.

The Course Leader prepared drafts of the exam and the Chief Examiner and Assistant Examiner's role in this process were principally to review the exam. The interaction between the Course Leader and Examiners worked well this semester.

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

	Aims	KU	SJ	CJ	Total
1a	1	4			4
1b	1		4		4
1c	2, 5			4	4
2a	1, 2	3			3
2b	5	3			3
2c	1, 2		6		6
2d	1, 2			3	3
3a	2	5			5
3b	2, 4, 8		4		4
3c	2, 4, 12			8	8
4a	1, 2		5		5
4b	12		4		4
4c	2, 12			8	8
5a	7	4			4
5b	5, 8		7		7
5c	8			8	8
6a	9, 13	4			4
6b	4, 13		8		8
6c	4, 13			8	8
		23	38	39	100

Table 4 – Course Coverage

Question	Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1, 2, 5	4	4	4	12
2	1, 2, 5	6	6	3	15
3	2, 4, 8, 12	5	4	8	17
4	1, 2, 12	0	9	8	17
5	7, 5, 8	4	7	8	19
6	9, 4, 13	4	8	8	20
Total		23	38	39	100

Based on the distribution of the marks by level of difficulty, questions 3, 4, 5 and 6 should have been the most difficult (with each of these questions having 40% or more of the total marks available being allocated to complex judgement questions).

However, the performance of the students indicated that questions 1 and 3 were the most difficult in the exam.

For question 1, students gained very few of both the Complex Judgement and Straight Forward Judgement marks. In hindsight, this question may have been pitched at too difficult a level for many of the students.

Question 3 was a participating policy question and the poor marks are likely a reflection of many students not having been exposed to this type of business in their workplaces.

Table 5 – Pass Rates

	Ass 1	Q1	Q2	Q3	Q4	Q5	Q6
Pass	50%	28%	31%	33%	44%	42%	47%
Fail	50%	72%	69%	67%	56%	58%	53%

3.4. Overall Performance

Overall, the performance on this exam was similar to that of last semester. As detailed in the following sections, there were some questions that were answered reasonably, and others that were not answered well.

Some candidates clearly did not allow sufficient time to complete each question. Consequently, many marks were lost due to poor, rushed responses to the last two questions of the exam.

3.6. Question by Question Analysis

Question 1 (12 marks)

This question described an insurance company issuing fully underwritten individual stepped premium cover with significant upfront commissions and high lapses expected over the first few policy years. The question focuses on the use of grouped policy data (model points) for valuation purposes as well as focusing on the issues likely to be faced if using an accumulation approach for valuing this business.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	12.0	50.0%	2	5.6%
Pass	10.0	41.7%	8	22.2%
Slightly Below Standard	8.0	33.3%	12	33.3%
Weak	5.0	20.1%	9	25.0%
Serious Lack of Knowledge	0.1	0.1%	5	13.9%
Did Not Attempt	0.0	0.0%	0	0.0%
			<u>36</u>	
Maximum Mark	12.0			
Average Mark	7.8			
Standard Deviation	2.6			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 24).

Markers' Comments

Part (a) – 4 Marks.

This question asked students to comment on a financial controller's concern that model points result in a less accurate valuation than using individual policy data.

Specific comments include:

- Most students did discuss the selection of model points being reflective of the book of business, so most received this mark.
- Most also mentioned that using model points would be quicker with regards to valuation run times.
- Some students missed out on easy marks by not thinking widely enough – and just basing their whole answer around one main point.
- Very few students mentioned previous testing to show that model points were acceptable.
- About half the students mentioned that aggregated statistics from the model points should equal the total statistics from the portfolio.

Overall, the markers felt that the students could have done better on a relatively easy question.

Part (b) – 4 Marks.

This question asked students to discuss the features of the life insurer's business that complicates the use of the accumulation method.

Specific comments:

- Some students discussed pros and cons of accumulation v projection method without linking back to the question specifically.
- A lot of students missed the point about having to set up a DAC.
- Very few students mentioned any testing for loss recognition and even fewer about initial selection effects.
- Few students made any points after the lapse assumption and acquisition costs.

Consequently, overall marks for this question were quite low.

Part (c) – 4 Marks.

This question asked students to respond to the financial controller's comments about the "discount rate changes" in the analysis of profit. In particular, the change in the discount rate produced a significant change in the policy liabilities which does not correspond to the financial controller's understanding of (generally short-term) IBNR and RBNA liabilities.

Specific comments:

- Overall, this question was quite poorly answered.
- Quite a few students made the point around the different liability terms, but very few made a comment about DAC. No one made a good enough argument to receive 2 marks for the long term liabilities being sensitive to the changes in economic assumptions. No one made a comment referencing the guidelines in AS1.04 either.
- No one made the point around the impact of the economic assumption change on the planned profits, i.e. that the planned profits were low, with the consequent effect that reductions in the profit due to economic assumption changes could wipe out that year's planned profits.

Overall, it seems students found this question quite difficult, often focusing on a certain point and expanding it in detail, rather than making a range of points to achieve higher marks.

Question 2 (15 Marks)

This situation relates to a company that has started up in Australia just over 12 months ago. The company specialises in writing investment-linked superannuation products. Questions focused on the calculation of the DAC and issues regarding the policy liability calculation for the investment-linked products.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	19.0	63.3%	3	8.3%
Pass	15.0	50.0%	8	22.2%
Slightly Below Standard	12.0	40.0%	20	55.6%
Weak	2.0	6.7%	5	13.9%
Serious Lack of Knowledge	0.1	0.3%	0	0.0%
Did Not Attempt	0.0	0.0%	0	0.0%
			<u>36</u>	
Maximum Mark	21.7			
Average Mark	17.4			
Standard Deviation	2.2			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 30).

Markers' Comments

Part (a) – 3 Marks.

This question asked students what are the key issues in determining the DAC.

Given the Knowledge and Understanding nature of the question, the question was not particularly well answered by students. Many students had given answers that are different to the solutions, namely:

- Only incremental cost can be deferred under IFRS.
- The amount deferred can only be recognized to the extent of the underlying investment contract surrender value.
- The tax liability on DAC has to be disclosed explicitly.

As the answers above are relevant to the questions, ½ a mark was awarded for each point up to a maximum of 1 mark. It is worth noting that a number of students noted that DAC only takes into account fixed acquisition cost and not the variable component which is not the case.

Part (b) – 3 Marks

This question asked students what are the likely causes of the DAC movement being smaller than expected.

This question was also not particularly well answered. Many students managed to pick up the lower sales volumes but few successfully pointed out the lapse rates and investment earnings issues.

One student mentioned that the budget could have overstated the DAC given this is a new company and the budget could be prepared with very little data. This was considered to be a valid point and was awarded 1 mark.

Part (c) – 6 Marks

This question asked students what investigations they would perform to help determine where a problem may have arisen with the contract liability component of the policy liabilities.

This question was reasonably well answered by students. Other points to be awarded marks include:

- Assumptions check
- Perform analysis of profit
- Model check
- Check investment earning credited
- Analysis by products
- Check methodology used between finance and actuarial departments

Part (d) – 3 Marks

This question asked students how the discovery of particular administration errors would influence their valuation of the company's policy liabilities.

This question was well answered with most students able to identify the need to increase the policy liabilities by excess fee amount and unallocated monies. Half a mark was awarded if students mentioned the possibility to increase capital requirement under capital adequacy due to these errors.

Question 3 (17 Marks)

This question related to a company with a block of closed participating investment account business. The question requires the calculation of the Value of Supporting Assets (VSA) as well as asking students what the implications are of suggested company actions relating to the participating business.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	20.0	58.8%	3	8.3%
Pass	14.0	44.1%	9	25.0%
Slightly Below Standard	12.0	35.3%	10	27.8%
Weak	8.0	23.5%	11	30.6%
Serious Lack of Knowledge	0.1	0.3%	3	8.3%
Did Not Attempt	0.0	0.0%	0	0.0%
			<u>36</u>	
Maximum Mark	21.0			
Average Mark	12.6			
Standard Deviation	3.5			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 34).

Markers' Comments

Part (a) – 5 Marks

This part asked the students to calculate the VSA, given a number of balance sheet and P&L items.

This was a reasonably straightforward question as the formula for VSA is given in the valuation standard. The students only had to be able to substitute the appropriate items into the formula, with the shareholders' expected profit being the only item which required a bit of effort.

This part was moderately well answered, but the majority of students failed to correctly include the expected shareholder profit.

Part (b) – 4 Marks

This part asked the students to list the points they would make to the CFO regarding the implications of a large one-off interest declaration on policyholder retained profits, policy liabilities, reported MoS profit and the capital adequacy requirement respectively.

This part was not particularly well answered, with the average mark being 2 out of 4. A small number of students misinterpreted the question altogether and scored poorly as a result.

Part (c) – 8 Marks

This part asked the students to discuss the issues that the Appointed Actuary, the Board and management would need to consider in response to a suggestion that the participating statutory fund should invest its assets in a non-par statutory fund in the form of a loan in order to ease the capital strain on the non-par statutory fund.

This was the most difficult part of the question and was poorly handled by the majority of students. The marking guide awarded marks for very specific points, and none of the students got more than half of those points. As per the marking guide, up to 1 mark was allowed for other valid points which were not covered in the solutions, such as mentioning that alternate sources of capital should be considered for the non-par fund.

Question 4 (17 marks)

This question related to the valuation of a group scheme which had been priced a year earlier (for a guaranteed 3-year period) on unprofitable terms.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	25.5	75.0%	1	2.8%
Pass	19.5	57.4%	15	41.7%
Slightly Below Standard	15.0	44.1%	10	27.8%
Weak	10.5	30.9%	6	16.7%
Serious Lack of Knowledge	0.1	0.3%	4	11.1%
Did Not Attempt	0.0	0.0%	0	0.0%
			36	
Maximum Mark	25.5			
Average Mark	17.1			
Standard Deviation	5.1			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 34).

Markers' Comments
Part (a) – 5 Marks

This question asked students to perform a liability valuation of a Group Life product.

Despite being relatively straightforward, only 6 candidates out of 36 got the correct numerical answer. Several errors of method though were made, which showed that the candidate had not read the question carefully e.g. valuing 3 years of future cash flow instead of 2.

Some candidates calculated a profit margin (or worse, a negative projection liability). If they had read the whole question first, part c) of the question refers to it being in capitalised loss.

Part (b) – 4 Marks

Question asked for a response to the CFO who asks why you can't "reduce the liabilities" just for this year.

Most candidates noted that best estimate assumptions were required and that actuaries must meet professional standards, but did not get some of the other solution points.

A mark under "other" was given if the candidate pointed out that the policy valuation only affects the timing of profit, the actual profit being determined by the experience.

