

Report to Council from the Board of Examiners

2006 PART III

SEMESTER TWO

EXAMINATIONS

REPORT

(STUDENT VERSION)



Institute of Actuaries of Australia

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SUMMARY

Examination Administration

The Semester Two 2006 Part III examinations of the Institute of Actuaries of Australia (“Institute”) were held between 30 October and 3 November 2006. Candidates attended the examinations in Australia (Sydney, Melbourne, Canberra, Perth and Brisbane) and overseas (New Zealand, Hong Kong, China, Canada, Ireland, Japan, Korea, Malaysia, Singapore, Taiwan, The Netherlands, United Kingdom and USA).

This is the second 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 is very similar to that in the previous period.

Table A: Candidate Numbers Sitting by Part III Subject (old courses)

	Subject	2000	2001	2002	2003	2004
1	Investment Management	102	92	80	110	136
2	Life Insurance	82	79	86	111	118
3	General Insurance	55	59	73	89	91
4	Superannuation & P.S.	25	23	26	26	25
5	Finance	45	47	68	74	62
	Total	309	300	333	410	432

Table B: Candidate Numbers Sitting by Part III Course (new courses)

	Subject	2004	2005 (1)	2005 (2)	2006 (1)	2006 (2)
1	Investments	136 ¹	187	129	162	150
2A	Life Insurance	118	61	62	53	51
2B	Life Insurance	114	22	28	25	32
3A	General Insurance	91	68	79	69	65
3B	General Insurance	91	18	34	48	41
4A	Superannuation & Planned Savings	25	19	11	12	8
4B	Superannuation & Planned Savings	25	5	10	n/a ⁵	7
5A	Investment Management & Finance	136 ²	20	19	14	18
5B	Investment Management & Finance	118 ³	10	16	14	15
10	Commercial Actuarial Practice	n/a	n/a	28	23 ⁶	47 ⁷
	Total	432 / 854⁴	410	416	420	434

1. The 2004 Investment Paper 1 is broadly equivalent to the 2005 Investment Course.
2. The 2004 Investment Paper 2 is broadly equivalent to the 2005 Finance Course 5A.
3. The 2004 Finance Courses 5A and 5B are broadly equivalent to the 2005 Finance Course 5B. In 2004, 62 candidates sat Finance Paper 1 and 56 candidates sat Finance Paper 2.
4. In 2004 there were 432 individual candidates, with a total of 854 enrolments by each paper/course.
5. The 4B Course did not run in 2006 (1).
6. In Semester One 2006 23 Individual Candidates enrolled, though some candidates only attempted either the Exam or the Case Study.
7. In Semester Two 2006 47 Individual Candidates enrolled, though some candidates attempted either the Exam or the Case Study.

Results

Pass Rates

The number of candidates presenting for the Semester Two 2006 Part III Exams, the recommended passes and the resulting pass rates are shown in the table below:

Table C: Recommended Number of Passes by Part III Course

	2006(2) Sat	2006(2) Passed	2006 (2) %	2006(1) %	2005(2)	2005(1)	2004 ¹	2003
1 Investments	150	46	31%	28%	29%	24%	30%	40%
2A Life Insurance	51	14	27%	32%	31%	23%	22%	28%
2B Life Insurance	32	13	41%	32%	29%	50%	26%	28%
3A General Insurance	65	25	38%	42%	35%	28%	33%	37%
3B General Insurance	41	16	39%	50%	32%	50%	25%	37%
4A Super & PS	8	3	38%	50%	18%	42%	24%	23%
4B Super & PS	7	4	57%	n/a	60%	80%	28%	23%
5A Invest. Man. & Fin.	18	8	44%	50%	26%	35%	29%	40%
5B Invest. Man. & Fin.	15	4	27%	43%	31%	40%	52%	42%
10 CAP – Case Study	44 ²	28	64%	73%	68%	-	-	-
10 CAP – Exam	43 ²	38	88%	78%	82%			
Total	434³	163⁴	38%	37%	34%	30%	29%	35%

1. The 2004 Results have been adjusted to include the passes awarded separately for Paper 1 and Paper 2.
2. 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%. 47 Unique candidates attempted CAP this semester.
3. Whilst there were 434 Candidates enrolled, the total numbers of candidates who sat each part does not sum to 433, as some candidates only sat part of the CAP Module.
4. The number of passes for CAP relates to the whole module and thus equals 30.



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 overall pass rate of 38% is higher than that achieved in recent years of 29% - 37%. The overall pass rate is in line with last semester with the 2006 results as a whole boosted by the strong results in Course 10 CAP. However, excluding the CAP results the overall pass rate would have still been 35%.

Fellows

As the Part III Examinations are in transition from the pre-2005 system to the new post-2005 system, there are two ways in which candidates can qualify as Fellows.

- (i) Under the pre-2005 system, candidates have to pass two courses (Modules 2 and 3 for two separate subjects).
- (ii) Under the post-2005 system, candidates must pass Module 1 (Investments), one full specialist subject (Modules 2 and 3) and Module 4 (Commercial Actuarial Practice).

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	2006 (2)	2006 (1)	2005 (2)	2005 (1)	2004
Pre-2005 system	7	14	19	7	51
Post-2005 system	25	10	14	-	-
Total New Fellows	32	24	33	7	51



CHAIRMAN'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 his assistants and the Chief Examiners for each subject, supported by Institute staff.

For Semester Two 2006 the Chair and his Assistants were:

Chair	Mr Andrew Smith
Assistant Chair	Ms Bozena Hinton
Assistant Chair	Mr Wesley Caine
Assistant Chair	Ms Raewin Davies
Assistant Chair	Ms Caroline Bayliss
Assistant Chair	Mr Neil Lawrence

The Chief Examiners for Semester Two 2006 were:

Course 1: Investments	Mr Stephen Woods
Course 2A: Life Insurance	Mr Owen Wormald
Course 2B: Life Insurance	Mr Brett Cohen
Course 3A: General Insurance	Mr Craig Price
Course 3B: General Insurance	Mr Don Johnstone
Course 4A: Superannuation & Planned Savings	Mr Paul Newfield
Course 4B: Superannuation & Planned Savings	Ms Jenny Dean
Course 5A: Investment Management & Finance	Mr Dennis Mosolov
Course 5B: Investment Management & Finance	Mr Brad Milson
Course 10: Commercial Actuarial Practice	Mr Ken McLeod

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, Bozena, Raewin, Caroline, Neil 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 four occasions as part of the Semester Two 2006 exam process.

- The first meeting was held on 18 July. It was attended by representatives from each Course (Chief Examiners/Assistant Examiners) apart from courses 1, 5A and 5B. The purposes of this meeting were to:
 - identify Chief & Assistant Examiners and Course Leaders for each course for Semester Two 2006
 - outline the responsibilities of Chief Examiners and the Semester Two schedule



- review progress on the drafting of the exams to date
 - discuss the need to obtain scrutineers.
- The second meeting was held on 26 September. It was attended by a representative from all courses except 2A, 4B and 5B. The purposes of this meeting were to:
 - discuss the status of Semester Two 2006 examination papers and model solutions
 - discuss the assignment marking procedure
 - discuss the marking spreadsheets and how assignments will be incorporated into the marking process
 - review the recruitment of markers and arrangements for the marking day
 - discuss the success, or otherwise, of the new Chief Examiner reports which after semester 1 were delivered via interview
 - The third meeting was held on 6 December and was attended by Chief Examiners or their representative from all courses except Course 1 and Course 5B. The purposes of this meeting were to:
 - review the process adopted by each Chief Examiner in finalising results
 - review the recommended pass lists and treatment of borderline candidates
 - discuss which candidates, if any, are to receive subject prizes and the major prize
 - review the recruitment of Chief Examiners for Semester One 2007.
 - A fourth follow up meeting was held on 14 December to discuss the finalisation of outstanding Chief Examiners' reports and to conclude on prize recipients.

1.3 Administration and Exam Supervision

The Board of Examiners was ably assisted by a number of Institute staff, in particular Mr Ken Guthrie, Mr Philip Latham, Ms Carmen Joseph and Ms Lauren O'Donnell. Ken, Philip, Carmen 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 Two 2006 and the Board of Examiners team is indebted to them all.

The Semester Two 2006 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. This generally worked well in Semester Two 2006. The following is a list of the Course Leaders for semester 2 2006:

Course 1 - Andrew Leung (assignments and exams) and Sue Howes (tutorials and discussion forums)

Course 2A and 2B - Sue Howes

Course 3A and 3B - GI Faculty

Course 4A - Jeffrey Chee (assignments and exams), Saffron Sweeney (tutorials and discussion forums)

Course 4B - Paul Francis, David Knox and Julie Cook from Mercer in Melbourne (assignments and exams), Saffron Sweeney (tutorials and discussion forums). The exam was developed very late for 4B.

Course 5A - Andrew Leung

Course 5B - Gourav Choudhary did this remotely from London, but was on time with assignments and exams and did a good job of supporting students

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. In most cases the drafting of the assignments worked well.

1.5 The Examination Process

The Semester Two examination process began officially in July 2006 with an initial meeting of the Board of Examiners. Course Leaders, however, had begun drafting examination questions from June 2006. 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 Two 2006 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. Five control papers were also marked by all markers to ensure consistency. 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 20%.
- 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 two assignments. These are each worth 10% 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 nor 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 Two 2006 assignments were submitted both electronically and in hard copy. The electronic copy was to be received by the due date and the hard copy was to be received within two days of the due date. The hard copy was to be submitted for Australian based students only.

The Institute also ran two workshops (Melbourne and Sydney) for markers outlining the process and the importance and value of appropriate feedback at the beginning of 2006.

1.7 Module 4 CAP - The Case Study Process

The CAP course was developed and originally delivered for the Institute by the ANU. Semester Two was the first CAP course to be run directly by the Institute. The CAP team involved in the previous semester have been retained on individual contracts. The team included David Service, Richard Cumpston, Tim Higgins, 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. Ken McLeod also acted as Chief Examiner, assisted by the other members of the Faculty.



During the one-week residential course, students 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 case assessment questions were reviewed by members of the Faculties for the different areas of practice, specifically:

Life Insurance:	Sue Howes
General Insurance:	Daniel Smith
Superannuation:	Steve Schubert
Investments:	Andrew Leung

The assessment questions were also reviewed by at least one member of the CAP Faculty. Last semester all candidates were awarded exactly 8 out of 10 for participation in the residential course. This semester each student received an individual participation mark with marks ranging from 7.2 to 8.7 out of 10.

1.8 Examination Centres

Candidates sat the exams in 5 centres in Australia and 14 centres overseas. Individual exam locations were arranged in China (2), Ireland (1), Japan (1), Korea (1), The Netherlands (2), Taiwan (1), and USA (3).

Table 1: Candidates by Exam Centre - Semester Two 2006

	Number of Candidates
Australia	
Brisbane	6
Canberra	5
Melbourne	60
Sydney	268
Perth	3
Overseas	
China	2
Hong Kong	20
Ireland	1
Japan	1
Korea	1
Malaysia	12
New Zealand	8
Singapore	19
Taiwan	1
The Netherlands	2
United Kingdom	18
USA	3
Total	430

1.9 Exam Candidature

Candidate Numbers

The number of candidates sitting the Part III exams in Semester Two remained fairly static compared with the previous Semester.



Table 2: Candidate Numbers Sitting by Part III Courses (old courses)

	Subject	2000	2001	2002	2003	2004
1	Investment Management	102	92	80	110	136
2	Life Insurance	82	79	86	111	118
3	General Insurance	55	59	73	89	91
4	Superannuation & P.S.	25	23	26	26	25
5	Finance	45	47	68	74	62
	Total	309	300	333	410	432

Table 3: Candidate Numbers Sitting by Part III Courses (new courses)

	Subject	2004	2005 (1)	2005 (2)	2006 (1)	2006 (2)
1	Investments	136 ¹	187	129	162	150
2A	Life Insurance	118	61	62	53	51
2B	Life Insurance	114	22	28	25	32
3A	General Insurance	91	68	79	69	65
3B	General Insurance	91	18	34	48	41
4A	Superannuation & Planned Savings	25	19	11	12	8
4B	Superannuation & Planned Savings	25	5	10	n/a ⁵	7
5A	Investment Management & Finance	136 ²	20	19	14	18
5B	Investment Management & Finance	118 ³	10	16	14	15
10	Commercial Actuarial Practice	n/a	n/a	28	23 ⁶	47 ⁷
	Total	432 / 854⁴	410	416	420	434

1. The 2004 Investment Paper 1 is broadly equivalent to the 2005 Investment Course.
2. The 2004 Investment Paper 2 is broadly equivalent to the 2005 Finance Course 5A.
3. The 2004 Finance Courses 5A and 5B are broadly equivalent to the 2005 Finance Course 5B. In 2004, 62 candidates sat Finance Paper 1 and 56 Candidates sat Finance Paper 2.
4. In 2004 there were 432 unique candidates, with a total of 854 enrolments by each paper / course.
5. The 4B Course did not run in 2006 (1).
6. 23 Individual Candidates sat assessments in the CAP course, though some candidates only attempted either the Exam or the Case Study.
7. 47 Individual Candidates sat assessments in the CAP course, though some candidates only attempted either the Exam or the Case Study.

Table 2 reflects numbers of candidates presenting at the exam prior to 2005 (old courses).

Table 3 shows the number of candidates presenting at the exam in the new program from 2005, with the 2004 figures repeated for comparison purposes. In 2004 candidates sat two papers per subject. For transition purposes, for the 2004 Life Insurance, General Insurance and Superannuation & Planned Savings courses, Paper 1 now equates to the 'A' component of the new 2005 course and Paper 2 equates to the 'B' component of the new 2005 course. For the 2004 Investment Management course, Paper 1 equates to the 2005 Course 1 (Investments) and Paper 2 equates to the 2005 Course 5A (Investment Management & Finance). For the 2004 Finance course, Papers 1 and 2 equate to the 2005 Course 5B (Investment Management & Finance) with students only requiring to receive a pass in either one of the 2004 Finance papers to be given credit for Course 5B.



Withdrawal Rates

In Semester Two 2006, 480 candidates initially enrolled in courses, however 50 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 for Investments (15 officially withdrew prior to the examinations and 3 did not present for the exam, out of 168 originally enrolled). For other courses, the absolute number of withdrawals was similar to the previous semester, with the exception of General Insurance courses where withdrawal rates were higher than in the previous semester. The overall percentages that withdrew were broadly consistent with past experience. The withdrawal rates for all subjects were:

Table 4: Withdrawal Rates by Part III Course – Semester Two 2006

	Subject	Initially Enrolled	Withdrew prior to Exam	Absent from exam	Total Withdrawing	%
1	Investments	168	15	3	18	10.7%
2A	Life Insurance	57	4	2	6	10.5%
2B	Life Insurance	33	1	0	1	3%
3A	General Insurance	75	7	3	10	13.3%
3B	General Insurance	46	5	0	5	10.9%
4A	Superannuation & P.S.	8	0	0	0	0%
4B	Superannuation & P.S.	8	1	0	1	12.5%
5A	Invest Management & Finance	21	3	0	3	14.3%
5B	Invest Management & Finance	19	2	2	4	21.1%
10	Commercial Actuarial Practice	45	1	1	2	4.4%
	Total	480	39	11	50	10.4%

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. It is expected that 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. Similarly, more students are likely to sit CAP in Semester Two. It can be seen that the CAP numbers have increased significantly compared with last semester.