Part (c) – 8 Marks

Question asked for a response to the CFO who expresses his "total disagreement".

Students generally did well in this part of the question and were able to make many of the points detailed in the solutions.

Question 5 (19 marks)

This question details a company that issues direct marketed lump sum products and investment linked deferred annuities and allocated pensions. The students' understanding of EV and appraisal values are tested in this question.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	26.3	69.1%	2	5.6%
Pass	21.5	56.6%	13	36.1%
Slightly Below Standard	15.5	40.8%	17	47.2%
Weak	9.5	25.0%	4	11.1%
Serious Lack of Knowledge	0.1	0.3%	0	0.0%
Did Not Attempt	0.0	0.0%	0	0.0%
			36	
Maximum Mark	27.25			
Average Mark	20.2			
Standard Deviation	3.5			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 38).

Markers' Comments

Part (a) – 4 Marks

Part (a) was very straightforward (requiring a listing of the components of EV), but many students failed to give the level of detail required to get the full marks.

Part (b) – 7 Marks

The importance of exam technique was once again vital in getting marks here. Part (b) asked students to comment on EV vs. MoS, but a number of students failed to mention MoS at all and others only mentioned it in part. Part (b) was also heavily influenced by information given to students in the question (payment of dividend, maintenance expenses increasing, etc), yet many students failed to use this information. Information is rarely supplied in questions which students are not expected to use in some way.

Part (c) – 8 marks

Part (c) was the judgment component regarding the potential sale of the insurance company and the use of the (internally calculated) appraisal value calculation. The markers were surprised at the optimistic approach that was used by most students when approaching the appraisal value. Many students saw lots of reasons why the appraisal value might be too low and why the company might be able to obtain more value from the company (expense synergies, revenue synergies, CapAd synergies, much better claims management etc). This meant that many answers could be unbalanced as the students often didn't point out the corresponding and very real corresponding risks of each of those items (new business volumes significantly declining, etc).

Question 6 (20 marks)

This question covered capital adequacy concepts using the example of a company writing simple guaranteed investment account business issued on the fictitious island of Jomu.

Results

The overall results for this question were as follows:

	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	23.0	57.5%	4	11.1%
Pass	18.0	45.0%	13	36.1%
Slightly Below Standard	13.0	32.5%	6	16.7%
Weak	8.0	20.0%	8	22.2%
Serious Lack of Knowledge	0.1	0.3%	5	13.9%
Did Not Attempt	0.0	0.0%	0	0.0%
			36	
Maximum Mark	25.0			
Average Mark	15.6			
Standard Deviation	6.1			

Note: the raw marks in this table represent the sum of the marks of the two markers (i.e. under this presentation, the total available marks for this question is 40).

Markers' Comments

Part (a) – 4 Marks.

This question asked students what the reported profit would look like over the expected life of the policies. We felt this part of the question was straight-forward and reasonably well answered.

Specific comments:
- Most students failed to mention initial expenses causing new business strain – they only mentioned the reserving strain.
- Students tended to become confused on the effect of the volatility of the investment yields, which was beyond the scope of this question as the word 'expected' profit. None mentioned the surplus arising from early withdrawals.

Part (b) – 8 marks

This question asked the students how they would apply each element of AS3.04 to assess the overall capital adequacy reserve (capital reserves over and above the accumulated account balance).

Specific comments:
- Many failed to read the question as 'capital adequacy reserve'; and went straight to determining the capital adequacy requirement – i.e. that it would be large because the CAL is large.
- Many appeared to have just been regurgitating the standard rather than applying it.
- Inadmissible Assets Reserve (IAR) - many applied the wrong part of the standard and thought it should be large – i.e. a disappointing number did not recognise that government bonds are fully admissible.
- A few did note that the Actuary could apply discretion with regards to the junk bond status.
- No one commented on whether or not AS3.04 was appropriate.

- Very few commented on the need to set the risk-free assumption by taking into account the reinvestment yield.

Part (c) – 8 marks

This part of the question asked students to write a memo to a member of the board regarding whether or not capital should be repatriated to the parent company, which would result in local solvency requirements being breached.

Specific comments:
- It is always surprising how little students feel is appropriate to write for 8 marks worth!
- Most students commented on this causing a breach, however the implications of the breach were not always noted (just that breaching regulatory capital is bad).
- Few students commented on the tax implications or other suggestions.
- Very few mentioned that the assessment of the amount of target surplus to be held in Jomu should take into account the company's risk appetite and availability of capital.
- Not many offered to discuss the matter with the board.

Subject 3A: General Insurance Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

79 Candidates enrolled for the Semester 1 2008, 3A General Insurance exam. Of these, 10 did not present at the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 36 Candidates be awarded a pass, which implies a pass rate of 52%. This compares with a pass rate of 20% for the 2007, Semester 2 exam.

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:

Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	79
Withdrawn prior to exam	10
Absent from exam	0
Presented at exam	69
Passed	36
Failed	33

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	57	31	54%
Melbourne	4	1	25%
London	3	0	0%
Brisbane	1	1	100%
Auckland	1	1	100%
Wellington	1	1	100%
Kuala Lumpur	1	1	100%
Other	1	0	0%
Total	69	36	52%

2. Examination Administration

2.1. Examiners

The examiners for this semester were:
Chief Examiner: Albert Napoli
Assistant Examiner: David Gifford
Assistant Examiner: Amanda Aitken

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	1	5			5
1b	1		8		8
1c	1	2	1		3
1d	3			3	3
2a	2	2			2
2b	2	2			2
2c	2		3		3
2d	2		4		4
2e	2			3	3
2f	2			3	3
3a	4	1			1
3b	4		1		1
3c	4			2	2
3d	3		1		1
3e	4		2		2
3f	3			6	6
4a	2	3			3
4b	2	1.5			1.5
4c	2		2.5		2.5
4d	2	2			2
4e	2		6		6
4f	2			2	2
5a	4			4	4
5b	3			2	2
5c	3		2		2
5d	3			2	2
5e	3			4	4
5f	3		4		4
6a	3	5			5
6b	3		3		3
6c	3		6		6
6d	3			2	2
TOTAL		23.5	43.5	33	100

Table 4 – Course Coverage

Question	Units	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1, 3	7	9	3	19
2	2	4	7	6	17
3	3, 4	1	4	8	13
4	2	6.5	8.5	2	17
5	3, 4	0	6	12	18
6	3	5	9	2	16
Total		23.5	43.5	33	100

Based on the table above, it can be seen that questions 3 and 5 had relatively less knowledge and understanding, while questions 4 and 6 had relatively less complex judgement.

The pass rates by question were as follows:

Table 5 – Pass Rates

	Ass 1	Q1	Q2	Q3	Q4	Q5	Q6
Pass	79%	62%	49%	49%	38%	36%	22%
Fail	21%	38%	51%	51%	62%	64%	78%

3.6. Question by Question Analysis

QUESTION 1 (19 MARKS)

Course coverage: Units 1 & 3, Syllabus Aims 3, 4, 7
Mark allocation: Knowledge and Understanding – 7 marks
    Straightforward Judgement – 9 marks
    Complex Judgement – 3 marks

This question tested some basic general insurance concepts such as the types of insurance and the criteria for insurability. It also covered some basic knowledge of capital and valuation of liabilities.

Part a) required students to identify and explain the types of insurance a florist might require. This was very well answered.

Part b) tested students understanding of the criteria for insurability. This was very well answered.

Part c) asked students to explain why capital is required and how capital varies based on exposure. Some students had a poor understanding of why capital is required but most could explain how capital varies based on exposure.

Part d) required students to calculate a central estimate of outstanding claims liabilities and premium liabilities. This was poorly answered by most students with very few recognizing the difference in timing for outstanding claims and premium liabilities.

Final grades were distributed as follows:
- Strong Pass (A) – 8 candidates
- Pass (B) – 35 candidates
- Slightly Below Standard (C) – 18 candidates
- Weak (D) – 6 candidates
- Showed Little Knowledge (E) – 2 candidates
- Did Not Attempt (X) – 0 candidates

QUESTION 2 (17 MARKS)

Course coverage: Unit 2, Syllabus Aims 2, 3, 5
Mark allocation: Knowledge and Understanding – 4 marks
    Straightforward Judgement – 7 marks
    Complex Judgement – 6 marks

This question covered various topics related to Paid Chain Ladder and Incurred Chain Ladder valuations of an Industrial Special Risks portfolio.

Part a) required candidates to list data checks which should be performed on payment and case estimate data. It was well answered with most candidates identifying that data should be reconciled with the general ledger, the previous valuation data and that the payments over the past year should be checked for reasonableness.

Part b) required candidates to consider the implications of using data in historical values on the inflation assumptions in both the PCL and ICL methods. This part was well answered with most identifying correctly that future inflation is assumed to be consistent with the past. A smaller number recognized that the issue is slightly different in the ICL method due to inclusion of case estimates.

Part c) required candidates to calculate an outstanding claims liability for a single accident year under the PCL method. This part was well answered, which was to be expected given that the complications required were fairly simple.

Part d) required candidates to calculate an outstanding claims liability for a single accident year under the ICL method. This part was answered relatively poorly, with a number of students excluding case estimates from the outstanding claims, and a number

not properly considering the issue of payment pattern. The better candidates used the same payment pattern as was used in part c).

Part e) required candidates to consider the implications of using the PCL method (which only considers payments) on older accident years (where case estimates may differ). This part was answered reasonably – the better candidates identified that for older accident years the case estimates provide more information than is provided by looking only at payments.

Part f) required candidates to provide an explanation to a manager regarding the appropriateness of using the PCL and ICL methods for recent accident years. Again this part was answered reasonably with the better candidates identifying that the ICL and PCL methods incorporate allowance for IBNR, to the extent that it has arisen in the past.

Final grades were distributed as follows:

- Strong Pass (A) – 11 candidates
- Pass (B) – 23 candidates
- Slightly Below Standard (C) – 18 candidates
- Weak (D) – 17 candidates
- Showed Little Knowledge (E) – 0 candidates
- Did Not Attempt (X) – 0 candidates

QUESTION 3 (13 MARKS)

Course coverage: Units 3 & 4, Syllabus Aims 2, 4
Mark allocation: Knowledge and Understanding – 1 marks
                      Straightforward Judgement – 4 marks
                      Complex Judgement – 8 marks

This question tested the students knowledge of an insurers financial statements (specifically DAC) and also the impact of risk margins and the probability of adequacy on the results of an insurer.

Part a) required students to explain Deferred Acquisition Costs and explain how they are recognised for accounting purposes. This was very well answered.

Part b) asked students to estimate the DAC asset at a specific date. This was well answered by the majority of candidates but a few did not realise that the DAC should be zero as the portfolio was in run-off and all the premium should have been earned by that date.

Part c) asked students to assess a flaw in an analysts' argument and to estimate a central estimate premium liability. Most students made one or two mistakes in calculating the answer. Some incorrectly used the unearned premium liability figure rather than the central estimate premium liability figure. Many also incorrectly applied the wrong adjustment factor to allow for remaining exposure (eg 1/2 or 1/3 instead of 1/4).

Part d) asked students to assess why risk margins would increase for an insurer in run-off. This was answered reasonably well overall.

Part e) required students to calculate a claims incurred figure from numbers provided. This was generally poorly answered. Whilst a few students were able to produce the correct answer, many students were unable to use the correct figures inclusive of risk margins from the question. Some students also included premium liability figures in the calculation. Most but not all quoted the right formula for calculating claims incurred.

Part f) asked students to assess the CFO's proposal to increase the PoA for the run-off portfolio. Approximately half the students answered this well, with the other half usually struggling to come up with enough relevant points to discuss.

Final grades were distributed as follows:
- Strong Pass (A) – 12 candidates
- Pass (B) – 22 candidates

- Slightly Below Standard (C) – 27 candidates
- Weak (D) – 4 candidates
- Showed Little Knowledge (E) – 4 candidates
- Did Not Attempt (X) – 0 candidates

QUESTION 4 (17 MARKS)

Course coverage: Unit 2, Syllabus Aim 2
Mark allocation: Knowledge and Understanding – 6.5 marks
                       Straightforward Judgement – 8.5 marks
                       Complex Judgement – 2 marks

This question related to PPCF (ordinary and operational time) models being applied in practice.

Part a) This question asked candidates to complete 3 projected values in a claims finalised development table (using PPCF ordinary time). Most candidates made a good attempt at this, although many made one or two mistakes in the detail (eg forgot to allow for new claims reported, or forgot to apply 50% factor to new claims reported)

Part b) This question asked candidates to calculate 3 payment amounts, based on the values calculated in part a). Almost every candidate answered this question correctly.

Part c) This question asked candidates to calculate an outstanding claims liability for one accident year (2005), based on given claims finalised and payments per claim finalised amounts (using PPCF ordinary time). Most candidates made a good attempt at this. Some showed good understanding but seemed to run out of time to complete the question. A handful of students misunderstood the question and either calculated the present value of next year's payments for all accident years, or calculated the liability for a different accident year, suggesting that it would be too difficult to complete the question in time for the 2005 accident year.

Part d) This question asked candidates to complete 2 projected values in a claims finalised development table (using PPCF operational time). Many candidates answered this question correctly. Some candidates made a good attempt by coming up with their own method of calculating the values, but didn't quite answer correctly.

Part e) This question asked candidates to recalculate the outstanding claims liability for 2005 using PPCF operational time. The quality of answers to this part were highly varied. A handful of candidates answered it correctly. Some candidates made a good attempt but failed to correctly apportion claims to the right operational time periods. Many candidates showed an understanding of the PPCF operational time model and were able to calculate the appropriate quintiles, but weren't able to then allocate claims to the right operational time periods. Many candidates seemed to have run out of time to answer this question.

Part f) This question asked candidates to compare the PPCF ordinary and operational time models and discuss which would be most appropriate in these circumstances. Most candidates were able to pick that the operational time model was most appropriate and most were able to justify this selection.

Final grades were distributed as follows:

- Strong Pass (A) – 6 candidates
- Pass (B) – 19 candidates
- Slightly Below Standard (C) – 17 candidates
- Weak (D) – 17 candidates
- Showed Little Knowledge (E) – 6 candidates
- Did Not Attempt (X) – 4 candidates

QUESTION 5 (18 MARKS)

Course coverage: Units 3 & 4, Syllabus Aims 2, 4
Mark allocation: Knowledge and Understanding – 0 marks
                     Straightforward Judgement – 6 marks
                     Complex Judgement – 12 marks

This question covered various issues associated with determining a risk margin for a Household portfolio.

Part a) required candidates to described the Bootstrap, Stochastic Chain Ladder, and Mack Methods, and to respond to a student's concerns that the models underlying these methods differ from those underlying the original valuation of outstanding claims. This part was answered reasonably, with the descriptions of the various methods generally being good (as expected given that this information is contained in the course material). The response to the students concerns, were generally poor, with many candidates sharing the student's concerns. The best candidates correctly identified that it is not necessary for the underlying original valuation method to be the chain ladder method, to be able to use these methods to estimate variability.

Part b) required candidates to explain why the adopted Coefficient of Variation would be higher than that produced by the various methods. Responses to this were mixed, with a number identifying that the adopted CoV may incorporate variability not captured by the data, but with a number of candidates completely missing this point.

Part c) required candidates to describe how a risk margin would be calculated, given that a particular CoV has already been selected. Responses were reasonable with most describing the selection of a distribution, and most of these correctly identifying that the distribution should be long tailed.

Part d) required candidates to discuss the implications of the adopted risk margin being significantly lower than the stand-alone risk margin calculated using the "Tillinghast" method. This part was well answered, with the majority of candidates identifying that the "Tillinghast" method utilized "industry" data and that there are a number of reasons why the risk margin for an individual portfolio may differ.

Part e) required candidates to consider the shortcomings of basing the coefficient of variation for premium liabilities on CoV of the historical loss ratios, and the reasonableness of excluding one particular year from the calculation due to it being a long time ago and including catastrophes. It also required a recommendation of the CoV to be used in determining a risk margin for premium liabilities. Responses were fair, with many candidates identifying the main issue with using loss ratios (i.e. historic variations in pricing). The majority also correctly identified that excluding the year with poor experience from the calculation was **not** appropriate. The recommendations of CoVs were generally disappointing, with a number not providing recommendations at all, and a number not providing reasoning. For those who did provide recommendations, marks were fairly easy to attain.

Part f) required candidates to describe how correlations are calculated, and then to give common sense explanations regarding the correlations between various classes of business. This part was answered reasonably well, with the majority of explanations regarding the correlations between various classes of business being reasonably good. The descriptions of the derivation of the correlation matrix were fair, with most students considering only the company's data and not broader industry data.

Final grades were distributed as follows:

- Strong Pass (A) – 6 candidates
- Pass (B) – 19 candidates
- Slightly Below Standard(C) – 29 candidates
- Weak (D) – 10 candidates
- Showed Little Knowledge (E) – 5 candidates
- Did Not Attempt (X) – 0 candidates

QUESTION 6 (16 MARKS)

Course coverage: Units 3, Syllabus Aims 3, 5
Mark allocation: Knowledge and Understanding – 5 marks
                           Straightforward Judgement – 9 marks
                           Complex Judgement – 2 marks

This question required candidates to perform calculations and consider issues associated with the unearned premium and premium liabilities for a travel (motor and caravan) portfolio with several complicating factors:

- six month policies;
- unusual pattern of written premium;
- partial refund on cancellation;
- expenses.

Part a) required the calculation of unearned premium at 30 June 2009. This required candidates to recognize that only policies written in the past six months would contribute to unearned premium, to perform the calculation, and to allow for cancellations. The majority of students **did** recognize that only policies written in the past six months would contribute to unearned premium, but otherwise answers were slightly disappointing. Allowances for cancellations were mixed, with a number of candidates appearing to be running short on time.

Part b) required recommendations of gross and net loss ratios to be used in premium liability calculations, with there being considerably variability in historical gross loss ratios, but far less in the net loss ratios. Recommendations were reasonable, with most making sensible comments in relation to the variability in gross loss ratios, and most simply recommending the observed average net loss ratio due to there being relatively little variability in the historical ratios.

Part c) required calculation of net premium liabilities. Overall marks achieved were very low (an average of 1.1 out of 6). This arose partly from few candidates allowing for inflation and discounting (worth 1.5 marks in the model solution) and few allowing properly (if at all) for cancellations.

The low marks would also appear to reflect the length of the overall paper, with anecdotal comments from students suggesting that they felt the paper to be very long.

Overall most candidates recognized the need to use the unearned premium from (a) and the loss ratio from (b) but many didn't make much progress beyond that.

Part d) required candidates to consider the need for an unexpired risk reserve. Responses were reasonable, with most candidates appearing to understand the concept. However given the relatively poor answers to the remainder of the question, many candidates did not have sensible (or any) net premium liabilities to use in determining whether or not an unexpired risk reserve was required. Again it appeared that a lack of time affected the performance of a number of candidates.

Final grades were distributed as follows:

- Strong Pass (A) – 3 candidates
- Pass (B) – 12 candidates
- Slightly Below Standard (C) – 27 candidates
- Weak (D) – 16 candidates
- Showed Little Knowledge (E) – 10 candidates
- Did Not Attempt (X) – 1 candidate

Subject 3B: General Insurance Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

43 candidates enrolled for the Semester One 2008, Course 3B: General Insurance exam. Of these, one did not present at the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 16 candidates be awarded a pass, which implies a pass rate of 40% for candidates sitting the exam. This compares with the following pass rates for this subject for recent semesters:

Table 1 – Pass Rates

Year	Semester One	Semester Two
2008	40%	
2007	48%	48%
2006	50%	39%
2005	50%	32%

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:

Table 2 – Candidate Numbers

	Number of candidates
Originally enrolled	43
Withdrawn prior to exam	3
Absent from exam	0
Presented at exam	40
Passed	16
Failed	24

The analysis by examination centre is as follows:

Table 3 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Adelaide	1	0	0%
Melbourne	4	2	50%
Sydney	30	12	40%
Subtotal: Australia	35	14	40%
Auckland	1	1	100%
Hong Kong	1	0	0%
London	1	0	0%
Singapore	2	1	50%
Subtotal: International	5	2	40%
Total	**40**	**16**	**40%**

2. Examination Administration

2.1. Examiners

The examiners for this semester were:
Chief Examiner: Brett Riley
Assistant Examiner: Adam Payne
Assistant Examiner: Paul Goswamy

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 5 – Summary of Syllabus

Aim	Summary Description
1(a)	Understand the components of a premium
1(b)	Explain the core philosophy underpinning rating and pricing
1(c)	Recognise and select between approaches in classifying risk for premium rating purposes
1(d)	Obtain base premium rates for future business and project premium amounts for budgeting and planning purposes
1(e)	Describe the concept of "Sound Rating"
1(f)	Adjust for other influences on premium rating
2(a)	Recognise the concepts of 'short tail" and "long tail" business and the differences in approach for pricing purposes
2(b)	Collect and be able to apply tools required for the pricing of "short tailed" business
2(c)	Collect and be able to apply the tools required for the pricing of "long tailed" business
2(d)	Describe the techniques used by reinsurers to price and rate the various reinsurance risks and to recognise the various types of reinsurance contracts and their applications
3(a)	Establish the linkage between capital and risk
3(b)	Explain and apply the means of accounting for risk
3(c)	Explain and apply strategies for efficient use of capital
4(a)	Define the requirements of a statutory Financial Condition report and how this fits into a broader financial condition reporting framework
4(b)	Identify the various sources of risk to a general insurer (including operational risk) and to account for them
4(c)	Calculate an actuarial value for the business
Unit	
1	Pricing Principles
2	Detailed Pricing Considerations
3	Capital Management Principles
4	Financial Condition Reporting

The following tables show the distribution of questions and marks by level of difficulty and course coverage.