The enrolments for Life Insurance have been fairly constant at approximately 20% for the last three semesters, down from a previous trend of 27%. This pattern is reversed for the General Insurance Course, where the last two semesters show enrolments at 25% to 28%, while previously they were trending around the 20% mark. The enrolments in Superannuation show a continuing gradual decline, reflecting the perceived reduction in employment opportunities in this area. CAP enrolments were significantly higher than the previous semester.



Table 5: Candidate Mix by Part III Course – Enrolments Semester Two 2006

	Subject	2002	2003	2004	2005 (1)	2005 (2)	2006 (1)	2006 (2)
1	Investments ¹	24%	27%	32%	46%	31%	39%	35%
2	Life Insurance	26%	27%	27%	20%	21%	19%	19%
3	General Insurance	22%	22%	21%	21%	27%	28%	25%
4	Superannuation & P.S.	8%	6%	6%	6%	5%	3%	3%
5	Investment Mgt & Finance ²	20%	18%	14%	7%	10%	7%	8%
10	Comm. Actuarial Practice	n/a	n/a	n/a	n/a	6%	5%	9%
	Total	100%	100%	100%	100%	100%	100%	100%

1. Course 1 Investments prior to 2005 was equivalent to Investment Management.
2. Investment Management and Finance prior to 2005 was equivalent to Finance.

2. Examination Papers and Assignments

2.1 Examination Structure

The structure of the examinations in Semester Two 2006 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). Exams for Modules 1-3 were worth 80% of the final assessment, with the two assignments each worth 10%.

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 6th day (45%).
- *Second piece:* two-hour exam paper on non-traditional areas of actuarial practice, answering 2 out of 5 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 Two 2006 was two assignments for each Module (1-3 only), with each assignment worth 10% 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 6: Standards of Difficulty by Part III Course

		Knowledge & Understanding		Simple Judgement		Complex Judgement	
	Subject	2006 (2)	2006 (1)	2006 (2)	2006 (1)	2006 (2)	2006 (1)
1	Investments	30%	23%	34%	40%	36%	37%
2A	Life Insurance	23%	24%	38%	36%	39%	40%
2B	Life Insurance	22%	22%	38%	37%	40%	41%
3A	General Insurance	19%	24%	47%	43%	34%	33%
3B	General Insurance	23%	19%	40%	49%	37%	32%
4A	Superannuation and PS	19%	30%	40%	38%	41%	32%
4B	Superannuation and PS	20%	n/a	39%	n/a	41%	n/a
5A	Invest. Management & Finance	19%	18%	38%	44%	43%	38%
5B	Invest. Management & Finance	27%	27%	43%	48%	30%	25%
	Targets	15% - 25%		35% - 45%		35% - 45%	

The examination papers were broadly similar in standard of difficulty to prior periods, with perhaps a slightly greater weighting to complex judgment questions.

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. From 2005, as the exam is only worth 80% of the final assessment, this has effectively reduced the target weighting of the overall assessment to 24% KU / 40% SJ / 36% CJ. This means that a higher component of the assessment is KU (“bookwork”) and a lower proportion of the assessment is CJ (“complex judgement”), from 2005, 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 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

In summary, the exam acted as a good discriminator with raw marks ranging from 4.0 to 111.0 out of 200. However, the examination overall was considered to be undemanding. Nevertheless several markers reported that in spite of this, the quality of candidate responses was weak.

The pass rate this semester of 31% is marginally higher than last semester’s pass rate of 28%. The relatively low pass rate compared to other Part III courses may be a reflection of:

1. a lower level of subject specialisation since this course is compulsory; or
2. the inclusion of candidates embarking on the Part III examinations who will later struggle with and/or withdraw from the actuarial examination process.

Course 2A - Life Insurance

Overall the exam paper acted as a reasonable discriminator, with raw marks (including assignments) ranging from 72 to 125 out of 200, with outlier marks at 17 and 24. This range is similar to the May 2006 exam where the raw marks ranged from 60 to 125 with an outlier at 15.

There is continued evidence of candidates copying points from the textbook and failing to put the comments in the context of the question. Candidates still need to realise the exam is predominantly about applying judgment and not regurgitating points from the textbook.

In addition, candidates also need to be reminded that good handwriting and answers that are structured and set out clearly are part of good exam techniques. It needs to be understood examiners cannot second-guess from the candidates’ responses. The points need to be communicated clearly by the candidate.



Course 2B - Life Insurance

Overall the exam paper acted as a good discriminator, with raw marks (including assignments) ranging from 87 to 140 out of 200. This range was narrower than in the previous semester (49 to 111 out of 200). Whilst the exam this year was not assessed as any more difficult than last year, as evidenced by the breakdown of question difficulty, overall student performance has improved slightly over previous years (with the exception of May 2005).

The Chief Examiner has outlined specific issues identified in the marking of each question. In general terms, the differences between the weaker candidates and the good candidates was an ability of good candidates to not only identify relevant points but to describe their relevance to the specific problem or scenario. Weaker candidates tended to be vague in their responses.

Course 3A - General Insurance

The pass rate this semester of 38% is slightly down on last semesters pass rate of 42%. Prior to that, pass rates have typically been in the low to mid 30's. In setting the paper, the examiner team aimed for a consistent level of difficulty with the previous paper. The average raw exam mark this semester was however significantly lower than last semester's exam being 85 versus 100, however it is similar to November 2005 where the average raw mark was 86. The raw marks in each of the six exam questions ranged from 29% to 58% of the total marks available, comparing with a range of 43% to 55% for the previous paper. The range was similar to November 2005 (26% to 57%).

The exam was reasonably spread over the 4 units. However there was a significant focus (as appropriate) on Unit 3, Actuarial Techniques and Analysis of Claims Experience.

This examination required some calculations to demonstrate key knowledge.

Course 3B - General Insurance

The pass rate this semester of 39% is lower than that of the previous semester of 50%. However it is consistent with the pass rate from the November 2005 pass rate of 32%

In setting the paper, the examiners aimed for a consistent level of difficulty compared with the previous paper. The exam proved to be a good discriminator of candidates with the raw marks (including assignments) ranging from 80 to 131 out of 200. This is comparable to the November 2005 raw marks which ranged from 75 to 122 out of 200.

There was again a significant focus on Unit 5, Premium Rating, which was covered in substantial parts of questions 2, 3, 4 and 5. In addition, this exam had a significant component relating to Financial Control and FCR issues. Question 6 on this paper asked candidates to identify the key issues from the previous questions that should be addressed in an FCR. Marks for the question related to a mixture of simple and complex judgment requiring students to demonstrate knowledge of a current topical market issue. The question was a good discriminator with marks ranging from 1.5 to 12 out of 17.



Course 4A - Superannuation and Planned Savings

Overall, 38% of students passed the course down from 50% in the May 2006 exams. However only 8 candidates sat the exam so stability in the pass rate is not to be expected.

The exam proved to be a good discriminator of candidates with raw marks ranging from 102 to 155 out of 200. All candidates who did not pass the subject received a “C” grade.

Course 4B - Superannuation and Planned Savings

This course did not run in Semester One 2006, due to insufficient enrolments. The course did run in Semester Two 2006 however there were only 7 candidates who sat the exam.

Candidates performed well on the exam which is reflected in the pass rate of 57%. The easier questions in the paper did not prove to be a good discriminator of students however the converse is true for the more difficult questions that involved complex judgements. The range of raw marks (including assignments) was quite narrow with marks ranging from 117 to 138 out of 200 with an outlier at 24.

The examiner has noted that students typically did well on the easier questions positioned early in the paper but did not perform well on the more difficult questions in the latter part of the paper. This may suggest a poor allocation of time to each question and generally poor exam technique.

Course 5A - Investment Management and Finance

The pass rate for this subject of 44% is similar to that in semester 1 of 50%. This semester's exam proved to be difficult for the majority of candidates. While some concerns could be expressed regarding the overall performance, an analysis of the results indicates that there was a core group of students who performed capably across the range of targeted areas of study.

The results should also be considered in light of the fact that the exam was challenging in terms of its breadth and the level of detailed knowledge required. Students were, as expected, presented with some difficult challenges, especially in light of the time constraints involved.

The exam was a reasonable discriminator of candidates with raw marks (including assignments) ranging from 71 to 109 out of 200.

Course 5B - Investment Management and Finance

The pass rate this semester of 27% has fallen from last semester's result of 43%. This result is consistent with the pass mark for the corresponding exam period in 2005 (31%).

In the Chief Examiner's opinion, the exam this semester contained a mix of relatively easy and difficult questions. This resulted in a split between those students with a good understanding and those without adequate preparation. The examiner has noted that it is disappointing to see that some candidates with strong responses to the difficult questions showed gaps in their knowledge in the easier questions. Overall the exam paper acted as a good discriminator, with raw marks ranging from 30 to 130 out of 200.



The standard of candidates remains relatively poor overall where practical understanding is required or where the theory studied needs to be related to the real world. The study process needs to relate the in-depth theory studied as part of this course back to practical applications, in order to generate candidates with useful skills.

Of those non-passing candidates, most demonstrated either significant gaps in their knowledge with a number of weak responses, or an inability to respond to any of the more difficult questions requiring complex judgement.

Course 10 – Commercial Actuarial Practice

The Commercial Actuarial Practice (CAP) Course was conducted for the third time in Semester Two 2006. 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.

An overall pass rate of 64% (30 candidates of 47) was achieved including a pass rate for the case study of 64% (28 candidates of 44) and a pass rate for the exam of 77% (38 candidates of 43). These pass rates match those hoped for at the time the course was developed.

Overall, the pass rates in the *exam* were quite good. The marks across all candidates ranged from 44.5 to 76.3, although all passing students scored in the 50 or above.



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 7: Recommended Candidate Passes by Part III Course

	Subject	2002	2003	2004	2005(1)	2005(2)	2006(1)	2006(2)
1	Investments ¹	29	44	39	45	38	45	46
2A	Life Insurance	33	31	21	14	19	17	14
2B	Life Insurance	33	31	21	11	8	8	13
3A	General Insurance	26	33	23	19	28	28	25
3B	General Insurance	26	33	23	9	11	24	16
4A	Superannuation & P.S.	8	6	6	8	2	6	3
4B	Superannuation & P.S.	8	6	6	4	6	n/a	4
5A	Invest. Mngmt & Finance ²	29	44	39	7	5	7	8
5B	Invest. Mngmt & Finance ³	21	31	22	4	5	6	4
10	Comm. Actuarial Practice	-	-	-	-	18	14 ⁵	30
	Total (pre 2005)⁴	117	145	111	n/a	n/a	n/a	n/a
	Total (post 2005)	213	259	200	121	140	156	163

1 The 2004 Investment Paper 1 is broadly equivalent to the 2005 Investment Course.

2 The 2004 Investment Paper 2 is broadly equivalent to the 2005 Finance Course 5A.

3 The 2004 Finance Courses 5A and 5B are broadly equivalent to the 2005 Finance Course 5B.

4 Pre 2005, only complete (A+B) passes were awarded, so the Total only includes one pass per complete Course.

5 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.

Table 8: Recommended Pass Rates by Part III Course

	Subject	2002	2003	2004 ⁴	2005(1)	2005(2)	2006(1)	2006(2)
1	Investments ¹	36%	40%	30%	24%	29%	28%	31%
2A	Life Insurance	38%	28%	22%	23%	31%	32%	28%
2B	Life Insurance	38%	28%	26%	50%	29%	32%	41%
3A	General Insurance	36%	37%	33%	28%	35%	42%	38%
3B	General Insurance	36%	37%	25%	50%	32%	50%	39%
4A	Superannuation & P. S.	31%	23%	24%	42%	18%	50%	38%
4B	Superannuation & P. S.	31%	23%	28%	80%	60%	n/a	57%
5A	Invest. Mngmt & Finance ²	36%	40%	29%	35%	26%	50%	44%
5B	Invest. Mngmt & Finance ³	31%	42%	52%	40%	31%	43%	27%
10	CAP – Case Study	-	-	-	-	68%	73%	64%
10	CAP – Exam					82%	78%	77%
	Total	35%	35%	29%	30%	34%	37%	38%

1 The 2004 Investment Paper 1 is broadly equivalent to the 2005 Investment Course.

2 The 2004 Investment Paper 2 is broadly equivalent to the 2005 Finance Course 5A.

3 The 2004 Finance Courses 5A and 5B are broadly equivalent to the 2005 Finance Course 5B.

4 The 2004 Results have been adjusted to include the passes awarded separately for Paper 1 and Paper 2.

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 overall pass rate of 38% is slightly higher than that achieved in recent years of 29% - 37%. The latest pass rate was boosted by the strong result in Course 10 CAP, of 64% for the



Case Study and 77% for the Exam. However, excluding the CAP results the overall pass rate would have still been 35%.

The pass rate for Course 10, Commercial Actuarial Practice (CAP), of 64% overall and 64% for the Case Study and 77% for the exam was significantly higher than the average pass rate for Modules 1-3 of 37%. As discussed with the CAP Chief Examiner in the previous semester, this was due to the following factors:

- CAP is a fundamentally different subject to those in Modules 1-3. It is undertaken as a one-week 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.
- The actual pass rate achieved of 64% was close to that expected at the outset of the course.
- 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.

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 has led to some discrepancies among candidates, though due to the relatively few candidates whose results were changed by their assignment result, this would not have had a big impact overall. Every effort has been made to ensure consistency between years and between subjects.

3.3 Pass Rates by Centre

The pass rates by exam centre were as follows:

Table 9: Comparison of Pass Rates by Centre

	2002	2003	2004	2005(1)	2005(2)	2006(1)	2006(2)
Sydney	37%	40%	28%	33%	43%	36%	42%
Melbourne	32%	32%	38%	33%	30%	38%	37%
Other*	32%	30%	15%	21%	19%	39%	25%
Total	35%	35%	26%	30%	34%	37%	38%

* Other Australian and overseas exam centres

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 much lower than the overall pass rate for the Sydney/Melbourne examination centres (25% compared with 41%).
- The pass rate in Sydney, the largest centre with 62% of all candidates, was 42% this semester.
- Pass rates between Australian candidates and overseas candidates was largely similar for the subjects except 2B (46% versus 17%), 3A (41% versus 14%), 4A (2 overseas candidates both failed) and 5B (2 overseas candidates both failed).
- In New Zealand only 1 candidate from 8 attempts passed (13%).
- There were 7 passes in the United Kingdom from 18 attempts (39%).