Table 6 – Degree of Difficulty of Exam

Question	Units	Syllabus Aims	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1 (a)	4	4 (c)	1			1
1 (b)	4	4 (c)	1			1
1 (c)	4	4 (c)		5		5
1 (d)	4	4 (c)			4	4
1 (e)	4	4 (c)			2	2
1 (f)	4	4 (c)		4		4
1 (g)	4	4 (c)	2			2
2 (a)	2	2 (d)	1			1
2 (b)	3	3 (c)		1		1
2 (c)	3	3 (c)		2		2
2 (d)	3	3 (b)		2		2
2 (e)	2	2 (d)		4		4
2(f)	2	2 (d)	3			3
2 (g)	2	2 (d)		3		3
2 (h)	2	2 (d)			4	4
3 (a)	3	3 (b)	4			4
3 (b)	3	3 (b)		3		3
3 (c)	3	3 (b)		4		4
3 (d)	3	3 (c)			4	4
4 (a)	1	1 (c)		3		3
4 (b)	1	1 (b)	3			3
4 (c)	1	1 (f)			3	3
4 (d)	2	2 (b)		2		2
4 (e)	1	1 (f)			4	4
5 (a)	2	2 (b)	2			2
5 (b)	2	2 (b)		4		4
5 (c)	1	1 (c)		2		2
5 (d)	1	1 (d)			4	4
5 (e)	1	1 (f)			4	4
6 (a)	2	2 (d)	1			1
6 (b)	3	3 (c)			5	5
6 (c)	4	4 (b)			4	4
6 (d)	3	3 (c)			2	2
6 (e)	4	4 (a)		3		3
TOTAL			18	42	40	100

Table 7 – Course Coverage

Question	Units	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	4	4 (c)	4	9	6	19
2	2, 3	2 (d), 3(b), 3(c)	4	12	4	20
3	3	3(b), 3(c)	4	7	4	15
4	1, 2	1(b), 1(c), 1(f), 2(b)	3	5	7	15
5	1, 2	1(c), 1(d), 1(f), 2(b)	2	6	8	16
6	2, 3, 4	2(d), 3(c), 4(a), 4(b)	1	3	11	15
Total			18	42	40	100

Based on Table 7, questions 4, 5 and 6 have relatively more weight to Complex Judgement so might have a higher degree of difficulty. By way of contrast, questions 1, 2 and 3 have relatively more marks allocated to Knowledge and Understanding so might be considered to have a lower degree of difficulty. In Table 9 this is reflected in each question's pass rate.

The pass rates by question were as follows (based on the number of candidates attempting the question):

Table 9 – Pass Rates

	Ass 1	Q1	Q2	Q3	Q4	Q5	Q6
Pass	88%	46%	43%	59%	28%	40%	20%
Fail	12%	54%	58%	41%	73%	60%	80%

3.5. Overall Performance

Overall, the exam paper and assignment (combined) acted as a reasonable discriminator, with raw marks ranging from 66 to 137 out of 200 (excluding the candidate who did not present for the exam). This range was comparable (albeit slightly wider) than the range for last semester (72 to 133 out of 200). The slightly higher average raw marks compared to last semester (106 compared to 101 for last semester) were partly due to the exam and partly due to the assignment. Overall student performance was similar to that in prior semesters.

The impression that the examiners had after setting the paper was that it was not a particularly difficult paper, in the sense that it did not contain one or more questions that required students to apply core concepts in extraordinary new areas. However, we felt that on balance it was a reasonably long paper that would provide a good broad test of students' knowledge and understanding and ability to apply this, and their judgement, to some practical situations.

Question 6 was poorly attempted. Few students answered this in the precise manner expected by the examiners. We think this was largely due to some aspects of the question's wording and the length of the paper. For these reasons, as noted previously, this question was marked again by the examiners for all students to ensure all candidates were treated fairly. We concluded that this question was marked fairly and did not distort the overall assessment process.

The scores assigned by the markers were slightly lower than what might normally be assigned when marking exams for this course; this was (at least in part) due to quite detailed marking guides being provided. Markers adjusted their cut-offs accordingly. The examiners reviewed these scales and were satisfied with the thresholds assigned and the spread of marks. We noted that markers tend to mark fairly literally when given detailed solutions (i.e. lower than the examiners would), but adjust their cut-offs accordingly. Any attempts where students may have been disadvantaged by this broad difference of opinion were reviewed by the examiners in the remarking phase.

As noted previously, there were few candidates meeting 3 or 4 of the pass criteria. Most students either did well overall (i.e. high aggregate mark, at least 4 questions passed, acceptable GPA, no E grades, no more than one D grade) or did poorly overall. This is consistent with last semester. The examiners reviewed the marking thoroughly to ensure this was not the result of some anomaly in the marking process.

The overall pass rate is broadly comparable to recent semesters for this course.

Candidates found question 3 the easiest of the exam questions (59% pass rate) and question 6 the most difficult (20% pass rate).

There is more detail in the question by question analysis below. Nonetheless, some consistent messages from the markers were as follows:

- Candidates are not going beyond "stock" answers. They often ignore information given in the question in favour of "lists" of responses and standard approaches, without adapting these for the situation or considering the appropriateness in the circumstances. It is sometimes difficult to conclude whether the candidates have the requisite skills to apply their knowledge, or if this is exam technique issue. We identified this comment in the corresponding Chief Examiner's report for Course 3B: General Insurance last semester.
- Candidates do not necessarily respond to all points raised in a question, even where the question specifically asks them to consider these.

Specific common mistakes and weaknesses are discussed further in the question by question analysis below.

3.6. Question by Question Analysis

The statistics that follow in this section exclude candidate 81041 who withdrew prior to the exam.

QUESTION 1 (19 MARKS)

Course coverage: Unit 4, Learning Objectives 4(c)

Mark allocation: Knowledge and Understanding – 4 marks

                          Straightforward Judgement – 9 marks

                          Complex Judgement – 6 marks

This question examined students' understanding of some of the technical and practical issues in preparing an appraisal valuation for a general insurer. This topic is not often encountered in examinations or practice. Overall students scored better than we initially expected for this question, perhaps because it was the first question (i.e. some may have allocated too much time to this question). Of those students that attempted the question 46% of candidates passed the question.

Part a) asked students for two reasons why appraisals are requested (other than to transfer ownership of the insurer). This was a straightforward bookwork question and was well answered. The average mark was 0.8 out of 1.

Part b) required candidates to identify why it is advisable to calculate a "break-up" value. This was also generally well answered, with a majority identifying that this was to set a minimum value for the insurer. The average mark was 0.6 out of 1.

Part c) asked students to identify adjustments that should be made to the schedule of net assets. There were many areas for students to respond here; to gain full marks students had to give a reasonable commentary on the technical provisions. Overall the responses were disappointing for what was reasonably straightforward. Few demonstrated a strong enough understanding of the components of the technical provisions, or the fact that the adequacy of these should be reviewed. Many gained marks for asset-related adjustments. The average mark was 2.5 out of 5.

Part d) required students to identify the two key aspects of the valuation of future business for the example given, from the calculation perspective (i.e. not specific assumptions). It was rare for students to identify the need to extend the perpetuity calculation until further in the future, despite the detail given in the question leading them to this conclusion. It was disappointing that few identified that the negative value for future CTP business was an issue. A number did identify that the growth rates should vary over a number of years and mentioned the insurance cycle. Many instead focused on the magnitude of the selected discount rate. The average mark was 1.3 out of 4.

Part e) asked candidates why CTP would be expected to have lower discounted distributable profits than Home & Contents, even though the undiscounted figure for CTP was higher than Home & Contents. This was reasonably well answered. Many commented on the longer claim payment duration for CTP. Some commented on the higher expected discount rate for CTP. To gain full marks students should have commented on the higher capital and prudential margin requirements for CTP (beyond the duration issue); few mentioned this. The average mark was 1.0 out of 2.

Part f) asked students to identify the key assumptions they would consider in the review of the future business valuation. This was also generally well done, with many responses similar in nature to part (d). Some focused on profitability, while others gave more attention to business volumes and growth. To gain full marks students had to consider both as well as the specific issues facing the insurer. The average mark was 1.7 out of 4.

Part g) asked why an approximate approach should not be used in this case. This was difficult to interpret and the quality of answers was mixed. Few gave a good articulation of the issues. Many identified the uncertainty in the valuation and potential risks but failed to adequately tie this back to approximate versus full appraisal valuations, or to note that a full valuation was feasible in this situation. The average mark was 1.0 out of 2.

Final grades were distributed as follows:

Strong Pass (A) – 5 candidates

Pass (B) – 13 candidates

Slightly Below Standard (C) – 10 candidates

Weak (D) – 11 candidates

Showed Little Knowledge (E) – none

Not Attempted (X) – 1 candidate.

QUESTION 2 (20 MARKS)

Course coverage: Units 2 & 3, Learning Objectives 2(d), 3(b) and 3(c)
Mark allocation: Knowledge and Understanding – 4 marks
                   Straightforward Judgement – 12 marks
                   Complex Judgement – 4 marks

This question required candidates to identify issues and additional information associated with the purchase of additional reinsurance for a growing portfolio. This seemed a reasonably straightforward question. Of those students that attempted the question 43% passed the question.

Part (a) required students to describe the main difference between Excess of Loss ("XOL") and Quota Share ("QS") reinsurance. This was generally well answered with full marks awarded for identifying the proportional / non-proportional nature of cover, and describing what QS and XOL protect against. The average mark was 0.6 out of 1.

Part (b) asked students to comment on the additional information required prior to making a recommendation. A number of candidates mentioned the claims distribution as distinct from the exposure profile. The average mark was 0.4 out of 1.

Part (c) required students to recommend types of reinsurance, considering the company's needs. This was generally well answered. Most recommended a combination of XOL and QS; few presented a strong justification specific to the company. Very few candidates tied their recommendation back to the additional information identified in part (b). The average was 0.9 out of 2.