3.4 Pass Marks and Scaling

The scaled pass marks for 2004 and prior, out of 400 marks, have been as follows, together with the scaled pass marks for 2005 Semesters one and onward, out of 200 marks:

Table 10: Scaled Pass Marks by Part III Course

	Subject	2002	2003	2004	2005(1) ⁴	2005(2) ⁴	2006(1) ⁴	2006(2) ⁴
1	Investments ¹	215	216	220	103	114	103	120
2A	Life Insurance	225	231	224	121	115	114	122
2B	Life Insurance	225	231	224	123.5	110	119	124
3A	General Insurance	229	230	225	117	109	116	113
3B	General Insurance	229	230	225	116	112	115	118
4A	Superannuation & P.S.	250	250	230	111	115	122	127
4B	Superannuation & P.S.	250	250	230	112	115	n/a	128
5A	Invest. Mngmt & Finance ²	215	216	220	120	107	120	102
5B	Invest. Mngmt & Finance ³	239	251	236	110	108	120	123
10	Comm. Actuarial Practice	-	-	-	-	50 - 50 ⁵	50 - 50 ⁵	50 - 50 ⁵

1 The 2004 Investment Paper 1 is broadly equivalent to the 2005 Investment Course.

2 The 2004 Investment Paper 2 is broadly equivalent to the 2005 Finance Course 5A.

3 The 2004 Finance Courses 5A and 5B are broadly equivalent to the 2005 Finance Course 5B.

4 The post 2004 exams are only one paper and are out of 200. Prior years consist of two papers out of 400.

5 For CAP, the case study and the exam each had a pass mark of 50%.

The relationship between scaled and raw marks for 2006 Semester Two was:

Table 11: Raw and Scaled Pass Marks by Part III Subject

	Subject	Raw	Scaled
1	Investments	96	120
2A	Life Insurance	112	122
2B	Life Insurance	117	124
3A	General Insurance	106	113
3B	General Insurance	105	118
4A	Superannuation & Planned Savings	123	127
4B	Superannuation & Planned Savings	120	128
5A	Investment Management and Finance	91	102
5B	Investment Management and Finance	105	123

A consistent pass criteria has been used for all subjects. These reflect assessments based on a single paper of approximately six questions. 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 1 or 2 D’s or E’s.
- 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, with passes in the assignments being added to the numbers of questions passes, in the assessment process. The assignments were weighted at 20% of the overall assessment.

The range of scaled marks in Semester Two 2006 was 102 – 128 out of 200, a range of 26 marks. This compares to Semester One 2006 being 103 - 122 out of 200, a range of 19 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.

3.5 *Fellows*

As the Part III Examinations are in transition from the pre-2005 system to the new post-2005 system, there are two ways in which candidates can qualify as Fellows:

- Under the pre-2005 system, candidates have to pass two courses (Modules 2 and 3 for two separate subjects).
- Under the post-2005 system, candidates have to pass Module 1 (Investments), one complete specialist subject (Module 2 and Module 3) and Module 4 (Commercial Actuarial Practice).

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	2006 (2)	2006 (1)	2005 (2)	2005 (1)	2004
Pre-2005 system	7	14	19	7	51
Post-2005 system	25	10	14	-	-
Total New Fellows	32	24	33	7	51



4. Recommendations for Semester One 2007

4.1 Board of Examiners

The recommended constitution for the Board of Examiners for Semester One 2007 is as follows:

Chair and Assistants

Chair	Ms Caroline Bayliss
Assistant Chair	Mr Andrew Smith
Assistant Chair	Mr Wesley Caine
Assistant Chair	Ms Raewin Davies
Assistant Chair	Mr Neil Lawrence
Assistant Chair	To Be Confirmed (TBC)

Chief Examiners

Course 1: Investments	(TBC)
Course 2A: Life Insurance	Mr Puvan Aralampulam
Course 2B: Life Insurance	TBC
Course 3A: General Insurance	TBC
Course 3B: General Insurance	TBC
Course 4A: Superannuation & Planned Savings	Mr Paul Newfield
Course 5A: Investment Management & Finance	TBC
Course 10: Commercial Actuarial Practice	TBC

A number of the Chief Examiner positions are yet to be confirmed for Semester One 2007.

4.2 Examination Dates

The dates for the examinations in Semester One 2007 are as follows:

Semester 1 2007

Module 1	Investments	Mon 7 May am
Module 4 (10)	Commercial Actuarial Practice	Mon 7 May pm
Modules 2/3 (2A/2B)	Life Insurance	Tues 8 May am and pm
Modules 2/3 (3A/3B)	General Insurance	Wed 9 May am and pm
Modules 2/3 (4A)	Superannuation & Planned Savings	Thur 10 May am
Modules 2/3 (5A)	Investment Management & Finance	Fri 11 May am

4.3 Exam Solutions

The Board of Examiners has agreed to release the Semester Two 2006 examination papers along with the examination specimen solutions and marking guides. It is recommended that the 2006 Semester Two examination papers and exam solutions and marking guides be released on 5 January 2007 or as close to this time as possible.

Andrew Smith
Chair, Board of Examiners
15 December 2006



CHIEF EXAMINERS' REPORTS

Course 1: Investments

Results summary

Students enrolled	168
Withdrawals prior to examination	15
Candidates absent from examination	4
Candidates sitting examination	150
Candidates recommended for pass	46 (31% of sitting candidates)

Examiners

Chief Examiner:	Stephen Woods
Assistant Examiners:	Simon Eagleton Shaun Gibbs Natalie Lun Eunice Mok
Course Leader:	Andrew Leung

Comparison of pass rates

The following table shows the pass rate for course 1 in previous sessions.

	Percentage of passing candidates
2006 (2) – recommended	31%
2006 (1)	28%
2005 (2)	29%
2005 (1)	24%
2004	30%
2003	40%
2002	36%

The recommended pass rate is consistent with previous sessions.



Analysis of candidates

Location	Candidates sitting	Candidates passed	Pass rate
Auckland	2	0	0%
Brisbane	2	1	50%
China	1	0	0%
Hong Kong	10	1	10%
Korea	1	0	0%
London	7	1	14%
Malaysia	7	2	28%
Melbourne	16	3	19%
Netherlands	1	1	100%
Perth	1	0	0%
Singapore	7	2	28%
Sydney	92	35	38%
Taiwan	1	0	0%
USA	1	0	0%
Wellington	1	0	0%
Total	150	46	31%
Australia	114	39	34%
Overseas	36	7	19%

Whilst there was variation between individual centres due to the small number of candidates at some locations, the pass rate for candidates in Australian locations was materially higher than overseas locations.

Degree of difficulty and course coverage

Question	Syllabus Aims	Knowledge & Understanding	Simple Judgement	Complex Judgement	Total Marks
1	1, 2	8	4	8	20
2	2	4	8	8	20
3	4	5	9	6	20
4	5, 6	8	7	5	20
5	3, 6	5	6	9	20
Total		30	34	36	100

Pass rates by assignment & examination question

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

	Ass 1	Ass 2	Q1	Q2	Q3	Q4	Q5
Pass	21.5/40	22.0/40	22.8/40	22.8/40	22.8/40	22.8/40	22.8/40
Pass	39%	50%	34%	34%	52%	52%	26%
Fail	61%	50%	66%	66%	48%	48%	74%

Overall performance

The examination overall was considered to be undemanding. Nevertheless several markers reported that the quality of candidate responses was weak. The pass rate may also reflect:

1. a lower level of subject specialisation since this course is compulsory; or
2. inclusion of candidates embarking on the Part III examinations who will later struggle with and/or withdraw from the actuarial examination process.

Performance in the assignments had no material impact on the cohort of candidates passing the course overall.

* * * * *

Stephen Woods
Chief Examiner
14 December 2006



Course 2A: Life Insurance

Results Summary

For the November 2006 exams, there were 57 candidates enrolled. Of these, 6 candidates did not present themselves at the exams (4 having withdrawn, and 2 failing to attend).

It is proposed that 14 candidates be awarded a Pass, which implies a pass rate of 27.5%. This compares with pass rates of 32%, 31% and 21%, for the examination sessions in May 2006, November 2005 and May 2005, respectively.

In summary:

Number of candidates	
Originally enrolled	57
Absent and/or withdrawn	6
Present at exams	51
Passed	14
Failed	37

The analysis by Examination Centre is as follows:

Centre	Present	Passed	Pass Rate Nov 2006	Pass Rate May 2006	Pass Rate Nov 2005	Pass Rate May 2005
Amsterdam	1	1	100%	n/a	n/a	n/a
Auckland	3	1	33%	0%	100%	n/a
Brisbane	0	n/a	n/a	100%	67%	0%
Hong Kong	4	0	0%	25%	7%	13%
Japan	1	0	0%	n/a	0%	0%
Korea	0	n/a	n/a	n/a	100%	0%
Malaysia	2	0	0%	0%	0%	0%
Melbourne	9	3	33%	29%	33%	25%
Singapore	4	2	50%	0%	17%	20%
Sydney	24	6	25%	43%	37%	27%
United Kingdom	1	1	100%	0%	100%	n/a
USA	1	0	0%	0%	n/a	n/a
Wellington	1	0	0%	0%	n/a	n/a
Totals – AUST	33	9	27.8%	42%	n/a	n/a
Totals – Overseas	18	5	27.3%	12%	n/a	n/a
Totals – ALL	51	14	27.5%	32%	31%	21%



Examiners

The Examination Team for the 2A course in this semester were:

Chief Examiner: Owen Wormald
Deputy Examiner: Puvan Arulampalam
Assistant Examiner: Rodney Scott

Course Leader: Sue Howes

For this examination session, the Chief and Deputy Examiners for Subject 2A were appointed from their Assistant Examiner roles in Semester 1, and the Assistant Examiner was recruited from among the Markers in Semester 1. The examination preparation and review phase was a well-organised process, allowing the Examination Team to meet the deadlines fairly comfortably. The Course Leader was very helpful in assisting the Team with all aspects of this process, including the recruitment and co-ordination of scrutineers.

Degree of Difficulty and Course Coverage

The analysis of the degree of difficulty of exam questions in the format specified by the IAAust is as follows:

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1,2,4,5,6,7,8	4	5	7	16
2	2,4,5	4	6	6	16
3	1,2,7,12,14,15,16	5	4	9	18
4	1,2,4,6,7,12	4	8	4	16
5	2,7,8,9,10,12,14	4	8	5	17
6	2,3,4,7,8,9,14	2	7	8	17
Total		23	38	39	100

The overall degree of difficulty is well within the permissible range of +/-5, as against the target spread of 20/40/40.

Overall Performance

Overall the exam paper was regarded as a very fair one, and acted as a reasonable discriminator, with raw marks (exam only) ranging from 60 to 120 out of 200. This range is similar to previous sessions (May 2006: 47 to 114; and Nov 2005: 50 to 113). 80% of candidates scored between 80 and 112, and there was a fairly clear break around 100.

A number of candidates continue to copy points from the textbook and fail to put those comments into the context of the question. Candidates need to realise that the



exam is predominantly about applying judgment and not regurgitating points from the textbook.

In addition, candidates also need to be reminded that good presentation, i.e. answers which are well structured and clearly set out, is part of good exam technique. It needs to be stated that markers and examiners cannot second-guess from the candidates' responses. The points need to be communicated clearly by the candidate.

Question by Question Analysis

Question 1 (16 Marks)

This question is about the risks faced by a medium-sized Australian life company that sells only lifetime annuity business to people aged 55 or over. The company has been in operation for more than 15 years. Early in those years, it gained market share through competitive pricing; for the last 6 years, it has been in the position of market leader, able to set the price for the market to a large degree. It has a small surplus (~7% of liabilities).

Candidates are provided with a profile of the business, and are asked to provide a report to the Board (CJ) in which, as a consulting actuary to the company, they -

- (a) identify clearly the main risks faced by the company, (KU)
- (b) describe potentially suitable strategies to manage those risks, (SJ) and
- (c) discuss the considerations surrounding a suitable asset allocation for the fund. (CJ)

Overall, the question was fairly straightforward and generally well answered, as reflected in the marks awarded and the high percentages of candidates achieving a grade of A, B or C. For part (a), candidates recognized longevity risk and investment risk as being the two main risks faced by the company, although many candidates overlooked the other risks, in particular operational risk and strategic risk. For part (b), high marks were achieved by candidates who took into account the context of the question (thereby exhibiting their judgement) rather than answering the question in a generic manner. For part (c), most candidates were able to identify the main issues in this part of the question, but a significant number of candidates did not present actual percentage asset allocations. While they were not explicitly asked for, it is again a matter of applied judgement that some regard for this aspect would be called for in their answer. This cost a number of candidates some marks.

Markers for this question also suggested that the question should provide a good indication of which candidates should or should not pass this course. In the event, there was positive correlation anecdotally observed in that direction.

Question 2 (16 Marks)

This is a straightforward question on underwriting between different products. It tests the candidates' understanding of financial and non-financial aspects of underwriting, as related to lump sum life insurances. Candidates are presented with a scenario where they are working for an Asian life company which is successfully writing whole life & endowment business in a growing market, and is about to issue a new term product with TPD rider.



Candidates are asked, as a member of the underwriting committee, to identify the points they would raise in response to the following questions -

- (a) What are the additional non-financial underwriting risks raised by these new products? (KU)
- (b) Why would financial underwriting be more important for these new products? (SJ)
- (c) What are the financial underwriting techniques that the underwriters would be expected to apply for these new products? (SJ) and
- (d) What other methods could the company use to reduce or manage the insurance risks associated with these new products? (CJ)

Overall, this question was reasonably well answered. Part (a) was in many instances not so well answered, with many candidates off-track. Markers reported that some included financial underwriting risk, despite the question explicitly excluding this; many included non-underwriting risks; few properly explained the points raised (despite this requirement being clear in the way the question was asked); and many who raised valid points did not relate it to underwriting. Many candidates reportedly had points noted down, but did not directly or implicitly answer the question to be awarded full marks. Performance & marks in this part were disappointing, given the nature of the question.

Candidates also had some difficulty with the issues in part (b), which again was in many instances not well answered. Markers reported that many candidates did not really answer the question by straying into medical underwriting, not clearly linking issues identified with the need for financial underwriting, or not making it clear why the issue was more of an issue for YRT with TPD rider than traditional business.

In general, parts (c) and (d) of the question were reasonably well answered, although in part (c) a number of candidates simply listed the information they would collect without explaining how the information would be used (and therefore failed to gain full marks); while in part (d) some candidates included measures unrelated to “insurance risk”.

Question 3 (18 Marks)

This is a moderately challenging question, which tests the candidates’ understanding of the interactions between expense recovery and product charges (both explicit and implicit). In this question, candidates are provided with details of the proposed product design for a new product to be released into an immature overseas market. The product is a regular premium investment account product, intended to operate as a savings plan.

As candidates are told, the appointed actuary has advised that a significant portion of the product development costs will not be recovered by the proposed product design. Candidates are asked to review four different methods that have been suggested to handle this situation. Specifically, candidates are asked (as the product actuary of the company) to prepare their assessment of the features of each method, for presentation to the next Product Committee as input to its discussions. The shortfall is about 15%, and the methods suggested are -



- (a) To increase the Initial Fee from 25.0% to 40.0%. (KU)
- (b) To increase the Initial Fee from 25.0% to 30.0%. (SJ)
- (c) To increase the Management Fee from 5.0% to 6.5% over all years. (CJ) and
- (d) To introduce a discretionary expense recovery term in the crediting rate formula, thus reducing the crediting rate. (CJ)

Overall, the results for this question were fairly average. Most candidates were able to obtain the obvious points, with some candidates obtaining additional marks for identifying more complex consequences of the different expense recovery options. A number of candidates identified issues, but did not explain the consequences well, making it difficult to award full marks. A general failure to understand that development costs are one-off costs (rather than recurring) also cost candidates a number of marks.

In part (a), most candidates recognised that such a large initial fee would have an adverse effect on new business assumptions and that this method would lead to a recovery of the development cost in one year. Few candidates mentioned that maintaining the 40% initial fee would result in significant overcharging for future cohorts of policyholders or the equity issue if the initial fee was reduced once the development cost was recovered. Also, only a handful of candidates mentioned that development costs should be spread over the product life.

Most candidates struggled with part (b), where they failed to recognise that the development cost is a one-off expense that should be borne by all cohorts of policyholders. The development costs were expressed as a percentage of the first years' premium; some candidates went astray, thinking this cost will be incurred for each cohort of policyholders. The lack of understanding of the one-off nature of development costs led to many easy marks being missed, and to part (b) being the most poorly answered part of the question.

Part (c) was reasonably well handled, with many candidates receiving easy marks for mentioning the period of recovery will be longer than the first two options and that increasing the management fee is more marketable than a hefty initial fee. A number of candidates also mentioned that if policies surrender after year 4, the cost of the initial strain will be borne by shareholders. Very few candidates discussed the use of a portfolio model or sensitivity testing to assess this option.

Part (d) was also reasonably well answered, which is encouraging and perhaps surprising (as this was one of the complex judgment components of the question). Many candidates received marks for comparing the marketability of this option with the other options; for recognising that this method would have limited effectiveness if investment returns were low or negative; and for discussing the complexity of recovering the development cost through a discretionary interest rate. Only a small number of candidates mentioned the capital guarantee or the flexibility that a discretionary expense recovery item allows.

Question 4 (16 Marks)

This is a relatively difficult question, dealing with the product design for a unit linked superannuation policy with an investment performance guarantee. Part (a) is worth 8 marks and asked candidates to identify drawbacks in the proposed product design. Part (b) is also worth 8 marks, and concerns the suitability of three suggested methods for managing the guarantee.

Specifically, candidates are asked to -

- (a) identify the possible drawbacks that arise with the particular product design that the marketing department of the company has developed, (KU / SJ / CJ) and
- (b) explain whether each of three methods for managing the guarantee would be suitable, as related to an Equity option. The three methods are -
 - (i) Portfolio insurance provided by the investment manager; (KU / SJ)
 - (ii) Asset-Liability matching, using modelling techniques; (KU / SJ) and
 - (iii) A series of 3-month duration Exchange Traded Options purchased by the company on the equity market index, with the specific floor value of the option determined on a formula using the total guaranteed value under the contract. (SJ / CJ)

In part (a), most candidates were able to comment on the cost of the guarantee and were aware of anti-selection being an issue. Many candidates missed relatively obvious points relating to marketing and administration. Some answers were too narrowly focused (e.g. on the cost of guarantee), and didn't consider the broader issues.

In parts (b)(i) and (b)(ii), some candidates saw the words "portfolio insurance" and "asset liability matching", and launched into pre-prepared generic discussion of these techniques, without being able to relate their comments to the question. Very few candidates saw the fundamental problem that these methods would breach the allowable asset allocation ranges for an "equity" investment option.

The markers in this question made a number of practical observations regarding the setting up of marking sheets etc. which are too detailed for inclusion in this report. The team of examiners in the next session are referred to the detailed "Markers' Report for Question 4" and should consider the comments contained therein.

Question 5 (17 Marks)

This question tests the candidates' understanding of the interaction between pricing (as a practical issue) and a set of technical profit testing results. Candidates are presented with a table of profit testing results expressed in the form of profit margins supported. These vary by age bands & sum insured ranges, and relate to a new series of the current term product.

Candidates are advised of the company's required minimum overall profit margin, and are asked to -



- (a) Analyse the results of the ≤ 30 cohort, giving possible reasons for the results. (KU / SJ)
- (b) Analyse the overall results, giving possible reasons for the results. (KU / SJ) and
- (c) Identify the sales and marketing issues raised by these profit-testing results. (CJ).

Overall, this question proved a fair one for candidates, and in general terms was reasonably well answered.

In parts (a) and (b), the majority of candidates answered the KU aspects quite well, but not so well the SJ aspects where many candidates missed easy marks or missed the key points.

Part (c) was generally fairly well answered, as reported by the markers. Additional points were allowed by the markers for commission-based strategy, and mention of profitability changing; likewise, discussion of target marketing was rewarded with marks.

While a more detailed report from markers would have been helpful, the examiners found no real issues with the distribution of marks, nor with any of the individual candidate papers reviewed for this question.

Question 6 (17 Marks)

In this question, candidates are presented with a scenario faced by the pricing actuary of a life company that sells individual risk insurance products including disability (DII). The additional information provided in the question reveals a recent sharp fall in actual claim payments, which (while extremely odd) is left “unexplained” to candidates. Data is also given from the DII valuation results, showing little variation of actual from expected. In effect, the situation is one where an administration breakdown of some sort has resulted in significant “non-payment” of DII claim benefits by the company.

Candidates were asked to -

- (a) State, allowing for the actual incidence and termination results from the valuation, what they would have expected the approximate claim payment amount to be for the year. (KU)
- (b) Suggest what other reasons (apart from any non-payment of claims) might have contributed to the low level of claim payments apparent in the question. (SJ)
- (c) State the possible consequences that the company would be exposed to if it is discovered that company errors have caused significant non-payment of claims. (SJ)
- (d) Suggest mitigation and management strategies that would help prevent such an event from occurring in the future. (CJ) and
- (e) Considering the past three years of experience (given in the question), state why they may wish to re-price this product. (CJ)



Overall, this question was reasonably well answered by a good number of candidates. The range of marks across grades, and the standard deviation of almost 3 out of 17, show this to be a reasonable discriminator of candidate performance. While a more detailed report from markers would have been helpful, the examiners found no real issues with the distribution of marks, nor with any of the individual candidate papers reviewed for this question.

Owen Wormald

Chief Examiner – Life Insurance Course 2A, November 2006 exams

11th December, 2006



Course 2B: Life Insurance

Results Summary

The November 2006 examinations represent the fourth examination session under the new Part III syllabus of the Institute of Actuaries of Australia (which involves twice yearly exams of a split course). There were 33 candidates enrolled for the November 2006 exam. All of these candidates presented at the exam.

It is proposed that 13 candidates be awarded a pass, which implies a pass rate of 41%. A comparison with pass rates from previous years is set out in the table below.

	Pass Rate
November 2006	41%
May 2006	32%
November 2005	29%
May 2005	50%
November 2004	18%
November 2003	28%
November 2002	38%

The pass rate for November 2006 is slightly higher than the previous two semesters but is considered to be within the range of acceptable outcomes. (In May 2005, there was a general belief that the B subject for both Life Insurance and General Insurance benefited from a more select group of candidates sitting the new subject, i.e., repeating students being practitioners in the subject area and candidates moving to the new Investment & CAP modules rather than attempting to qualify with two specialist subjects).

In summary:

	Number of candidates
Originally enrolled	33
Absent and/or withdrawn	1
Presented at exam	32
Passed	13
Failed	19

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate Nov 2006	Pass Rate May 2006	Pass Rate Nov 2005	Pass Rate May 2005
Auckland	0	0	n/a	100%	0%	100%
Brisbane	3	1	33%	0%	0%	n/a
Canberra	1	1	100%	0%	0%	100%
Hong Kong	4	0	0%	33%	0%	43%
Malaysia	0	0	n/a	n/a	33%	0%
Melbourne	3	1	33%	0%	0%	0%
Seoul	0	0	n/a	n/a	n/a	n/a
Singapore	2	1	50%	67%	0%	n/a
Sydney	19	9	47%	17%	46%	63%
Taiwan	0	0	N/a	n/a	0%	100%
United Kingdom	0	0	N/a	100%	100%	0%
Total	32	13	41%	32%	29%	50%

As discussed above, the overall pass rate is consistent with past years. This year Australian locations performed significantly better than overseas locations (46% compared with 17%). This is consistent with previous results, the exception being last semester where overseas candidates outperformed the Australian candidates.

Examiners

Examiners for this semester were:

Chief Examiner: Brett Cohen
Assistant Examiner: Wesley Chan

Course Leader: Sue Howes

The Course Leader had prepared advanced 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 continued to work well this semester.

There were two Assistant Examiners last semester and there was difficulty to find a second Assistant Examiner this semester. Dennis Mosolov, who was the Assistant Examiner for Course 2B from last semester and took up the role of Chief Examiner for Course 5A this semester, volunteered to help at the beginning of the review process. Mark Barda, who was the Chief Examiner for Course 2B last semester, also provided high level review. Their assistance was invaluable and appreciated.

Degree of Difficulty and Course Coverage

The analysis of the degree of difficulty of exam questions in the format specified by the IAAust is as follows:



Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	2A,1,5,6,10,11,12	0	13	5	18
2	2A,1,3,9	7	0	9	16
3	1,2,3,4,10,12	5	6	10	21
4	5	4	11	0	15
5	1,7,11,13	3	0	12	15
6	1,2,9,10,11	3	8	4	15
Total		22	38	40	100

The degree of difficulty would suggest that this exam was comparable to those from prior years. Pass marks are broadly similar to November 2005 except for Question 4, which seems significantly higher. The pass mark for Question 4 has been reviewed and verified. The proportion of students passing is slightly higher for November, which is consistent with the higher aggregate pass rate. Question 4 is again the notable exception with a high proportion of passes despite the high pass mark set.

The more settled Part III exam structure in the last year, supported by a stable examination team appears to assist in maintaining the stable exam standard and pass rates.

Overall Performance

Overall the exam paper acted as a good discriminator, with raw marks ranging from 86.7 to 140.2 out of 200. This range was similar but slightly narrower than that in March 2006 (48.5 to 111.0 out of 200). Whilst the exam this year was not assessed as any more difficult than last year, as evidenced by the breakdown of question difficulty outlined above, overall student performance has improved over previous years (with the exception of May 2005).

The “Question by Question Analysis” section identifies common mistakes by candidates. In each table the column headed “Marks Required” represents the sum of the two markers for each grade.



Question by Question Analysis

Question 1 (18 Marks)

This question was about a company which had not been performing well over the last few years and made part of its workforce redundant. However new business has been lower than anticipated and the company still made a loss in the current year.

Candidates were provided a preliminary analysis of profit results. Candidates were asked to describe the checks they would do on the valuation results. Candidates were also asked to provide possible explanations for the company's loss and short term advice to the company in light of the situation.

This question was not particularly well answered and the pass mark was not particularly high. The main issues identified through the marking process were the following:

- Part (a) was not well answered. Many answers were vague, with a common tactic being to simply list the items of the analysis and suggest that they be checked. Few candidates demonstrated a detailed understanding of how the components of the analysis of profit are derived. Although most candidates knew that a comparison should be made with the previous valuation, few suggested concrete checks such as running last year's data through this year's model. It was uncommon for candidates to relate their answer specifically to the YRT product under consideration. For example, no candidate mentioned the possibility of the product including riders or options.
- Part (b) was the best answered of the three parts of the question. Most candidates were able to identify possible flow on effects of the actions that had been taken. For example the one-off impact of redundancy payments or the impact on productivity of staff cuts.
- Part (c) was reasonably well answered but few candidates attempted to connect the issues identified in Part (b) with recommended actions in Part (c). Many suggestions were vague when they could have been greatly improved by suggesting concrete actions. For example suggesting improving marketability without recommending specific actions such as a product review or repricing to achieve this.

Question 2 (16 Marks)

In this question an Australian life insurance company was developing a new unit-linked, single premium, ordinary investment product. This product invests in a balanced portfolio and also provides a guarantee.

Candidates were asked to identify this guarantee in terms of an option on the portfolio and explain its treatment under AS1.03. They were also required to specify a formula to calculate the maximum possible loss to the company. Candidates were then asked to explain the issues with a method described in the question of placing a value on the guarantee. Finally the candidates were asked to comment on managing the investment risk of the portfolio.



Markers believed that this was a good question, it was understandable and realistic. This question discriminated well between students who only knew bookwork and those who could relate it to the real world. Issues particularly identified through the marking process were the following:

- Part (b) was generally answered without much thought. Being an open book exam, many candidates just quoted the section from the Standard.
- In part (c), candidates provided a wide range of answers. Markers suspected that maybe the wording was not clear enough to lead the candidates to path the question originally intended to.
- For part (e) the markers suggested some additional points to the solutions.

Question 3 (21 Marks)

This question required candidates to estimate the Solvency and Capital Adequacy requirement for a Statutory Fund which was separately set up for a new lifetime annuity product. Candidates were given all the necessary information to perform the calculation and were asked to comment on the consequences for the company of these results. Candidates were then asked whether the answers would change if the Statutory Fund contained other products. Finally they were asked to draft a memorandum to the Board and provide advice.

This question was generally well-answered. Most candidates were able to make a reasonable estimate of the revised Capital Adequacy requirement, as well as its implications for the solvency of the statutory fund, and APRA's response. Fewer candidates considered the implications of the lower profit of the immediate annuity product or the action to be taken arising from this.

Not many candidates considered the impact of the changed conditions on Target Surplus, nor of the need to raise sufficient capital to cover the increased Target Surplus.

Issues particularly identified through the marking process were the following:

- Answers to part (a) were generally well-answered. The markers allowed full marks for a nil increase of the expense reserve if the candidate stated that the extra new business volume would not increase fixed expenses.
- In part (b), many candidates considered only the impact on solvency and capital adequacy, and ignored the impact on profits and target surplus. Some candidates picked up the point (which was not in the model answer) that the increased new business volume would increase the company's assets, thus helping to offset the strain on the shortfall of capital.
- In part (c), many candidates considered only the impact on solvency and capital adequacy, but did not realise that profitability would still be too low. The markers were pleased that some candidates did realise that the investment return on PHRE should not be compromised if the PHRE was used to support the capital adequacy requirement of the Immediate Annuity business. There was a variety of answers as to whether more capital would be required if the statutory funds were merged. The marks awarded by the markers depended on the strength of the reasoning.
- In part (d), a majority of candidates said that the resilience reserve could be reduced if the assets were re-arranged to better match the liabilities. The markers awarded half mark for this. Also too many candidates focussed only



on the capital and re-pricing issues, but ignored the wider business issues, such as the impact on the company's competitive position, and the overall target surplus position. Furthermore, most students did not state that a reduction in new business volumes would also reduce new business strain.

Question 4 (15 Marks)

This question was based on the valuation of disability income insurance business for a medium sized Australian life insurance company. Candidates were given information from the recent valuation including expected and actual reserves and cash flows. They were asked to calculate pre-tax actual and experience profit for the year, as well as to perform an analysis of profit. The last part of the question asked candidates to comment on the likely cause of the poor claims experience.

This question was answered well and this was reflected by a high proportion of passes despite the high pass mark set. Issues particularly identified through the marking process were the following:

- Part (a) was fairly straightforward and most candidates receive full marks.
- Part (b) was also fairly straightforward. Common errors were not applying interest to the expenses variance or not applying the 90% factor to attributing change in reserves to claims. The markers did not deduct any marks for those candidates who attributed the other 10% to lapses rather than "unexplained". Although the question does state that lapses were as expected, any change in liability not attributed to other causes (change in assumptions are nil) is due to the profile of the in force changing. This is either NB or lapses (including change in premium), usually the latter, or data errors
- Part (c) was difficult. A lot candidates mentioned incidence and termination rates but did not back it up using the numbers provided. The markers awarded half a mark each in these cases. Some candidates interpreted part (c) to mean underlying causes for poor claims experience e.g. poor underwriting and claims management. The markers awarded half a mark for each reasonable point made.

Question 5 (15 Marks)

This question focused on placing a value of a large life insurance company listed on the Australian Stock Exchange. Candidates were provided with two alternative valuation methods, the first one was appraisal valuation and the second one was essentially a discounted cash flow method performed by equity analyst based on publicly available information. Candidates were asked to explain appraisal value in a language and terms that an equity analyst would understand. Candidates were asked to compare and contrast the two methods by describing the similarity between them and how the two methods would differ in practice.