Part (d) looked for students to recognise which components of the calculation of APRA's Minimum Capital Requirement ("MCR") under the Prescribed Basis would most likely be affected by purchasing reinsurance. Some candidates explained that the MER (i.e. Concentration Risk Charge) would most likely be affected and did not use PML to reason this. Few noted that conservative pre-existing reinsurance coverage of the PML would have little or no impact on the MER. Some candidates provided a conditional response depending on the type of reinsurance adopted (QS or XOL). These responses were generally weaker than the earlier parts. The average mark was 0.8 out of 2.

Part (e) asked candidates to list, with explanations, the steps required to derive an experience based prospective expected loss cost for this reinsurance layer. Full marks were awarded for a reasonable explanation. Most students listed at least a few valid points but not a comprehensive response. The average mark was 1.7 out of 4.

Part (f) required students to list the factors, other than expected losses that are typically considered by reinsurers when providing a reinsurance price. This was generally well answered, with most students identifying at least a couple of the qualitative factors. The average mark was 2.2 out of 3.

Part (g) asked candidates to provide reasons why the experience based rate may have been misleading and recommend how the company could determine if this was a reasonable price. Many candidates seemed to circle around the key issues (short operating time, size of the book etc.) and were not sufficiently specific. In these cases, partial or no marks were awarded. The average mark was 0.9 out of 3.

Part (h) required students to explain to the Chief Operating Officer how the introduction of a profit commission would affect the long-term profitability of the insurer. Most candidates generally understood that the reinsurer's profits would be shared and not the losses. The variability of experience and how this benefits the insurer was not identified by many. Also, few described sufficiently the need for more detail on the nature of the profit sharing arrangement. Not surprising for one of the more difficult parts, the average mark was 0.8 out of 4.

Final grades were distributed as follows:

Strong Pass (A) – 4 candidates

Pass (B) – 13 candidates

Slightly Below Standard (C) – 14 candidates

Weak (D) – 8 candidates

Showed Little Knowledge (E) – 1 candidate

Not Attempted (X) – none.

QUESTION 3 (15 MARKS)

Course coverage: Unit 3, Learning Objectives 3(b) & 3(c)

Mark allocation: Knowledge and Understanding – 4 marks

                          Straightforward Judgement – 7 marks

                          Complex Judgement – 4 marks

This question required candidates to calculate the insurance risk charge and concentration risk charge for a hypothetical insurer. Candidates were also required to identify problems with, and suggest possible changes to, the capital structure given the insurer's current solvency position. This seemed a relatively straightforward question and most students scored reasonable marks for this question. Of those students that attempted the question 59% passed the question.

Part a) asked candidates to calculate the insurance risk charge for outstanding claims given the central estimate of a number of classes of business and the net risk margin at a 75% Probability of Sufficiency ("PoS"). Most students calculated the net outstanding liability by class, selected the correct capital factors and calculated the capital charge. Most students failed to adequately allow for diversification between classes. This was despite the diversification benefit being given in the question albeit not identified explicitly in the table. The average mark was 2.3 out of 4.

Part b) required students to calculate the concentration risk capital charge, given the insurer's aggregate risk exposure (PML) at various return periods and details of the insurer's catastrophe reinsurance cover. Generally this part of the question was well answered, with the most common error being not adequately allowing for reinstatement premiums in the calculation of the MER. Better students identified the non-linear relationship between the PML and return period. The average mark was 2.0 out of 3.

Part c) asked students to identify issues with the insurer's capital structure given its current level of solvency. Issues to identify were the absolute low level of solvency and excess Tier 2 capital relative Tier 1 capital. Most students identified the low solvency position and calculated the solvency ratio to support this (generally without adjusting for the excess Tier 2 capital, which actually meant the insurer was technically insolvent). Few students identified that there was an excess of Tier 2 capital relative to Tier 1 capital and that the excess would not count for solvency purposes. The average mark was 1.9 out of 4.

Part d) required students to suggest possible options for restructuring the capital base to address the problems identified in Part c). Most students were able to suggest three options with advantages and disadvantages for each option, but the quality or answers varied. Poor answers in Part c) often led to a poor response in Part d). The average mark here was 2.3 out of 4.

Final grades were distributed as follows:

Strong Pass (A) – 5 candidates

Pass (B) – 18 candidates

Slightly Below Standard (C) – 7 candidates

Weak (D) – 9 candidates

Showed Little Knowledge (E) – none

Not Attempted (X) – 1 candidate.

QUESTION 4 (15 MARKS)

Course coverage: Units 1 & 2, Learning Objectives 1(b), 1(c), 1(f) & 2(b)

Mark allocation: Knowledge and Understanding – 3 marks

                        Straightforward Judgement – 5 marks

                        Complex Judgement – 7 marks

This question examined students' understanding of rating factors in builders' warranty insurance and the potential impact on a government run scheme of introducing private sector competition. This also seemed a reasonably straightforward question, although students scored worse than initially expected for this question. Of those students that attempted the question 28% of candidates passed the question.

Part a) asked students why experience rating may not be appropriate for builders' warranty products. This was answered reasonably well with most students identifying the lack of claim data, low claim frequency and small size of insured risks as a major restriction. Few identified that solvent builders will generally not have experienced claims in the past for this class of business. The average mark was 1.5 out of 3.

Part b) required candidates to discuss why a simplified rating structure would be preferred as well as identifying potential cross subsidies created. This was not particularly well answered, perhaps demonstrating a lack of knowledge of builders warranty insurance. Many students did not answer the question fully and most did not appreciate the benefit of cross subsidies in keeping insurance affordable to all builders. The average mark was also 1.5 out of 3.

Part c) asked students to consider the factors that should be taken into account before paying a dividend to the government from the scheme. Most students identified the key concepts, although detailed discussion was lacking in some responses. The average mark was 1.6 out of 3.

Part d) asked students to list other rating factors (besides fees) that could be used as rating variables for builders' warranty insurance. Most students listed several rating factors, but few identified the importance of demonstrating historical profitability. Many simply listed the rating factors for commercial property classes. The average mark was 1.0 out of 2.

Part e) asked students to discuss the potential risks of deregulating a compulsory government-run builders' warranty insurance market and the likely impact on premiums. Students were asked to consider the risks to the government run scheme as well as to the building industry as a whole. Most students failed to discuss the impact of increased competition on the building industry. Better students discussed the impact on the government authority as well as the opportunities available to private insurers. The average mark was 1.7 out of 4.

Final grades were distributed as follows:

Strong Pass (A) – 3 candidates

Pass (B) – 8 candidates

Slightly Below Standard (C) – 18 candidates

Weak (D) – 8 candidates

Showed Little Knowledge (E) – 3 candidates

Not Attempted (X) – none.

QUESTION 5 (16 MARKS)

Course coverage: Units 1 & 2, Syllabus Learning Objectives 1(c), 1(d), 1(f) and 2(b)

Mark allocation: Knowledge and Understanding – 2 marks

Straightforward Judgement – 6 marks

Complex Judgement – 8 marks

This question tested students' understanding of rating factors and cost relativities in buildings insurance, as well as considering practical issues for commercial property in a soft insurance market. Students scored reasonable marks for this question, considering it was towards the end of a long exam paper. Of those students that attempted the question 40% of candidates passed the question.

Part(a) required students to identify two challenges in projecting the cost of weather-related events in Australia. This was generally well answered, with students having several options to consider. All students mentioned the major challenge being the volatility in frequency and size of the weather related events due to seasonal and trend effects. A small number of better students commented on the concentration of risks (which may change over time) and demand surge on claims costs after a large event. The average mark was 1.5 out of 2.

Part(b) asked candidates to calculate a simple estimate of the overall risk premium for Buildings cover and list four factors other than construction type and region that one would consider in practice in setting the overall risk premium. The question seemed to mislead students to list rating factors, rather than to comment on other factors which would lead to a different estimate of overall risk premium as calculated (e.g. the need to inflation adjust the data). With the benefit of hindsight, the second part of the question could have been better worded, such as:

> "What other issues would you consider or how might you modify your calculation of the overall risk premium before using it in the pricing review."

Almost all students calculated the risk premium correctly. A few students had difficulty with the calculation, with some only including non-weather or weather claims. Some calculated an aggregate premium (across all risks) but most calculated a per risk premium. In both cases the mark was paid. The marking guide was adjusted to award 0.5 marks for each rating factor listed (without explanation or exploration of how they would be useful). Most students scored 2 marks for listing rating factors. Better candidates who gave a good explanation of why rating factors might be used were awarded bonus marks. The average mark was 2.5 out of 4.

Part(c) required students to comment on the appropriateness of using Generalised Linear Models ("GLMs"). The quality of answers for this part of the question was surprisingly poor. Many answers were standard summary of the textbook advantages of GLMs, such as allowing for the interaction effects or the statistical confidence of variables fitted. These in fact are secondary considerations. The primary considerations were the volume of data, the need to avoid anti-selection and the lack of rigorous statistical analysis in the past. Many students also missed easy marks by not giving the assumptions required to support their assertions. The average mark was 0.7 out of 2.

Part (d) asked students to consider two options for allowing for the cost of weather-related claims in setting risk premiums, when allocating by region. The quality of answers varied. Some students mentioned methods involving cross-subsidies and on a 'user-pay' basis.

Most identified that the Rural NSW and Other NSW regions should have non-zero cost for weather claims in their rating relativities. Few however recognised that the premium relativity for Far North Queensland would likely be lower than the claims costs observed. The average mark was 1.3 out of 4.

Part (e) required students to consider two viewpoints on strategy for underwriting Fire business and make a recommendation to the CEO in relation to premium volumes, pricing and expected profitability in a soft market. Most students mentioned that further information was needed and the technical models needed review. Some noted that qualitative and quantitative inputs both need to be considered. Better students considered specific issues like competitor pricing, impact on market share, a consideration of corporate strategy, large claims experience and the implications of insurance cycles. A lack of time may have affected some candidates. The average mark was 1.4 out of 4.

Final grades were distributed as follows:

Strong Pass (A) – 5 candidates

Pass (B) – 11 candidates

Slightly Below Standard (C) – 10 candidates

Weak (D) – 11 candidates

Showed Little Knowledge (E) – 3 candidates

Not Attempted (X) – none.

QUESTION 6 (15 MARKS)

Course coverage: Units 2, 3 & 4, Learning Objectives 2(d), 3(c), 4(a) and 4(b)

Mark allocation: Knowledge and Understanding – 1 mark

                      Straightforward Judgement – 3 marks

                      Complex Judgement – 11 marks

This question required students to interpret output from some Dynamic Financial Analysis ("DFA") simulations. A number of alternative reinsurance strategies were considered. With the benefit of hindsight this question could have been worded or structured slightly better (e.g. a shorter question). Considering that this is the last question and that the overall exam paper was long, and that many students attempt questions sequentially, it was no surprise that students did poorly on this question. The markers and examiners adjusted the cut-offs accordingly to take account of these issues. Of those students that attempted the question 20% of candidates passed the question.