This question was not particularly well answered and this was mainly due to part (c). Issues particularly identified through the marking process were the following:

- Part (a) was fairly straightforward and more than half of the candidates scored full or close to full marks.



- Part (b) was moderately answered. A lot of candidates picked up most of the similarity between the two valuation methods.
- Part (c) proved to be challenging to a lot of candidates. Many struggled to come up with enough points to explain the differences between the two valuation results.

Question 6 (15 Marks)

In this question candidates were provided with the valuation data of a non-participating investment linked business for a medium sized Australian life insurance company. Candidates were asked to prepare the profit and loss statement in accordance with AASB1038. The next part of the question described a hypothetical tax introduced by the Funeral Government and candidates were asked to identify the follow-on impacts to each component of the profit and loss statement. Finally they were asked to comment on any significant market or corporate issues arising as a result of this new tax.

This question proved to be a good discriminator in identifying good and weak candidates. Issues identified through the marking process were the following:

- Part (a) was generally well answered with a large number of students getting full marks. However, calculating the increase in Net Policy Liability did pose a problem for a number of students. The difference between net and gross policy liability was not understood by some. Also, a number of students did not split out the results into Ordinary & Superannuation business. There were no problems with interpretation of the question.
- Part (b) was generally poorly answered with very few students passing this part of the question. A large number of students calculated the tax amounts correctly but not very many students recognised the tax change causes a change in valuation basis or the implications for the Gross Policy Liability. There were no problems with interpretation of the question.
- Part (c) was reasonably answered with most students passing this part of the question. A number of reasonable points that were not included in the marking guide were given credit. There were no problems with interpretation of the question.

* * * * *

Brett Cohen

Chief Examiner – Life Insurance Course 2B, November 2006 Exams

8 December 2006



Subject 3A: General Insurance – Part A

Results Summary

75 candidates enrolled for the November 2006 Subject 3A.

7 candidates withdrew prior to the exam, and 3 candidates didn't present at the exam, leaving 65 candidates who presented at the exam. This represents a withdrawal rate of 13%.

It is proposed that 25 candidates be awarded a pass, giving a pass rate of 38%. This pass rate is lower than the 42% awarded in May 2006, but higher than the 35% awarded for the November 2005 semester.

The results by examination centre is as follows:

Centre	Presented		Passes	Pass Rate (full subject)
Brisbane	1	1	1	100%
Canberra	1	1	0	0%
Melbourne	6	6	0	0%
Sydney	50	50	23	46%
Subtotal: Australia	58	58	24	41%
Auckland	1	1	0	0%
China	1	1	0	0%
Dublin	0	0	0	0%
Hong Kong	0	0	0	0%
Singapore	1	1	0	0%
London	3	3	1	33%
USA	1	1	0	0%
Subtotal: International	7	7	1	14%
Total	65	65	25	38%

Examiners

The examiners for this semester were:

Chief Examiner: Craig Price
Assistant Examiner: Laurel Kong
Assistant Examiner: Brett Riley
Course Leader: IAAust General Insurance Faculty

The examiners also thank Colin Priest who provided significant assistance in setting the examination questions.

Degree of Difficulty and Course Coverage

The table below summarises the exam coverage of the course by syllabus aim and by degree of difficulty. The level of difficulty is grouped into Knowledge and Understanding (KU), Straightforward Judgement (SJ) and Complex Judgement (CJ) components.



Question	Syllabus Aims		Units		KU	SJ	CJ	Total Marks
1a	4a		2		1			1
1b	4c		2			1	1	2
1c	3a		1		1	1		2
1d	7c	4c	3			4	4	8
1e	6d		3			1	1	2
1f	3a		1		2			2
1SubTotal					4	7	6	17
2a	3d		1		1	1	1	3
2b	3d	6d	1	3	1	3	2	6
2c	3d		1			1	2	3
2d	3d	2c	1	1	3			3
2e	3d					1	1	2
2SubTotal					5	6	6	17
3a	9b		4		2			2
3b	9b	9d	4	4		2		2
3c	9d		4				2	2
3d	9d		4			3		3
3e	9d		4			3	3	6
3f	9d		4			1		1
3SubTotal					2	9	5	16
4a	8b	1a	4	1		1	1	2
4b	6e		3		2			2
4c	6e		3			4		4
4d	6e	8c	3	4	1	3	4	8
4SubTotal					3	8	5	16
5a	3a	6a	1	3	2	3	2	7
5b	6a	7c	3	3	2	2	2	6
5c	6a	7c	3	3		2		2
5d	8b		4			2		2
5SubTotal					4	9	4	17
6a	7c		3		1	1	1	3
6b	7d		3			1	2	3
6c	7d		3			1		1
6d	7d		3				1	1
6e	7d		3			2		2
6f	8f	9b	4	4		1	2	3
6g	4c		2			2	2	4
6SubTotal					1	8	8	17
TOTAL					19	47	34	100

The next table summarises the exam proportion by Syllabus Unit. It should be noted that issues relating to ‘professionalism’ are covered across many of the questions rather than the small proportion specifically directed to the topic.

Aim	Description	Unit	Marks	%
1	GI Contracts and Aust GI Market	1	1	1%
2	Legislative, Statutory, Regulatory Environment	1	1.5	2%
3	Functions of GI Coys & Acc Comp Schemes	1	19	19%
4	Principles, Design & Funding of Acc Comp Schemes	2	11	11%
5	Risk Management & Self Insurance Schemes	2	1	1%
6	Analysis of Claims using Major Actl Techniques	3	22.5	23%
7	Appropriate Application of Actl Methods	3	18	18%
8	Reserving Philosophy & Determination	4	8.5	9%
9	Unearned Prem, Unexpired Risk, Prem Liabs	4	17.5	18%
TOTAL			100	100%



As was the case in past semesters, the examiners wrote all of the questions in conjunction with Colin Priest, a past GI Course Leader. The examiners consider that this process again gave a paper that assessed candidates' ability to apply what they had learned from the readings to practical situations.

The exam was reasonably spread over the 4 units. However there was again a significant focus (as appropriate) on Unit 3, Actuarial Techniques and Analysis of Claims Experience.

This examination required some calculations to demonstrate key knowledge.

Overall Performance

In setting the paper, the examiner team aimed for a consistent level of difficulty with previous papers. The average raw exam mark this semester was however significantly lower than last semester's exam being 85 versus 100, although more comparable to the 86 for the November 2005 examination. The raw marks in each of the six exam questions ranged from 29% to 58% of the total marks available. This range had a lower end compared to the May 2006 exam (43% to 55%), but was broadly similar to the range of 26% to 57% for the November 2005 paper.

Questions 4 to 6 had similar percentage pass rates in the 30's. These questions covered the topics of risk margins, reserving methodology and assumptions, premium liabilities. Question 1, on accident compensation, was by far the easiest for students with a 51% pass rate. Question 2 on the other hand, dealing with the interpretation of AASB 1023 accounts, calculation of incurred claims and related contribution to profit was poorly answered, with only a 17% pass rate. Finally Question 3 on unearned premium and premium liabilities was found slightly difficult with only a 28% pass rate.

There is more detail in the question by question analysis below, however some knowledge areas where there has been some general weakness in this exam include:

- the definition of claims incurred; accident year versus underwriting year concepts and how these relate to the claims incurred figure in the AASB accounts
- the contribution to profit from claims reserving changes
- timing of claims cashflows relative to premium
- premium earning and how this relates to different policy benefits
- how to describe key reserving techniques, relating these to specific circumstances
- the concepts of variation, correlation, and diversification and how to describe these to non-technical audiences
- the limitations and potential distortions that affect the key PPCI, PPCF and PCE actuarial reserving models



Question By Question Analysis

QUESTION 1 (17 MARKS)

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

This question asked students to comment upon various issues relating to stress claims in workers compensation. It also covered some general workers compensation concepts, as well as operational issues and some reserving or impact assessment issues.

Part a) was generally well answered, with the average mark being 0.9 marks out of 1 mark available, reflecting that most students got full marks.

Part b) asked students to discuss advantages and disadvantages of including stress claims in coverage. Students were generally stronger on disadvantages, although even there obvious points such as increased claims cost were commonly missed. The average mark was 1.5 out of 2.

Part c) focussed on required claim form data. Many students missed out on key stress related items, instead focussing on personal claimant details, and hence did not tailor the response appropriately to the stress claim focus. There was also some confusion, with some students misinterpreting the question and discussing issues such as rehabilitation programs or similar ideas that would not reflect the perspective of a claimant providing information. The average mark was 1.4 out of 2.

Part d) was worth the most marks for this question, but the average was only 3 marks out of an available 8. The question required students to outline an approach to costing a scheme change relating to exclusion of some stress claims. Areas missed tended to be in two areas, application of the base analysis, and understanding issues with the base analysis. The former includes “easy” marks such as inflation, discounting, comparison of a prospective cost to the current cost to derive a proportional impact. The latter included the problems that might be encountered, such as identifying the claims to be excluded, and the potential for the change to be less than fully effective.

Part e) regarding the impact on outstanding claims and profitability of the above change was not answered particularly well, with the average mark 1 out of 2 marks available. Students tended to state the obvious response in the first part that as the change was prospective there would be no impact to outstanding claims, but did not recognise that behavioural changes might occur, despite similar questions have been presented in earlier exams. Students generally answered the second part of the question better, although some were sidetracked onto discussions of risk margin changes.

Part f) considered the issue of in-house management for a self insurer. Again, some students did not tailor the response sufficiently, discussing self insurance issues generally rather than in-house claims management specifically. However, overall this part was answered reasonably with an average mark of 1.5 out of 2.

QUESTION 2 (17 MARKS)

Course coverage:	Units 1 & 3, Syllabus Aims 2, 3 & 6
Mark allocation:	Knowledge and Understanding – 5 marks
	Straightforward Judgement – 6 marks
	Complex Judgement – 6 marks

This question asked students to analyse the underwriting result of a monocline long tail insurer, and calculate various claim related items. The question also asked students to calculate a reasonably basic profit margin, and comment on modification to AASB 1023 accounts for tax and APRA purposes. This question was found quite difficult by the students, and had by far the lowest pass rate at only 17%. Some time was spent on this question by the examiners with the result that the low pass rate was confirmed.

Part a) asked students to discuss why the underwriting result is negative. Students tended to provide a reasonable listing of the potential underlying profitability issues that may have contributed. Fewer students identified that even when profitable, a long tail business may have a negative underwriting result due to the discount unwind in the claims provisions, and also due to margin strain if the portfolio is growing. The average mark for this part was 1.1 out of 3.

Part b) i) asked students to calculate an incurred cost figure, split between ‘current’ and ‘prior’ accident periods. This question was answered reasonably poorly. A large number of students did not understand the concept of incurred cost, with some rolling forward older provisions with interest to calculate the result. Some didn’t understand the concept of prior accident years, or even an accident year! The average mark for this part was 1.0 out of 3.

Part b) ii) asked students to calculate the unexpected contribution to profit from the latest recommended reserves (i.e. Calculate a reserving ‘release’). This question again was answered relatively poorly. Many students rolled forward the prior reserve by a year’s interest, but didn’t subtract the payments in that year. For both parts i) and ii), very few students realised that they needed to add CHE/risk margins to the calcs. The average mark was 0.8 out of 3.0.

Part c) was answered very poorly with an average mark of 0.6 out of 3.0. This part asked students to calculate the actual profit margin on the business earned in the last 12 months. The question even prompted students by defining what the profit margin should be calculated as. Despite this, some students didn’t understand that they needed to relate the latest accident year claims cost to the premium. The timing of claims vs. premium was not well understood. There may be a general lack of understanding around the concept of underwriting vs. accident year and how these relate to the AASB 1023 accounts.

Part d) asked students to describe how the AASB accounts are modified for the purposes of tax and APRA. Most students answered this reasonably well, but all except say 2 students clearly understood how excess margins over the 75th percentile were handled in the capital calculation. The average mark was 1.4 out of 3.0.

Part e) asked students why a company might hold more than a 75% adequate provision. Most students answered this reasonably well. A large number of candidates suggested that the reason higher margins were held was to smooth results. The average mark was 1.0 out of 2.0.

Question By Question Analysis

QUESTION 3 (16 MARKS)

Course coverage:	Unit 4, Syllabus Aim 9
Mark allocation:	Knowledge and Understanding – 2 marks
	Straightforward Judgement – 9 marks
	Complex Judgement – 5 marks

This question examined students' understanding of unearned premium, risk patterns and mid term refunds and cancellations. It tested whether students could apply concepts learned (standard claims reserving projection methods) to a slightly different setting (projecting mid term cancellations and refunds) while acknowledging the differences in approach required.

Part a) was reasonably well answered, with the average mark being 1.3 marks out of 2 marks available. Most students either got full marks or no marks, as might be expected for a knowledge and understanding “bookwork” question.

Part b) asked students to describe appropriate earning patterns for different types of benefit. Most candidates got some marks for this, although many failed to distinguish between the two benefit types. Many students received marks for noting that a pro-rata earning pattern was inappropriate for a benefit to discharge the outstanding loan balance. The average mark was 0.8 out of 2.

Part c) required students to comment when an adjustment for expected refunds in the premium liability was required. Approximately one third of students recognised an adjustment may be required if the value of refunds is material. Very few described the circumstances where this was likely to be the case, suggesting this aspect of the question and marking guide was perhaps obscure. The average mark was 0.4 out of 2.

Part d) asked students to describe experience for gross written premium and number of policies written, number of cancellations and average refunds (in triangle format where relevant). Most candidates picked up some marks here. There was a tendency to overanalyse the data and many missed marks available from the more obvious features. Many candidates focused on underwriting period patterns rather than development year patterns. The average mark was 1.3 out of 3.

Part e) carried the most marks for the question and required a description of how the student would project future refunds. In general, this was answered poorly, with many students not answering the question that was asked. In particular, rather than describing a modelling approach, many students described how to adjust the projection for the change in the refund rule. This change was described in the paragraph before the question and was potentially misleading, although the question was quite clear what was required. The markers noted that the broad marking scale caused the greatest discrepancy in marks between the markers for question 3. The average mark was 2 marks out of 6.

Part f) asked students to describe what relationship, if any, should exist between total refunds and claims paid for a given underwriting period. While a number of candidates gave the correct answer, only about one third identified that the relationship results from a reduction in exposure as risks cancel mid-term. A number of candidates highlighted a link due to economic conditions, which was awarded partial marks. The average mark was 0.4 out of 1.



QUESTION 4 (16 MARKS)

Course coverage: Units 1, 3 & 4, Syllabus Aims 1, 6 & 8
Mark allocation: Knowledge and Understanding – 3 marks
Straightforward Judgement – 8 marks
Complex Judgement – 5 marks

This question concerns the impact on the valuation of a property portfolio (with two classes – fire and crop) from a late occurring catastrophe. It examined the impact on correlations, coefficients of variance and compares the actuary's estimate to case estimates and candidates' understanding of these concepts. The APRA outstanding claims liability with a 75% probability of sufficiency was considered.

Part a) asked students to explain why 40% is generally a reasonable correlation assumption for fire and crop insurance. This was answered with reasonable competency, with most students receiving some marks. Most students did not give a good explanation why it should be both greater than 0% but also less than 100%. The average was 0.8 out of 2 marks.

Part b) required candidates to calculate undiversified risk margins. Overall, this numerical part was answered well. The average was 1.5 out of 2 marks.

Part c) was also numerical, asking students to calculate a total diversified risk margin. This was also answered quite well, although not as well as part (b). The average mark was 2.5 out of 4.

Part d) was the largest part of the question. This required the candidates to respond to queries from the managing director about the changes in the valuation. This part was poorly answered, leaving the markers concerned that many students do not seem to understand the drivers of risk and insurance.

Part d) (i) asked why the ratio of central estimate to case estimate had changed since the last review. Many students focused on the fact that the central estimate includes IBNR while the case estimate does not, ignoring what the question actually asked. The average mark was 0.5 out of 2.

Part d) (ii) required definitions of systemic and non-systemic risk. This was mostly answered quite well. The average was 0.6 out of 1 mark.

Part d) (iii) asked for an explanation why the diversified risk margin had changed. This was not answered particularly well, as many students failed to explain the change in coefficient of variation or correlation coefficient in the context of the catastrophe. The average was 0.5 out of 2 marks.

Part d) (iv) required an explanation why the diversification benefit did not increase as the number of claims increased. This was answered fairly poorly. Most students made at least one point that was relevant but few answered all parts of the question adequately. The average was 0.3 out of 2 marks...

Part d) (v) required candidates to clarify that increasing the coefficient of variation and the correlation coefficient was not double counting the uncertainty. This was a fairly straight forward question about statistical concepts which was answered relatively well compared to other parts. The average was 0.3 out of 1 mark.



QUESTION 5 (16 MARKS)

Course coverage: Units 1, 3 and 4, Syllabus Aims 3, 6, 7, and 8
Mark allocation: Knowledge and Understanding – 4 marks
Straightforward Judgement – 9 marks
Complex Judgement – 4 marks

This question tried to get students to analyse recent changes in claims experience and advise an appropriate response in various reserving models to cope with the changes. Students found this question somewhat difficult and the view of the markers was that this question was poorly attempted. The examiners looked at performance in this question as a reasonable indicator of overall competence in the 3A subject.

Part (a) asked students to assess whether there had been any changes in the finalisation, claim reporting and case estimate experience over the last year. Students were then to explain the potential drivers of the changes, and suggest investigations that would be undertaken to understand the issues more clearly.

A number of students however either failed to see the changes that had taken place, or found changes where there really weren't any. A number of students were prepared to go to extraordinary lengths to analyse the data (or at least they said they would do lots of investigation of the data) but did not include in their response that they would talk to the claims manager. The average mark was 3.7 out of 7.0.

Part b) asked students to describe issues that would need to be considered when selecting the parameters for each of the PPCI, PPCF and PCE models, given the recent experience. This part was sometimes interpreted as a 'book' question, rather than answering the specifics of the question. Many students didn't identify the key items such as high recent PPCIs being linked to higher finalisation rates. Many students found it difficult to clearly articulate the key issues. The average mark was 2.0 out of 6.0.

Part c) had an average mark of 0.8 out of 2.0. The question asked students to discuss the relative merits of a PPCF model in operational time, given the recent changes in experience. Many linked the benefits of the model given the recent change in finalisation rates, however many didn't discuss the key issue about whether the queue of claims would be re-ordered as a result of this speed up in finalisations.

Part d) asked students whether the risk margin would be increased or not as a result of the changes. Many students picked up the fact that the operational changes brought greater uncertainty but many didn't explain the reasons clearly. The average mark was 0.7 out of 2.0.

QUESTION 6 (17 MARKS)

Course coverage: Units 2, 3 & 4, Syllabus Aims 4, 7, 8 & 9
Mark allocation: Knowledge and Understanding – 1 mark
Straightforward Judgement – 8 marks
Complex Judgement – 8 marks



This question addressed the impact on different aspects of a valuation basis of a number of changes to policy coverage or exposure for public liability, including tort reforms, changes in excess and introduction of a life time care scheme for catastrophic claims.

Part a) asked students to outline an approach to setting inflation assumptions. Responses were varied, although generally students tried to tailor the answer to the tort reforms scenario, with references made to honeymoon impacts. The average mark was 1.7 out of 3 marks available.

Part b) asked students how tort reform might change inflation. Responses were either more general than was intended in terms of underlying drivers or overly specific discussing NSW reforms, although this was not specific in the question. The generally poor level was considered when setting final grades, as there appeared some element of confusion. The average mark was only 0.5 out of 3 marks available.

Part c) asked what to consider when determining an allowance for non recoverability of reinsurance. Many students were able to note the need for consideration of credit ratings and the average mark was 0.5 out of 1.

Part d) asked about the impact of reinsurance on the risk margin, but was generally answered poorly. Many students noted the margins would reduce but did not demonstrate understanding of the different types of reinsurance by stating the difference in impact, or even which type would lead to a reduction. Average mark was 0.3 out of 1 mark.

Part e) asked students to note the impact on the valuation basis of a change in excess. Responses were commonly too general, or fell short, commenting on either cost overall, or frequency in the absence of claim size. The average mark was 0.8 out of 2 marks available.

Part f) asked students to comment on the appropriateness of expense and risk margins assumptions for the outstanding claims if applied to premium liabilities. Poor exam technique was evident as some students failed to comment on both aspects. The average mark was 2.2 out of 3 marks.

Part g) asked students to discuss the impact of the life time care scheme for liability claimants on key items of the valuation basis. While some students drilled down to each item of the basis as was intended, some were too generic, or had not understood that the changes would be related to the next valuation as the results were final and therefore discussed premium liabilities vs. outstanding claims. The latter point may have been a question wording issue. The average mark was 1.2 out of 4 marks available.

Craig Price

Chief Examiner – General Insurance Subject 3A, November 2006
13 December 2006



Subject 3B: General Insurance

Results Summary

46 candidates enrolled for the November 2006 Subject 3B, with 5 withdrawals, and therefore 41 presenting for the exam.

It is proposed that 16 candidates be awarded a pass, giving a pass rate of 39%.

	Pass Rate
November 2006	39%
May 2006	50%
November 2005	32%
May 2005	50%

This pass rate is broadly in line with pass rates in recent semesters.

The analysis by examination centre is as follows:

Table 2 – Analysis by Examination Centre

Centre	Presented	Passed	Pass Rate
Sydney	29	12	41%
Melbourne	6	2	33%
Subtotal: Australia	35	14	40%
Ireland	1	0	0%
UK	2	1	50%
Singapore	3	1	33%
Total	41	16	39%

Examiners

The examiners for this semester were:

Chief Examiner: Don Johnstone

Assistant Examiner: Catherine Luk

Assistant Examiner: Colin Priest

Course Leader: IAAust General Insurance Faculty

Degree of Difficulty and Course Coverage

In the absence of a Course Leader, the examiners wrote all of the questions. The following table shows the distribution of marks by level of difficulty and syllabus area. It should be noted that issues relating to ‘professionalism’ are covered across many of the questions rather than the small proportion specifically directed to the topic.



Question	Syllabus Aims	Units	Knowledge & Understanding	Straight-Forward Judgment	Complex Judgment	Total Marks
1	14,15,16,17,18	6,7	3	10	4	17
2	10,11,12	5	7	5	5	17
3	10,11,12,13	5	6	3	7	16
4	12,15,16,17	5,6,7	2	8	7	17
5	11,12,13,17	5,7	5	8	3	16
6	19,20	7,8	0	6	11	17
Total			23	40	37	100

Of all the exam questions, Question 6 had the heaviest emphasis towards SJ and CJ type marks, and was perhaps the best differentiator of better candidates.

There was again a significant focus on Unit 5, Premium Rating, with substantial parts of the Questions 2, 3, 4 and 5. This exam had a significant component relating to Financial Control & FCR issues. There was also a reasonable allocation of questions to Reinsurance, Solvency, Capital, Appraisal.

In setting the paper, the examiner team aimed for a consistent level of difficulty with the previous paper. Each exam question except Q3 required around 50% of the raw marks in order to pass. Question 3 included a significant number of easy marks which led to the pass mark being 72% of the marks available.

Question By Question Analysis

QUESTION 1 (17 MARKS)

Course coverage: Units 6 & 7, Syllabus Aims 14, 15, 16, 17 & 18
Mark allocation: Knowledge and Understanding – 3 marks
Straightforward Judgment – 10 marks
Complex Judgment – 4 marks

Question 1 was the easiest question in the paper, with the highest proportion of students passing, and it covered a wide range of topics from budgeting to appraisal values to reinsurance and investment strategies for capital management.

Part (a) covered budgeting and forecasting and tested the students' understanding of forecasting assumptions and the relationship between different budget components. Part (a)(i) asked the students to comment on the appropriateness of some specific budget assumptions against a particular scenario. This was well done by students, and almost all of them scored close to full marks in this part of the question. On the other hand, part (a)(ii) was a strong discriminator between students, with marks ranging from full marks to zero, and with an average score of 2.3 out of 5. This part of the question asked the students to forecast the movement in risk margins. Many students struggled to link written premiums to earned, and loss ratios and payment patterns to outstanding claims.

Part (b) tested students' understanding of how different parties would have different appraisal values for the same insurer. 83% of the students were able to obtain marks of 2 or 2.5 out of 3. The most common problem with students was to provide general



points (e.g. the appraisal value will depend upon future profits) rather than link their answer to the specific scenario presented in the question.

Part (c) tested students' understanding of how reinsurance serves as a substitute for capital. Part (c)(i) required students to understand how reinsurance affects the calculation of APRA MCR capital. Most students correctly calculated the effect of XOL and QS upon PML, but few students understood that QS would affect the insurance liabilities (especially the premium liability), which would result in substantial MCR savings. The performance of students in this part of the question was disappointing, with 24% of students scoring zero. Part(c)(ii) tested the students' ability to compare two reinsurance options for MCR capital effectiveness. Once again, this part of the question was poorly done, with 27% of the students scoring zero, and the remainder scoring only 0.5 out of 1. Only a couple of students picked up the point that the two reinsurance covers provided differing amounts of protection depending upon the severity of the event.

Part (d) tested the appropriateness of an investment strategy. Most students understood that duration was an issue, but few students considered the full range of issues such as liquidity, APRA concentration charge and the correlation between the credit risk and the occurrence of catastrophes. The average mark was only 0.9 out of 2.

QUESTION 2 (17 MARKS)

Course coverage: Unit 5, Syllabus Aims 10, 11 & 12
Mark allocation: Knowledge and Understanding – 7 marks
Straightforward Judgment – 5 marks
Complex Judgment – 5 marks

Question 2 was a case study in premium rating, both by one-way analysis and using a generalised linear model.

Parts (a) and (c) asked about the basis for determining commission rates. There was a wide range of answers, with an average mark of 2.3 out of 5 for (a) and 0.7 out of 2 for (c). Many candidates did not appreciate that commission rates depend on more than just loss experience.

Part (b) i) was a straightforward calculation of premium rates from a formula but quite a number of candidates answered only half the question or else didn't correctly read the output of the GLM.

Part (b) ii) asked about considerations in a pricing decision. This was poorly answered with an average mark of 3.3 out of 7.

QUESTION 3 (16 MARKS)

Course coverage: Unit 5, Syllabus Aims 10, 11, 12 & 13
Mark allocation: Knowledge and Understanding – 6 marks
Straightforward Judgment – 3 marks
Complex Judgment – 7 marks



The subject of Question 3 was premium rating for extended warranty insurance. The question was a poor discriminator, with marks ranging from 8 to 13.5 out of 16.

The number of points which could be made given the low level of marks meant students did not have to demonstrate significant knowledge to gain easy marks.

Parts (a) and (b) tested candidates' knowledge of sound rating principles. Part (c) asked about the suitability of 6 different potential rating factors. Parts (a), (b) & (c) were fairly straightforward - good candidates could easily receive nearly full marks and even the weakest candidate received more than half the available marks.

Part (d) asked about the difference between two possible policy structures for offering extended warranty insurance. Part (d) was not well answered, with most candidates not appreciating the differences between the two options, and being able to set this out clearly in their answer.

Part (e) asked about the problems with a profit share formulae. This part was poorly answered with very few candidates appreciating that profit is generated from a cohort of policies by subtracting claims and expenses for that cohort from premium for the same cohort (either earned or written).

The correlation between the markers was quite low (79% for marks, 86% for ranks, and 94% for grades) and the examiners changed the marks and grades of quite a few borderline candidates upon review.

QUESTION 4 (17 MARKS)

Course coverage: Units 5, 6 & 7, Syllabus Aims 12, 15, 16 & 17
Mark allocation: Knowledge and Understanding – 2 marks
Straightforward Judgment – 8 marks
Complex Judgment – 7 marks

Question 4 discussed the introduction of a long term care scheme for CTP and workers compensation.

A lot of students tended to think that, for eligible claims, the whole claim was transferred to the LTC scheme, whereas only particular heads of damage for eligible claims are transferred.

Part a) asked candidates to recommend how the reinsurance arrangements needed to change. Many candidates didn't address the change in the reinsurance program.

Part b) asked candidates to describe a risk based capital framework. Many candidates described risks to which an insurance company is exposed without making the link between risk and capital. Many also described the APRA capital requirement formula instead of addressing the reason for risk based capital.

Part c) Many students said that with some risk removed from the insurer's balance sheet the MER would decrease, without qualifying it by linking the MER to reinsurance arrangements.

Part d) dealt with the relationship between capital requirements and profit margins. It was poorly answered, with an average mark of 1.4 out of 4.

Part e) asked about expense assumptions. This part was also poorly answered with an average mark of 0.7 out of 2.



Part f) Although some students had a reasonable understanding of superimposed inflation, too many failed to state that SI appears in bursts and that a long term view is required when setting SI assumptions.

The correlation between the markers was low (74% for marks, 70% for ranks, and 78% for grades) and the examiners changed the marks and grades of about a quarter of the candidates upon review.

QUESTION 5 (16 MARKS)

Course coverage: Units 5 & 7, Syllabus Aims 11, 12, 13 & 17
Mark allocation: Knowledge and Understanding – 5 marks
Straightforward Judgment – 8 marks
Complex Judgment – 3 marks

This was a relatively easy question about retro-rated workers compensation.

Part a) was answered relatively well. The majority of students made the point regarding either the risk of the claims cost exceeding the maximum or the risk of the claims cost developing after 5 years or both. A lesser number made the point regarding the credit risk.

Part b) was answered reasonably. Some of the better answers identified the impact of market conditions.

Part c) was answered relatively poorly. A number reached the right conclusion but didn't mention the impact of credit risk. A number reached the wrong conclusion.

Part d) was answered poorly. A disappointing number of candidates made no reference to the comparison of the profit margin to a conventional policy.

Part e) was answered relatively poorly. A number of students simply regurgitated the bookwork list of points regarding desirable premium allocation systems, without specific reference to ABC. The average mark for this part was 2.0 out of 5.

QUESTION 6 (17 MARKS)

Course coverage: Units 7 & 8, Syllabus Aims 19 & 20
Mark allocation: Knowledge and Understanding – 0 marks
Straightforward Judgment – 6 marks
Complex Judgment – 11 marks

Question 6 was a question that required the students to pull together all of their knowledge and demonstrate a broad understanding of general insurance. It covered financial condition reports and a professionalism issue. This question was a strong discriminator between students with marks ranging from 1.5 to 12 out of 17. FCRs are new to the general insurance industry and to the course syllabus, so the poor performance of students in this question may reflect a lack of practical experience on the part of the students, and a possible weakness in the course material.