Part a) asked students how an XOL treaty with an aggregate deductible worked, and what the benefit of this was. Many confused aggregate deductibles with aggregate limits and few gave a good articulation of precisely how such a treaty operated. Not all students listed a benefit for such a treaty compared to a standard XOL cover. The examiners and markers awarded partial marks for students showing some level of understanding. The average mark was 0.4 out of 1.

Part b) required candidates to interpret the DFA output and assess a statement by the Finance Director. The markers and examiners gave marks for good arguments that either supported or opposed the FD's comments, provided a sound argument was made. For full marks students were required to identify that (1) the projected expected reinsurance loss ratios were low (12.5% in all strategies, compared to 69% net loss ratios in all strategies) and (2) we would expect lower loss ratios for more risk i.e. more volatility should lead to higher profit margins. Few identified these issues in the projection, focusing on the benefit of reduced retained risk by buying some reinsurance (compared to none). The better efforts noted that reinsurance was expensive and this flowed into the premiums members had to pay. The average mark was 1.3 out of 5.

Part c) asked students to suggest components for a risk appetite for the insurer. Most students identified insolvency risk as one issue, although not all specified a time dimension. Some included an objective to maximise profits. Some listed the main financial risk types (e.g. market, credit or liquidity risk). Few gave a good description of qualitative risks that might be considered. The average mark was 1.6 out of 4.

Part d) listed some market quotations and asked students to recommend a strategy. Many identified that if all strategies were within the insurer's risk appetite, either maximising earnings or selecting the best value option was the key issue. A surprisingly high number struggled with this concept, presumably as this was towards the end of the exam and many were running out of time. The average mark was 0.8 out of 2.

Part e) asked students to outline the three most important risks associated with the change in strategy. Many did not tie the risks to the change in strategy and gave generic answers. Risks not listed in the specimen solutions that were supported with good discussion were awarded marks. The average mark was 1.1 out of 3.

Final grades were distributed as follows:

Strong Pass (A) – 1 candidate

Pass (B) – 7 candidates

Slightly Below Standard (C) – 13 candidates

Weak (D) – 13 candidates

Showed Little Knowledge (E) – 6 candidates

Not Attempted (X) – none.

Subject 5A: Investment Management & Finance
Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

41 Candidates enrolled for the Semester 1, 2008, Investment Management & Finance exam. Of these, 2 withdrew before the exam, 4 did not present at the exam and 35 sat the exam. The assessment comprised one assignment worth 15% and an exam worth the remaining 85%.

It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 49% for students sitting the exam. This compares with a pass rate of 35% for the 2007, Semester 1 exam (the subject was not offered in Semester 2, 2007).

1.2. Candidate Numbers

The candidate numbers can be summarised as follows:

Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	41
Withdrawn prior to exam	2
Absent from exam	4
Presented at exam	35
Passed	17
Failed	18

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	22	10	45%
Melbourne	4	2	50%
Singapore	4	3	75%
Hong Kong	1	0	0%
Kuala Lumpur	1	0	0%
London	1	1	100%
Perth	1	1	100%
Other	1	0	0%
Total	35	17	49%

2. Examination Administration

2.1. Examiners

The examiners for this semester were:
Chief Examiner: Francis Ratna
Assistant Examiner: Jessica Sum and Alston Liu

3.   Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	1		3	3	6
1b	1		2		2
1c	1			4	4
1d	1		2	2	4
1e	1		4		4
2a	2	2		1	3
2b	2		3		3
2c	2	3			3
2d	2			3	3
2e	2	2			2
2f	2	4			4
2g	2			2	2
3a	3	2			2
3b	3		2	3	5
3c	3		2	1	3
3d	3	3	2		5
3e	3			3	3
3f	3			2	2
4a	4		2		2
4b	4			4	4
4c	4		4		4
4d	4			3	3
4e	4		3	2	5
4f	4			2	2
5a	5	2			2
5b	5	2	2	1	5
5c	5		2	2	4
5d	5		5		5
5e	5			4	4
TOTAL		20	38	42	100

Table 4 – Course Coverage

Question	Units	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1	0	11	9	20
2	2	11	3	6	20
3	3	5	6	9	20
4	4	0	9	11	20
5	5	4	9	7	20
Total		20	38	42	100

3.5. Overall Performance

Candidates performed best in question 1 which was a reasonably straightforward question with a large numerical component. The responses to the more abstract questions were generally weaker.

Candidates performed quite poorly in question 2 which was a somewhat traditional investments question.

Question 3 was a reasonably straightforward question about a public-private partnership. Candidates were able to present general points about capital structure but some struggled to apply the theory to the specific nature of the PPP.

Candidates performed better (in raw scores) in question 4 which was a more non-traditional question about Emission Trading Systems. However, many students also struggled with some parts of this question as their responses tended to be quite different from the intended focus of the question.

Question 5 was a somewhat generic question about using a VAR model and tactical asset allocations. Unfortunately, many candidates struggled with the question.

The overall pass rate is higher than the 5A pass rate last year. However, the small number of candidates in the prior year (17) makes it difficult to draw any conclusion.
Based on the feedback from the markers and the subsequent review of selected candidates papers, I believe this pass rate is justified by the quality of the answers given by the candidates.

3.6. Question by Question Analysis

Question 1

Part (a)
- The quality of response was quite varied.
- Most candidates carried out some form of reconciliation for the four items, with little elaboration on method or assumptions. The movements in Plant, Property & Equipment and Exploration & Evaluation caused the most difficulty with no shortage of choice in balance sheet items that were included
- The poorest responses merely assumed that the numbers would reconcile and provided the movement as a 'balancing item'

Part (b)
- Generally poorly answered.
- Most candidates used a ratio approach to justify strong cash and liabilities position.
- Very few responses went on to discuss the financial position going forward, or discuss the activities of the company which would affect this position

Part (c)
- Quality of response quite varied.
- The majority correctly pointed out that an Earnings Multiplier method would fail as the company did not have stable earnings. Many then went onto arguing that a DCF model is therefore appropriate.
- The information needed for the DCF valuation were along the same lines as those needed in the asset based model suggested in the solution

Part (d)
- Generally well answered, candidates were able to identify most of the points.
- The quality of the written response was quite varied, with some responses misunderstanding the definition of 'vertical integration' and 'synergy'
- Quite a few responses provided answers where the same idea was written in a number of different points. Marks would be awarded once only for points covering the same idea.

Part (e)
- Quality of response was quite varied.
- Many responses focused only on the accounting (profit & loss and balance sheet) aspect of due diligence without discussing the key drivers for these items.
- Again, quite a few responses had split the same idea into multiple points.

Question 2

Part (a)
- Generally well answered.
- Most candidates successfully outlined the bootstrapping method to obtain zero rates from coupon bond prices. Some candidates referred to current market rates (e.g. bills/bond futures and swaps) as inputs to the model, which was OK as the theory is the same.
- The section on assumptions required was a good discriminator, with only a small number of candidates pointing out that tax effects (even there most only gave the terms without showing an understanding of how it works).

Part (b)
- Generally poorly answered.
- Most candidates had left a blank response or wrote down some arithmetic which went nowhere.
- Only a few responses showed an understanding of the maths behind constrained maximisation and eigenvalues/eigenvectors.

Part (c)
- Quality of response quite varied.
- Most responses correctly stated that the shift, slope and curvature factors explained much of the variance in yield movements, however, not all were aware that this was as a result of the maths used in this question (perhaps copied/paraphrased from the notes).
- Most were OK with explaining how PCA makes simulation easier

Part (d)
- Generally poorly answered.
- Many responses stated that the resulting volatility model would be stationary, which is not necessarily the case.
- No references made to the investor's liability profile

Part (e)
- Generally well answered.
- Most responses were much more detailed than required, which may have impacted on the time available for the candidate to complete other parts. This is evident as a few chose to tackle this part of the question before the PCA sections.

Part (f)
- Generally well answered
- A few responses had shown misunderstanding of the terms, where the elaboration had in fact described a different term (stationary, independent, homogeneous).

Part (g)
- Quality of response quite varied.
- Most responses stated that the technique can be used to identify mis-priced securities, which is a point that is applicable to pricing models in general rather than just these specific ones
- A few wrote 'risk management' without elaborating further.

Question 3

Overall, this question was not particularly well answered. With no calculations and almost no equations, this question demanded that candidates show a good understanding of issues at hand. Perhaps more than most, this question required that candidates apply the context to their answer, rather than give answers from the notes.

While the overall level of marks given is quite low, the markers are comfortable with this as the there appeared to be a significant lack of knowledge and understanding of the critical issues in developing a reliable cashflow valuation.

Part (a)
- Generally well answered by most candidates.
- Some candidates made reference to tax effects and financial distress but did not provide a good discussion of these points meant for the valuation of the highway operator.
- Some candidates confused the context entirely and answered from the perspective of the government.
- Given that both marks for this question were "KU", marks were provided where the candidate gave clear relevant points without too much discussion on peripheral issues

Part (b)
- This question gave candidates an opportunity to display the ability to understand the context of the valuation and the risks to an enterprise that is unlike one most would have experience with.
- Marks were awarded for risks that were related to the operation of the highway network.
- A mark was also awarded for interest rate risk, which many candidates gave, perhaps unsurprisingly in the current credit environment.
- Marks were not given for generic risks to an enterprise, such as "economic risk" or "regulatory risk" without at least a specific example of an impact (positive or negative) on the enterprise.

Part (c)
- This question was very poorly answered, with most showing no understanding of the differences between the two approaches and the advantages and disadvantages of either choice.
- A large number of answers paraphrased or copied the section from course notes that deals with the two valuation methods; this response scored no marks.
- An answer which at least showed some understanding of either of the methods and provided a specific recommendation gained some marks.

Part (d)
- Most students were able to get several marks for this question but again it was not well answered.
- Marks were awarded for understanding the use of WACC and CAPM, and some explanation of the inputs to these.
- To receive high marks for this question, the markers were looking for a good understanding of the factors that affect the inputs to CAPM and WACC, not just a textbook response. Most failed to provide an explanation of "equity beta" as opposed to "asset beta", even though the question specifically referred to it.
- There appeared to be a general lack of understanding of the fundamental idea that capital structure has an impact on the cost of equity and the cost of debt.

Part (e)
- A question about how to optimise the value of the enterprise.
- This question was poorly done with most answers not applying to the specific situation.
- Again the relationship between the cost of equity and the level of debt was not shown
- There were also several generic answers about using quantitative optimisation.

Part (f)
- Most candidates failed to understand the uncertain nature of the cashflow.
- There were also some responses that dealt with the question in an accounting fashion, which gained no marks.

Question 4

This was a difficult question on a non-traditional topic. Many candidates answers were not directly related to the material that each part was looking for and, hence, got limited marks.

Part (a)
- This part was generally well answered
- Candidates were able to list the advantages of using APT.

Part (b)
- This part was generally well answered
- Many candidates mentioned industry and value factors.

Part (c)
- Performance was average.
- While some candidates were able to suggest some sensible answers, the number of valid points raised were generally insufficient.

Part (d)
- This part was generally well answered.
- Candidates were able to address estimation issues quite well.

Part (e)
- This part was poorly answered.
- A number of candidates failed to interpret and answer the question appropriately.

Part (f)
- Some answers were very general in context and did not refer closely to the question about carbon intensity factor.

Question 5

Qualitatively only those students that have shown some basic knowledge in most parts were awarded a B. Overall for Q5, it appears that some candidates did not have time to finish the question as it was the last question in the exam.

Part (a)
- Many candidates only mentioned B = 0 and failed to comment on A.
- Some candidates were able to identify that the error structure was independent from one period to the next and has stationary covariance

Part (b)
- This part was poorly answered.
- Many candidates only discussed serial correlation. Part (b) was relatively difficult in the sense that it was difficult to produce enough points to merit full marks.

Part (c)
- This part was generally well answered.
- Many candidates were able to discuss non-normal and non-stationary errors.

Part (d)
- This part was poorly answered.
- Very few candidates knew how to apply VAR models.

Part (e)
- This part was poorly answered.
- Many candidates did not appear to know clearly what tactical asset allocation is.

Subject 6A: Global Retirement Income Systems Chief Examiners Report Semester 1 2008

1. Summary

1.1. Pass Rates

Course 6A is a new course although it is similar to the discontinued course 4A Superannuation and Planned Savings.   During a transition phase a student can complete a recognised specialist pathway by completing any of the following combinations of exams.

- 4A + 4B
- 4A + 6B
- 6A + 4B
- 6A + 6B

19 Candidates enrolled for the Semester 1 2008, 6A Global Retirement Income Systems exam. All of these presented at the exam. The assessment comprised one assignment worth 15% and the exam worth the remaining 85%. This is the first time the course has been offered.

It is proposed that 11 Candidates be awarded a pass, which implies a pass rate of 58%. The following table compares the pass rate with previous pass rates for subject 4A Superannuation and Planned Savings.

Semester	Exam	Pass Rate
2008 Semester 1	6A	58%
2007 Semester 1	4A	47%
2006 Semester 2	4A	38%
2006 Semester 1	4A	50%
2005 Semester 2	4A	18%
2005 Semester 1	4A	42%

The pass rate is higher than the recent pass rates for course 4A. However, the increase is not as significant as it may seem because of the small numbers sitting the subject. The increase in pass rate percentage between the first 6A exam and the last 4A exam is only two extra passes.

1.2. Candidate Numbers

The Candidate numbers can be summarised as follows:

Table 1 – Candidate Numbers

	Number of candidates
Originally enrolled	19
Withdrawn prior to exam	-
Absent from exam	-
Presented at exam	19
Passed	11
Failed	8

One of the candidates attended the exam but did not submit any answers.

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	6	3	50%
Melbourne	8	4	50%
Perth	2	2	100%
Brisbane	1	0	0%
Total Australia	17	9	53%
Overseas	2	2	100%
Total	19	11	58%

2. Examination Administration

2.1. Examiners

The examiners for this semester were:
Chief Examiner: Stuart Cheetham
Assistant Examiner: Jim Repanis and Debra Lewis

3. Examination Papers and Assignments

3.1. Degree of Difficulty and Course Coverage

The following tables show the distribution of questions and marks by level of difficulty and course coverage:

Table 3 – Degree of Difficulty of Exam

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	12	3	6		9
1b	9	5	5		10
1c	8			5	5
2a	1,3,4	3			3
2b	1,3,4	4			4
2c	1,3,4	1	8		9
2d	1,3,4			4	4
3a	1			3	3
3b	10		4		4
3c	1,3,4			5	5
4a	8,15		3		3
4b	13	2	3	2	7
4c	13			4	4
5a	12,14,15		3	2	5
5b	12,14,15		2		2
5c	12,14,15		2	3	5
5d	2	1	3	4	8
6a	1		8		8
6b	1			2	2
TOTAL		19	47	34	100

Table 4 – Course Coverage

Question	Units	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	8,9,12	8	11	5	24
2	1,3,4	8	8	4	20
3	1,3,4,10	-	4	8	12
4	8,13,15	2	6	6	14
5	2,12,14,15	1	10	9	20
6	1		8	2	10
Total		19	47	34	100

Based on the table above, Question 5 was the hardest, followed by Question3. Question 1 and Question 2 were the easiest. In practice question 6 proved to be the easiest question and was probably overrated as to degree of difficulty.

Table 5 – Pass Rates

This table shows the pass rates after adjustments made for borderline cases. The percentages are percentage of submitted answers.

	Ass 1	Q1	Q2	Q3	Q4	Q5	Q6
Pass	53%	78%	67%	50%	35%	17%	83%
Fail	47%	22%	33%	50%	65%	83%	17%
Submitted answers	19	18	18	18	17	18	18

3.5. Overall Performance

Overall candidates did well in questions 1, 2 and 6. These covered topics of funding methods, and the nature of the provision of benefits. The questions involved largely knowledge and understanding with only some analysis and judgment involved.

Question 3 on investment risk aversion was answered reasonably well by half the candidates.

Questions 4 and 5 proved to be the discriminator questions. They covered asset liability modeling and application of accounting standards. Comments from the markers indicated that candidates were probably under time pressure at this stage.

Question 5 on accounting standards proved the most difficult. No student came close to getting all the numeric answers or formulae correct. However, the good candidates made a solid attempt at some of the components of the answer and prepared a neat template of the required report.

Any candidate who passed question 4 or question 5 passed overall. A few candidates passed overall without passing either question 4 or question 5.

The overall pass rate is high compared to recent course 4A pass rates. The pass rate only

represents an increase of one or two pass candidates because of the small numbers involved. I believe this pass rate is justified by the quality of the answers given by the passing candidates.

3.6. Question by Question Analysis

The following comments were prepared from the markers' responses.

Question 1

This was a question covering funding methods, valuation data and checking, and approach to possible errors.

Q1(a) Most candidates scored reasonably well. Candidates could nominate funding methods different to the solutions for all three schemes, and still score 6 points which would keep them on track for a "B", provided they could support their nominated funding method based on the attributes of the Scheme. It was hard to give marks if a candidate recommended a method, described the method generically, but didn't link it to the question. Scheme C caused the most difficulties, with the requirement to think from first principles exposing weaknesses in some candidates.

Q1(b) should have been easy marks, particularly given the generous marking scheme, and almost all candidates scored "B" or higher. Candidates generally were weaker on the IAS19/employer aspects.

Q1(c) The question made it clear that the valuation was "under accounting standard IAS19 to assist the employer sponsor in preparing its financial statements". Candidates who read this and understood the IAS19 requirements scored well. Weaker candidates who didn't read the question, or who didn't understand IAS19 requirements, were immediately floundering for marks, eg talking about notifying the Trustee, potential unsatisfactory financial position, IAA code of conduct etc.

Question 2

This question covered the theory and application of retirement income policy at a national level.

Many candidates went into a lot of detail about product design and features rather than commenting on the overall retirement income system.

Many candidates didn't target their response to their audience (the government) and therefore didn't address the issues a government would be most interested in.
There also appeared to be a lack of understanding of the tax nuances.

Question 3

This question covered individual investment risk theory and its application.

No marker comments.

Question 4

This question covered asset liability modeling.

Overall the question was not well done with the majority of students scoring a B or C grade.

Q4(a)   Most students answered the first part of this question reasonably well in stating the different objectives of the sponsoring employer and Trustee. However, they were less successful in describing the conflicts that may arise.

Q4(b)   Most students were able to describe the quantities they would analyse. Students were asked to describe the results to be presented; the answers to this part of the question were often poorly set out. Students generally answered the question on how they would utilize the results poorly, failing to link the modelling back to the conflict in part a.

Q4(c) This question was not answered well, with many students writing only brief points of one or two words. The answers to this question and the second part of part b were very rushed and showed possible time pressure on students.

Question 5

This question covered the application of IAS19.

Q5(a) Most candidates identified investment returns and salary increases as two of the main experience items. Some missed the effect of the discount rate change.

Not many highlighted adequate reasons for choosing the experience items to monitor (or the items that could be safely ignored).

Few gave the formulae calculating gains and losses. Most were able to explain in words what would be done to determine gains and losses.

Q5(b) This part was handled reasonably well, with most candidates able to score at least 1 mark.

Q5(c) This wasn't answered particularly well for relatively simple calculations.

Some candidates missed the gift mark for stating the position at 30 June 2007

Most took the approach of projecting forward assets and liabilities, rather than identifying items of gain and loss.

The effect of investment returns was generally calculated correctly, as was the effect of salary increases in most cases. The effect of the change in discount rate was not determined correctly in most cases (mainly because it was not highlighted as a factor in part a).

In some cases candidates did not multiply the annual assumptions by 7/12 to get the effect for the period.

Q5(d) Generally the answers to this part were poor. Some missed the easy marks for structure, with responses not being well set out. Very few highlighted the limitations associated with the calculations.

It seemed that most candidates were rushed for time with this question, and tended to write down points at random without necessarily much thought given to their relevance (particularly in part d).

Question 6

This was an easy question covering the need for superannuation benefits.

No marker comments

Subject C10: Commercial Actuarial Practice Chief Examiner Report Semester 1 2008

1. Summary

The overall objectives of the Commercial Actuarial Practice (CAP) Course are, in summary, to enable students to:
- Apply actuarial skills across a range of traditional and non-traditional areas by contextualising actuarial solutions or approaches in the wider commercial environment
- Apply ethical concepts, corporate governance requirements and actuarial professional standards when contextualising actuarial solutions or approaches
- Successfully communicate the actuarial solutions or approaches to a range of audiences

Given these objectives, the assessment for the course is focused on the practical application of judgement and on the communication skills of the students rather than on bookwork.

There are two separate pieces of assessment. The first assessment is based on participation in a one-week residential course and on completion of a case assessment in one of the traditional areas of actuarial practice on the last day of the residential course. The second assessment is a 2-hour examination on non-traditional areas of actuarial practice. Students are required to pass each of these assessments in order to pass the Module. Students who fail one or both of these assessments may be permitted to resit the assessment(s) they failed without completing the whole course again.