Part (a) required students to prioritise the particular key issues that should be discussed in an FCR, given the information provided throughout the rest of the paper. This part of the question was poorly done, with students averaging only 3.9 out of 10. Many students seemed unable to prioritise issues, and instead elected to list every issue that came to mind, including some that weren't even raised within the exam. When students did prioritise, they tended to give too much priority to numeric (traditional actuarial) areas, such as the insurance liabilities, rather than the operational risk faced by the insurer. Most students did not consider whether the issues that they raised were material.

Part (b) required students to discuss the data issues that related to the key FCR issues. Given the poor performance of students in part (a), it is not surprising that students also did poorly in this part, scoring an average of only 0.9 out of 4. Students struggled to link possible data problems with possible consequences, and many just listed a lack of data without considering whether the problem with the lack of data was material.

Part (c) required students to understand the professionalism issues relating to a scenario when the approved actuary has a different opinion to the CTP pricing actuary. Once again, this part of the question was rather poorly done, with 51% of students scoring 0.5 or zero out of 3. This question should have been relatively straightforward to answer, but while most students correctly understood that the approved actuary should use their own dissenting opinion in the FCR, few students were able to justify why they believed this, or the correct course of action that the approved actuary should take.

The correlation between the markers was low (69% for marks, 75% for ranks, and 77% for grades) and the examiners changed the marks and grades of a number of the candidates upon review.

Don Johnstone

Chief Examiner – General Insurance Subject 3B, November 2006
14 December 2006



Subject 4A: Superannuation & Planned Savings

Results Summary

8 candidates enrolled for the November 2006 exam. Of these, 8 were present at the exam.

It is proposed that 3 candidates be awarded a pass, which implies a pass rate of 37.5%.

This compares with a pass rate of 50% for the May 2006 exam (6 out of 12 candidates) and 18% for the November 2005 exam.

In summary:

	Number of candidates
Originally enrolled	8
Absent from exam	-
Presented at exam	8
Passed	3
Failed	5

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Canberra	1	1	100%
London	1		0%
Malaysia	1		0%
Melbourne	3	1	50%
Perth	1	1	100%
Sydney	1		0%
Total	8	3	37.5%

Examiners

Examiners for this year were:

Chief Examiner: Paul Newfield
Assistant Examiner: Phillip Everett



Degree of Difficulty and Course Coverage

The degree of difficulty of questions on each paper and course coverage is summarised in the tables below:

Question	Units	K&U	SJ	CJ	Total Marks
1	1a, 1b, 1c and 4a	3	6	6	15
2	1a, 1b, 1c and 3d	5	5	5	15
3	2a, 3d, 4c, 5a and 5b	3	8	7	18
4	4a, 4b, 5a, 5b, 5c	2	11	12	25
5	4a, 5a, 5b, 5c and 6b	0	10	7	17
6	3c	6	0	4	10
		19	40	41	100

Overall Performance

Overall, 37.5% of students passed the course and all the candidates who did not pass i.e. the remaining 62.5% of candidates received a grading of C overall.

Overall the performance was stronger than for November 2005 and slightly weaker compared to May 2006.

However, given the small sample size it is hard to draw any inference since if one additional candidate had passed the exam then the pass mark would have been the same as May 2006.

Question by Question Analysis

Set out below are comments on each individual question based on feedback from markers, highlighting how the question was handled.

Question 1 (15 Marks)

This question was aimed at testing the student's knowledge of tax, maximum deductible contributions and measuring the notional cost of defined benefits.

It was answered well by most candidates, with 5 passing.

A couple of students got the wrong idea and did not pick up on the importance of dealing with defined benefit issues and commented on tax minimisation strategies which were not defined benefit specific.

Part b) which asked about measuring the defined benefit costs should have been relatively simple, with those that understood what was required generally doing quite well. Again, a couple did not pick up on the defined benefit concept.

Question 2 (15 Marks)

This question was aimed at testing student's knowledge of salary definition, the impact on defined benefits and the differences between different earnings bases. It also considered the changes coming into effect from 1 July 2008.

This question was the least well answered in the whole paper. Only 1 candidate passed with an overall B grade. Of the remaining 7 candidates – there were 6 “C”s and a single “D”.

While most students had some understanding of the complexities of a defined benefit arrangement as opposed to an accumulation arrangement, there was very little understanding of the more complex areas of defined benefit arrangements. In particular, most students had no knowledge that the introduction of OTE affects the MRB only and failed to mention the past service liability implications of a salary definition change. In addition discussion of the components of superannuation for defined benefit members was very limited.

Question 3 (18 Marks)

This question tested students understanding of performance hurdles and aligning executive performance and the interests of shareholders. The question was quite well answered with 6 students passing. Both the failed candidates achieved a “C” grade.

The performance hurdles themselves were identified pretty well but the discussion of potential advantages and disadvantages of each hurdle was where some students fell short.

The key criticism in this area was that students tended to make statements (such as, “difficult to manipulate”) without explaining why this was the case and so didn't show that they understood the issues. Also, in some cases the same hurdle was effectively stated twice, just in a slightly different form.

However, on the positive side, students clearly understood the benefits of using TSR as a hurdle, as opposed to share price, as it allows for dividend payments.

Question 4 (25 Marks)

This question tested students understanding of asset liability modelling – AASB 119 and differences between pure defined benefit arrangements and hybrid arrangements (mixed defined and accumulation).

The question was quite well answered with 4 students passing. All of the failed candidates achieved a “C” grade.

There were differences in the overall level of marks between the 2 markers but the differences were fairly consistent independent of which candidate was being assessed. As a whole – these differences would only be material and impact on the end outcome in the case of the 2 marginal candidates and as such these 2 candidates were re-assessed by me and the assistant examiner.



Question 5 (17 Marks)

This question tested students understanding of the attained age funding method and an analysis of surplus.

The question was quite well answered with 5 students passing.

As a whole this was regarded as a fairly easy question and not a good discriminator. Students generally understood the question.

In calculating the long term cost under the attained age funding method a lot of students made the mistake of deducting net member cont rate from gross total cont rate, which was a surprise.

Question 6 (10 Marks)

This question tested students understanding of fee structures within a Choice of Fund environment and also the differences between marginal cost and average cost for each new member.

The question was quite well answered with 4 students passing. All the passes were “A”s.

Generally regarded as “straight-forward” question which would not act as a discriminator between candidates. There was also some misinterpretation of the question by 1 or 2 students.

Paul Newfield
Chief Examiner, Superannuation & Planned Savings 4A
December 2006



Subject 4B: Superannuation & Planned Savings

Results Summary

8 candidates enrolled for the November 2006 Exam. One candidate withdrew prior to the exam, and the other 7 candidates were present at the exam. It is proposed that 4 Candidates be awarded a pass, which implies a pass rate of 57%.

In summary:

Number of candidates	
Originally enrolled	8
Withdrew before exam	1
Presented at exam	7
Passed	4
Failed	3

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate Nov 2006	Pass Rate Nov 2005	Pass Rate May 2005
Malaysia	1	0	0%		
Melbourne	3	3	100%		
Sydney	3	1	33.3%		
Total	7	4	57%	60%	80%

The Melbourne candidates clearly performed better than the other candidates with all clear passes.

Examiners

Examiners for this semester were:

Chief Examiner: Jennifer Dean
Assistant Examiner: Phillip Everett

Course Leader: Saffron Sweeney
Exam Writers: David Knox
Julie Osborn
Paul Francis

The course leader was responsible for conducting the tutorials and answering student questions. The role of exam writer was split due to the lack of resources. The exam writers had prepared advanced drafts of the exam and the Chief Examiner's role in



this process was principally to review the exam. However, the draft exam was very late (29 September 2006) and put considerable pressure on the Chief Examiner, the Scrutineers and the Board of Examiner representatives to complete their review within a two week timeframe.

Degree of Difficulty and Course Coverage

The analysis of the degree of difficulty of exam questions in the format specified by the IAAust is as follows:

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	7,8,10,13	3	3	8	14
2	8,9,13	5	5	5	15
3	7,11	5	7	4	16
4	7,9	7	0	11	18
5	7,8,11,13	0	8	9	17
6	9,13	0	16	4	20
Total		20	39	41	100

The degree of difficulty would suggest that this exam was comparable to those from prior years. Due to the small number of candidates it is hard to assess any statistical relevance from pass rates of previous semesters. However, given the majority of students who sit this exam likely work in the industry it is likely that a higher pass rate than other subjects will be achieved. This is reflected in the relatively high pass rates for the last 3 semesters.

Overall Performance

Students performed well on the exam which is reflected in the pass rate. Students, in particular, did very well on the early questions which meant they were not necessarily a good discriminator between students. This meant that the complex judgement requested in Question 4, 5, and 6 was important in determining who passed and failed. Another problem for students is they may have spent more time on the earlier easier questions which left them little time for comprehensive answers on the later questions.

Question by Question Analysis

Question 1 (14)

Part (a) was generally well answered, a few students neglected to explain why they wanted information.

Part (b) the idea that the Trustee had the final decision on the investment strategy in the Fund was missed by many students (This is a similar issue to question 5). A few also neglected to discuss the impact on employer contribution rates. Most made a reasonable attempt and covered relevant points.



Question 2 (15)

This question dealt with the identification and treatment of various types of reserves in a superannuation fund.

This question was generally well answered despite the fact only three students attempted the report format. A couple of students identified the risks to the reserve rather than the risks the reserve were intended to offset.

Question 3 (16)

- a) Students typically identified the two types of income stream correctly but didn't provide sufficient descriptions. In particular, the investment features of allocated pensions were generally overlooked. Many students commented on reversion options and some marks were awarded where this was clearly explained.

While not a criticism, it was interesting to note that very few students mentioned the possibility of a term certain annuity.

- b) There seemed to be some issues with students' interpretation of this part with many providing more of a comparison of annuities and allocated pensions. Where this was done, it basically included an outline of the relative pros and cons of each type of income stream which was akin to the requirements of part (a).

Another problem was students who assumed a particular type of income stream was introduced and simply focussed on the issues related to that product. These approaches didn't adequately answer the question but marks were awarded for valid comments.

There was also generally insufficient discussion of the investment related considerations and integration with any existing social security benefits.

Lastly, while not part of the model solution, many students referred to legislative considerations and the potential for deed amendments and one marker allocated half a mark for this type of comment when it was provided with adequate explanation of the perceived issue. As the marks were consistent between markers this was not an issue.

- c) Most students correctly identified an allocated pension but the explanation around the problems and risks associated with a guaranteed benefit were not clearly communicated. This was the area where most marks were lost. The discussion of design issues was typically covered well with many issues being provided in most cases. On this point, marks were awarded for valid issues that were not part of the model solution and these included:
 - i. expense allocation;
 - ii. reversionary options; and
 - iii. member education/communication.



Question 4 (18 Marks)

Overall this question was poorly answered but the good students were able to demonstrate extra understanding so this question was a good discriminator.

- a) Most students were able to identify that the contribution clauses of the Trust Deed would be relevant but the good students were able to identify other clauses such as termination, use of reserves, payment and amendment clauses.
- b) Students either scored well or not at all on this part of the question.
- c) Most students missed the hint in the question to investigate the effect investment returns would have on benefits and therefore did not identify that based on the current design most members would get accumulation benefits. Many students identified the difference in benefit types between resignation and retirement but few developed this knowledge further. The complex judgement related to an appropriate demonstration of this interaction which only one student attempted. The interaction between accumulation and defined benefit types should be an area addressed further by the course leader in future sittings.
- d) Most students commented on the future effect on benefits rather than identifying that an additional investment reserve exists which needs to be treated separately.

Question 5 (17 Marks)

The question was a fairly good discriminator in both parts of the question. It was a fairly easy question but students struggled to make enough valid points to score high marks, especially in part b).

- a) Actual experience different from expected was one valid point only, although most students presented separate points on salary inflation, investment earnings, decrements and expenses. Good students identified several other reasons for the higher contribution rates.
- b) To pass this part of the question, students had to address both the information they need to complete the job as well as addressing their professional obligations. Most students noted they need to talk to the Plan actuary but failed to mention that the Plan actuary reports to the Trustee not the company and also under the Trust Deed has responsibility to set the contribution rates. Although most students wrote in letter format the quality of the actual letter wording/set out could be improved.

Question 6 (20 Marks)

It appeared that most students ran out of time. There was nothing wrong with the wording of the question, it was clear in what it was asking. Part of the problem may have been there were 3 pages of information to digest before the student could start to write their answer. Since this was the last question on the paper and students are typically tight for time such an information rich question can be an issue yet the marks reflected the appropriate time needed. This may reflect poor exam technique by students as it was the highest mark question.



Despite the time pressure, many students were able to put down many relevant points but the answers to a) and c) were not structured well. Several students went on a tangent about utilising a master trust instead when the two funds were clearly large industry funds. This reflects a lack of awareness of the recent industry events which this question was derived from. Students were not penalised for these comments but would have wasted valuable time.

* * * * *

Jennifer Dean

Chief Examiner – Life Insurance Course 2B, November 2006 Exams

11 December 2006



Course 5A: Investment Management and Finance

Results Summary

18 Candidates enrolled for the 2006 semester two Investment Management and Finance 5A exam. All candidates were present at the exam.

It is proposed that 8 Candidates be awarded a pass, which implies a pass rate of 44%. This is roughly consistent with the pass rate of 50% in Semester 1 and compares favourably with pass rates of 35% and 26% for Semesters 1 and 2 respectively in 2005.

In summary

Number of candidates	
Originally enrolled	21
Withdrawn prior to exam	3
Absent from exam	0
Presented at exam	18
Passed	8
Failed	10

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Hong Kong	1	0	0%
Malaysia	1	0	0%
Melbourne	6	4	67%
Sydney	10	4	40%
Total	18	8	44%

Examiners

Examiners for this year were:

Chief Examiner: Dennis Mosolov
Assistant Examiner: Paul Carrett



Degree of Difficulty for Examination and Course Coverage

The degree of difficulty of questions in the examination paper and course coverage is summarised in the table below:

Question	Unit	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1 (a)	4	3			3
1 (b)	4	3			3
1 (c)	4	3			3
1 (d)	4		5		5
1 (e)	4		5		5
2 (a)	2		3		3
2 (b)	2	4			4
2 (c)	2	3			3
2 (d)	2			7	7
2 (e)	2			4	4
3 (a)	1	3	6		9
3 (b)	1			3	3
3 (c)	1			3	3
3 (d)	1		3		3
3 (e)	1			4	4
4 (a)	3		5		5
4 (b)	3		8		8
4 (c)	3			3	3
4 (d)	3			4	4
4 (e)	3			4	4
5 (a)	5		3		3
5 (c)	5			4	4
5 (d)	5			7	7
TOTAL		19	38	43	100

The order in which the questions were presented was based on the examiners' opinion of the difficulty of the question, starting with largely KU-based questions and progressing to complex judgement.

Overall Performance

As is par for the course, this year's exam proved to be reasonably difficult for the majority of candidates. The pass rate of 44% (8 from 18 candidates), is not dissimilar to past examinations and is marginally lower than last semester's pass rate of 50%. While some concerns could be expressed regarding the overall performance, an analysis of the results highlights a core group of 6 students that performed capably across a range of targeted areas of study and were clear passes. Keeping in mind that the marginal passes are just that – marginal, I am happy with where the line has been drawn and with the pass rate overall.