1.1. Pass Rates

Of the 78 candidates who presented for the case assessment, it is proposed that 51 be awarded a pass, which results in a pass rate of 65.4%. Of the 70 candidates who presented for the examination, it is proposed that 51 be awarded a pass, which results in a pass rate of 72.9%.

In total, out of the 83 candidates who presented for one or both of the assessments, it is proposed that 41 be awarded a pass in the course. This results in an overall pass rate of 49.4%. This is down on the three previous semesters of 67%, 57% and 64% respectively (most recent first).

At this time no analysis has been done to find possible reasons for the lower overall pass rate. One possible cause may be that there are more candidates who have not passed earlier Modules attempting CAPS this Semester than in previous Semesters. The Course Leader will be investigating this and other possible causes.

In addition, it is proposed that 12 candidates be given a pass for the case assessment but a failure for the exam, and a further 17 candidates be given a pass for the exam but a failure for the case assessment.

It is difficult to draw any conclusions about differences in candidate performance between examination centres, given the small numbers at centres other than Sydney. A full summary of results is set out in Attachment 1.

A listing of the grades for each candidate is given in Attachment 2. This listing is based on the Institute scale: A, strong pass (65+); B, pass (50 – 65); C, slightly below (40 – 49); D, weak (25 – 39); and E, showed little knowledge (<25). These grades were derived from the marks awarded by the markers, as described later, and were not used directly as part of the assessment process.

1.2. Candidate Numbers

A total of 83 candidates were enrolled for one or both of the assessments in Semester 1 of 2008. Of these 78 presented for the case assessment, 73 of these 78 also attended the residential course and 70 candidates presented for the examination.

The candidate numbers can be summarized as follows:

NUMBER OF CANDIDATES		
	Case	Exam
Originally enrolled	82	74
Withdrawals	4	4
Absent	0	0
Presented	78	70
Passed	51	51
Failed	27	19

2. Examination Administration

2.1. Examiners

The examiners for this semester were:
Chief Examiner: Colin Westman
Assistant Examiner: Barry Leung

2.2 Course Leader

The assessment materials for the course were developed by a team, consisting of David Service (Course Leader), Elayne Grace, Richard Madden, Peter Martin and Colin Priest.

3. Assessment Piece 1 - Residential Course and Case Assessment

10% of the potential marks for Assessment Piece 1 were based on the candidates' participation during the first four days of the residential course. The participation was graded according to the effort demonstrated in preparing a report and discussion notes prior to the course and to the candidates' general participation in syndicate work and plenary discussions at the course.

90% of the assessment was based on a single question delivered in "case study" format at the start of the fifth day of the residential course. The candidates were given up to 8 hours (the fifth day of the course) to absorb the question material, perform all the necessary analysis and prepare their written response. The answer was required to be a substantial written report.

Candidates were required to select one case study question from one of the four defined traditional practice areas, i.e. life insurance, general insurance, superannuation or investments. The assessment was open book, and candidates were allowed to bring any written material to the session, but were not allowed any outside communication.

3.4. Results

The marks awarded for participation in the residential course varied between 3.9 and 8.6 out of 10.

David Service advised that student preparation was generally good this Semester, including the quality of completion of the pre-work.

Also, there was still a wide range of contributions to the syndicates and the plenary discussions. However most students attempted to participate with varying degrees of success. Candidates who sat the case assessment but did not attend the residential course this semester were awarded the marks gained for their previous participation in the residential course.

The proposed pass results for Assessment Piece 1 as a whole are shown by subject below:

Subject	Sat	Pass	Fail	Pass Rate (%)
Life Insurance	25	11	14	44
General Insurance	33	26	7	78.8
Superannuation	6	4	2	66.7
Investments	14	10	4	71.4
Total	**78**	**51**	**27**	**65.4**

The overall pass rate for Semester 2, 2007 was 74.6%. The reduced pass rate this time is largely attributable to the low pass rate for Life Insurance.

3.5. Life Insurance

The Life Insurance case required candidates to provide advice to a life company CEO on a proposal from the marketing director, suggesting the company provides an investment performance guarantee on the company's investment business. The marketing director thought a guarantee might attract new business and limit business losses following recent downturns in investment markets.

The candidate was expected to deal with charging for the guarantee, implications for additional capital (including APRA requirements), likely customer responses and to comment generally on marketplace investment cycles.

The APRA rules relating to guarantees had to be addressed for a pass.

This question required some skilled analysis of investment data, but overall was fair. Plenty of scope existed in the question for creative but sensible response.

Overall the standard of the papers was poor. Some candidates relied too much on assertions without any supporting calculations, and some predicted responses by the marketplace which showed lack of judgement.

The low level passes were reviewed and some of the fail papers. In each case we agreed with the markers that the fails had too many of the abovementioned blemishes.

3.6. General Insurance

The General Insurance case required candidates, as a consulting actuary, to advise on Deposit Bonds. In particular the candidate had to consider the profitability of a book of Deposit Bonds with a particular mortgage broker, and then advise on the financial issues relating to increasing commission to the mortgage broker to meet competitive pressures.

Generally this question was quite well answered, with most doing the required analysis and drawing sensible conclusions in relation to costs, time taken and results.

3.7. Superannuation

The Superannuation case required candidates to advise on the implications of cashing out motor vehicle allowances on the benefits in a defined benefits superannuation fund, and the related effects on the costs of those benefits.

As well, candidates had to consider the costs of these benefits when the maximum period for accrual was reached, and also when participants were promoted to executive level – with a large increase in salary and in the value of their accrued superannuation benefits .

This was a difficult question, although not unreasonable for someone close to qualifying as an actuary.

3.8. Investment & Finance

The Investments case asked candidates to advise a fund manager on an investment approach which would avoid significant downturns in equity markets. Candidates were expected to evaluate the methods proposed by Richard Fitzherbert in an Institute paper, and as well consider the merit in purchasing the SPI rather than equities. Risks had to be addressed and an evidence based opinion provided.

Given the expected use of the report, communication was particularly important.

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4. Assessment Piece 2 - Non-Traditional Exam

Assessment Piece 2 was a two-hour examination at the end of the semester. One question was offered in each of 4 non-traditional practice areas, i.e. infrastructure, banking, environment and health. Each candidate was required to attempt 2 out of the 4 questions. Candidates were permitted to take any materials into the examination.

4.4. Results

The proposed marks for each candidate for Assessment Piece 2 as a whole are shown in Attachment 3. It is proposed that all those with a mark of 50 or more should pass. This means that 51 out of the 70 candidates who sat the exam should pass, or 72.9%. Students who did sufficiently well in one question to still achieve a mark in excess of 50 despite a fail in another question were not denied a pass if their weaker question was a marginal fail and did not contain gross errors of understanding.

The results by question are set out in the table below.

Question	Sat	Pass*	Pass Rate	Avg Mark A	Avg Mark B	Avg Mark
Banking	37	28	75.6	60.3	56.7	58.5
Environment	44	24	54.5	54.9	52.1	53.5
Health	35	20	57.1	50.4	49.0	49.7
Infrastructure	24	22	91.7	67.3	63.0	65.1
All Questions	**140**	**94**	**67.1**	**57.3**	**54.4**	**55.9**

* This refers to the number of candidates who received a mark of 50 or more in the specific question rather than those who passed the exam as a whole.

Overall, apart from infrastructure the pass rate on the individual questions were below those normally experienced. The average pass rate of 67.1% on all questions was lower than the 77.2% in the last semester.

4.5. Banking

Candidates were presented with a proposed new facility for residential mortgages – essentially the Bank would enter into a sale and lease back arrangement with borrowers rather than take repossession when the mortgage defaulted.

Risks for both the Bank and the borrower had to be described, as well as considerations in relation to pricing.

Generally this question was well answered.

4.6. Environment

Candidates were asked to consider two alternative countries for a new manufacturing plant. Each country had different political and environmental situations (re emissions trading and carbon credits).

Firstly candidates were expected to adjust the net present value of each location by the costs of financial impacts of the political and environmental issues, and secondly to prepare an executive summary including discussions on risks and opportunities.

Generally candidates did not undertake the calculations well, nor identify enough of the risks and opportunities.

4.7. Health

Candidates were provided with some background information on alternative treatments for stroke (including statistics, effects of treatments and effects of prevention programmes). They were then asked to advise the Government how best to allocate an amount of funding between prevention, medication, in-patient treatment and respite care.

This question had to be read carefully to pick up all relevant information. Not all candidates did this, leading to poor analysis. Some candidates made no analysis. Many responses were not well structured, and candidates often claimed to have run out of time. This should have been an easy question for candidates who carefully analysed the question before commencing their answer.

Following discussions between the relevant course leaders and the Chief Examiner it was decided to pass those candidates who had dealt properly with the three specific topics (criteria, time frame and data required) and also set out how an analysis should be conducted. The final pass rate was still poor.

4.8. Infrastructure

This question asked candidates to review NSW Railcorp's business and financial statements, and then provide advice to an overseas infrastructure company on the additional information it should obtain to help identify the risks/opportunities in purchasing Railcorp. This question was very well answered.

Attachment 1

Results by category

	Full course	*Case only*	*Exam only*	*Total*
Presented	65	13	5	83
Passed case and exam	32			32
Passed case failed exam	12			12
Failed case passed exam	17			17
Failed both case and exam	4			4
Passed case only		7		7
Passed exam only			2	2
Course Pass rate %	49.2	53.8	40	49.4

Candidates have been classified based on the assessments they undertook, regardless of whether or not they attended the Residential Course.

Results by Assessment Piece

	Case	*Exam*	*Course*
Presented	78	70	83
Passed	51	51	41
Failed	27	19	42
Pass rate %	65.4	72.9	49.4

Results by Examination Centre

Centre*	*Case*			*Exam*			*Course*		
	Presented	Pass	Pass Rate (%)	Presented	Passed	Pass Rate (%)	Presented	Passed	Pass Rate (%)
Sydney	56	35	63	47	36	77	60	31	52
Melbourne	11	8	73	11	8	73	11	6	55
Brisbane	1	0	0	1	0	0	1	0	0
Auckland	1	1	100	2	1	50	2	0	0
Perth	1	1	100	1	1	100	1	1	100
London	2	1	50	2	1	50	2	0	0
Hong Kong	2	2	100	2	1	50	2	1	50
Singapore	2	1	50	2	1	50	2	0	0
Other	2	2	100	2	2	100	2	2	100
Total	78	51	65	70	51	73	83	41	49

- *Note that all of the candidates completing the residential course physically sat the case assessment in Sydney. This analysis is based on home location (where the candidate sat the exam).*