The results should also be considered in light of the fact that the exam was challenging in terms of its breadth and the level of detailed knowledge required in each of the areas. Students were, as expected, presented with some difficult challenges, especially in light of the time constraints involved.

A statistical summary of the examination results can be found in the tables below.

Question by Question Analysis of the Examination

Question 1

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	4	3			3
1b	4	3			3
1c	4	3			3
1d	4		5		5
1e	4		5		5

This question was on quantitative methods of portfolio construction. There were 8 passes out of 18 students and an average mark of 12.8 out of 19, with marks ranging from 8.5 to 17.

Despite being a largely bookwork question, it was not particularly well answered. There was a reasonable spread of results and parts (d) and (e), which required application of the KU in (a), (b) and (c), were a good indicator of candidate strength.



Question 2

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
2a	2		3		3
2b	2	4			4
2c	2	3			3
2d	2			7	7
2e	2			4	4

Question 2 covered credit default swaps and the issues associated with their pricing. This question was quite poorly answered, with 5 passes out of 18 and 10 D's. The average mark was 7.25 out of 21 and the marks ranged from 4.5 to 12. Upon review of the exam papers, it became clear that a significant number of students didn't understand the difference between parts (b) and (c), and also had trouble interpreting part (e).

Because of this, parts (a), (b) and (c) ended up being the best indicators of candidate strength, although overall this question didn't generate the dispersion of marks to draw any meaningful conclusions.

The interpretation issues were taken into account during borderline reviews and poor performance in this question, when combined with strong overall performance, was treated with some leniency.

Question 3

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
3a	1	3	6		9
3b	1			3	3
3c	1			3	3
3d	1		3		3
3e	1			4	4

This question covered analysis of financial statements and also dealt with specific issues of valuing an oil explorer. The average mark was 8.7 out of 22, with marks ranging between 4.5 and 14. 9 students out of 18 passed this question.

This question was not particularly well-answered overall but was a good discriminator due to the wide range of marks generated. Most students had no trouble with the KU part (financial ratios). The better students received good marks for the complex judgement parts of the questions – the top 3 candidates for the question as a whole were also the top 3 for CJ parts only.



Question 4

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
4a	3		5		5
4b	3		8		8
4c	3			3	3
4d	3			4	4
4e	3			4	4

Question 4 dealt with the valuation of a renewable energy company and was reasonably well answered. The average mark was 12 out of 24 and the marks ranged from 7.5 to 17. 8 students out of 18 passed this question.

Most students were able to provide a reasonable answer (only one D was awarded) and consequently the question wasn't a great discriminator, with the majority of students receiving B and C grades. No part of the question proved particularly difficult or easy for the candidates.

Question 5

Question	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
5a	5		3		3
5b	5			4	4
5c	5			7	7

Question 5 focused on dynamic asset allocation with an emphasis on unlisted assets. This question was generally well answered with 10 passes out of 18. The marks ranged from 0.5 to 8.5 out of 14, with the average being 6.

Again, most students were able to identify the issues associated with including unlisted assets into an allocation model. However, the strongest candidates performed noticeably better in parts (b) and (c), which were a good indicator of overall candidate strength.

Special mention must go to the markers of this question (Stuart Crockett and Jessica Sum) who not only reconciled their marks, but sent detailed comments on each candidate's performance.

Overall comments

Overall, each question was reasonably well answered by the students with the exception of Question 2, which had some interpretation issues. The examiners' aim was to base the questions on identifying issues specific to each situation and to test the students ability to identify these issues and apply judgement in suggesting a



resolution. Reviewing the results showed that most students performed reasonably well in this regard, which justifies a pass rate that is somewhat higher than other subjects.

Dennis Mosolov

Chief Examiner, Investment Management and Finance 5A 2006

December 2006



Course 5B: Investment Management & Finance

Results Summary

The November 2006 examinations represent the third examination session under the new Part III syllabus of the Institute of Actuaries of Australia (which involves twice yearly exams of a split course). Fifteen candidates presented for the exam, with an additional 2 candidates enrolled, but did not present at the exam.

It is proposed that 4 candidates be awarded a pass, which implies a pass rate of 27%. This compares to a pass rate of 43% from the May examination session and 31% from the previous November and 40% from the previous May.

The exam set this period was a mix of relatively easy and difficult questions. This resulted in a split between those students with a good understanding, and those without adequate preparation being clearly delineated. It was disappointing that some candidates with strong responses in the difficult questions showed knowledge gaps with the easier questions

Pass rates from prior years for the previous course were as follows:

- 2004 – 39%
- 2003 – 42%

In summary:

Number of candidates	
Originally enrolled	19
Withdrawn prior to exam	2
Absent from exam	2
Presented at exam	15
Passed	4
Failed	11

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate November 2006	Pass Rate May 2006	Previous Pass Rate Nov 2005
Melbourne	3	2	66%	0%	33%
Sydney	8	1	13%	56%	33%
Canberra	2	1	50%		
Singapore	2	0	0%		
Total	15	4	27%	43%	31%



Examiners

Chief Examiner for the 5B course this semester was Brad Milson, with assistant examiner Razman Azmir. However, due to work commitments and the tight marking timetable, Raz was not able to contribute greatly this semester. The Course Leader was Gourav Choudhary.

Degree of Difficulty and Course Coverage

The analysis of the degree of difficulty of exam questions in the format specified by the IAAust is as follows:

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1,2,3	4	11	1	16
2	1,2,5,8	8	3	8	19
3	1,2,3,5,6,8	6	6	9	21
4	1,6,8	2	4	6	12
5	1,5,6,8	4	8	2	14
6	1,5,6,7,8	3	11	4	18
Total		27	43	30	100

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

COURSE 5B	Ass1	Ass2	Q1	Q2	Q3	Q4	Q5	Q6
Pass	47%	94%	57%	67%	33%	20%	14%	13%
Fail	53%	6%	43%	33%	67%	80%	86%	87%

Overall Performance

Overall the exam paper acted as a good discriminator, with raw marks ranging from 28.5 to 64.5 out of 100.

Overall, the candidate standard remains relatively poor where practical understanding was required or where the theory studied needed to be related to the real world.

Of those non-passing candidates, most demonstrated either a significant gaps in their knowledge, with a number of weak responses, or were unable to respond to any of the more difficult questions requiring complex judgement.

Brad Milson

Chief Examiner –Investments and Finance 5B, November 2006 Exams
December, 2006



Subject 10: Commercial Actuarial Practice

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.

A total of 48 candidates were originally enrolled for one or both of the assessments in semester 2 of 2006. Of these, 1 did not present at all. 44 presented for the case assessment and 42 of these also attended the residential course. 43 candidates presented for the examination.

Of the 47 candidates who presented, it is proposed that 30 be awarded a pass, which implies a pass rate of 64%. This pass rate is in line with the 64% and 61% respectively who passed in the previous two semesters.

In addition, it is proposed that 10 candidates be given a pass for the exam, but a failure for the case assessment.



In summary, the proposed results are:

	Number of candidates	Percentage
Presented	47	100%
Passed	30	64%
Failed case but passed exam	10	21%
Failed exam but passed case	0	0%
Failed case but passed exam previously	2	4%
Failed exam but passed case previously	1	2%
Failed both case and exam	4	9%

The results by examination centre are:

Centre	Presented for Case*	Passed Case	Presented for Exam	Passed Exam	Presented for Either	Passed Course	Pass Rate
Sydney	32	22	32	30	34	23	68%
Melbourne	7	4	5	3	7	4	57%
London	3	2	4	3	4	3	75%
Hong Kong	1	0	1	1	1	0	0%
Perth	1	0	1	1	1	0	0%
Total	44	28	43	38	47	30	64%

** 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.*

EXAMINERS

The assessment materials for the course were developed and the marking was undertaken by a team consisting of David Service (Course Leader), Richard Cumpston, Tim Higgins, Richard Madden, Peter Martin and Colin Priest.

The Chief Examiner was Ken McLeod, assisted by other members of the Course Faculty (Andrew Brown, David Knox, Arie van den Berg and Donna Walker).



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 five 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 discussion at the course.

90% of the assessment was based on a single question delivered in "case study" format at the start of the sixth day of the residential course. The candidates were given up to 8 hours (the sixth day of the course) to absorb the question material, perform all the necessary analyses and prepare the written communication of the answer. 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.

Results

The marks awarded for participation in the residential course varied between 7.2 and 8.7 out of 10. David Service confirmed that all candidates completed the pre-work satisfactorily and all contributed actively to the syndicates and the plenary discussions. 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	12	6	6	50%
General Insurance	24	17	7	71%
Superannuation	4	3	1	75%
Investments	4	2	2	50%
Total	44	28	16	64%

Life Insurance

The Life Insurance case required candidates to prepare a report on a proposal to remove all underwriting for a mortgage-protection term insurance product sold through bank branches. The sales performance of the product had been lower than



expected due at least partly to the underwriting requirements. As well as providing their recommendations on the proposal to remove all underwriting, candidates were asked to comment on the implications of the proposal for sales volumes and profitability, and to suggest alternative proposals.

The key issues in this case concerned the impact of underwriting on claim costs, allowing for potential selection; the impact on volumes, expenses and product profitability; and the need to provide argument and evidence to respond to political pressures.

Those who passed this case generally had a sound understanding of the implications of underwriting and provided sound analysis to support their conclusions. The main problem with those who failed was either a lack of evidence for the impact of underwriting or poor quality analysis of the economics.

None of these candidates were considered borderline by the Chief Examiner. There was a clear distinction between the quality of answers from candidates who passed and candidates who failed. In this sense, the case proved to be a good differentiator between candidates.

General Insurance

The General Insurance case required candidates to prepare a report recommending an approach for an insurance company to estimate the impact of potential reinsurer defaults on reinsurance recoveries, to meet new APRA guidelines. Candidates were also asked to provide a worked example of the approach using a CTP portfolio and comment on the use of a captive reinsurer in a politically sensitive situation. They were provided with a lot of background material of varying relevance, including a paper on the default experience of loans to companies with different credit ratings that could be used as a basis for their calculations.

This problem was probably less complex than the problems in the other subject areas, but it is likely to have been unfamiliar to most of the candidates. We were looking for candidates to think through the cost of defaults and develop an approach from first principles.

In practice, most of the candidates demonstrated that they understood the main issue quite well and could respond to it. The marks therefore depended more on other factors such as the quality of numerical analysis. Those candidates who passed were generally those who did sensible analysis of the expected cost of defaults and addressed a majority of other major issues such as data quality, materiality, the implications of using a captive and the political implications. Those who failed typically did so because they failed to provide adequate analysis.

From a communications viewpoint, the reports were typically well-structured and clear, but marred by excessive use of qualifications and disclaimers, many of which were vague and unnecessary. This is not a problem that we experienced in any of the other subjects.



Superannuation

The Superannuation case required candidates to prepare a report on the cost of maternity leave for a small company employing mainly female staff. Candidates were expected to analyse historical maternity leave experience for the company, develop assumptions and project future maternity leave, calculate an estimate of accrued leave and discuss a potential accounting provision.

Investments & Finance

The Investments case asked candidates to prepare a report on a potential currency hedging strategy for a beef producer that exported a large part of its production. Candidates were also asked to comment on the capital implications of any strategy.

We were expecting a competent answer in this case to include an analysis of historical profit volatility, the development of potential hedging strategies, scenario testing of those strategies, development of conclusions and demonstration of the implications.

There was a very clear difference between the quality of the answers for those who passed and those who failed. Those who passed understood most of the issues, they provided good analysis and they communicated their conclusions very well. Those who failed did not provide adequate analysis and did not address all aspects of the case. None of the Investments candidates were considered borderline.

ASSESSMENT PIECE 2

Non-Traditional Exam

Assessment Piece 2 was a two-hour examination held in the usual examination session at the end of the semester. One question was offered in each of 5 defined non-traditional practice areas, i.e. infrastructure, ageing populations, banking, environment and health. Each candidate was required to attempt 2 out of the 5 questions. Candidates were permitted to take any materials into the examination.

Results

The proposed marks for each candidate for Assessment Piece 2 as a whole are shown in Attachment 2. It is proposed that all those with a mark of 50 or more should pass. This means that 38 out of the 43 candidates who sat the exam should pass, or 88%.



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

Question	Sat	“Passed”*	Percent Passed	Average Mark 1	Average Mark 2	Average Mark
Ageing Populations	28	24	86%	57	57	57
Environment	18	13	72%	58	58	58
Health	15	13	87%	64	62	63
Infrastructure	18	11	61%	54	54	54
Banking	7	5	71%	55	54	54
All Questions	86	66	77%	57	57	57

** 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, the pass rates in the individual questions for Assessment Piece 2 were relatively good, although not as good as in semester two of last year, when 89% of individual questions received pass marks, compared with 77% this semester.

Ageing Populations

The Ageing Populations question told candidates that they had been appointed Chair of an “Ageing Populations Policy Solutions Committee” for the Institute of Actuaries and asked them to prepare a briefing paper for the Institute President setting out the issues around some policy proposals submitted by members. The proposals involved providing aged pensions and carer allowances in the form of loans to be repaid when a person dies (in the case of the aged pension) or is earning a threshold income (in the case of the carer allowances). We were expecting candidates to highlight a range of commercial, financial, political and practical issues.

Most of the candidates systematically described a good range of the major issues and the pass rate was quite high. The 4 candidates who failed this question typically identified only a limited range of issues, sometimes showed a lack of understanding of the issues and all structured their communication poorly.

Environment

This question asked the candidates to help the leader of the main opposition political party to develop a policy on greenhouse gases to take to the next election. As well as providing a proposed policy, candidates were asked to explain why greenhouse gases is an important issue, what the effects of their proposed measures would be, and what the costs, risks and benefits would be for the country.

The quality of the answers varied quite widely in this question. Most of the students showed that they understood the issues, and proposed a number of logical policies – typically carbon trading, research subsidies, education or subsidies for consumers, and subsidized public transport. Those who failed typically provided weaker policy proposals, but the main problem was poor analysis of risks and benefits demonstrating a poor understanding of the issues.



Health

Candidates were told that Brisbane City Council was preparing a case to fluoridate its water supplies and asked to respond to a request from the Council for “a balanced paper for public release”. As well as preparing an outline of their public statement, candidates were expected to discuss the strengths that actuaries can bring to public health issues like this, describe how they could go about helping the Council and how they would quantify their conclusions.

This question involved issues around the role and independence of actuaries, as well as requiring students to demonstrate an understanding of health issues and the quantification of health outcomes and their financial implications.

Overall, this question was very well answered. Most candidates addressed the professional issues as well as providing a sound response to the other aspects of the question. The two weakest answers still showed that they understood the main issues, but provided quite “thin” responses.

Infrastructure

Candidates were asked to advise a State Government on the terms put forward by a developer to build and operate a new port facility. The candidates were also asked to consider potential changes to the Government’s broader policy to support infrastructure developments.

The particular proposal for the port facility included a number of generous incentives with political, commercial and economic implications.

Most of the candidates identified and addressed the main issues with the developer’s proposal for the port facility, but many candidates provided weak or no commentary on the Government’s policy. Those candidates who showed that they understood the issues with the developer’s proposal and dealt soundly with most of them were given a pass mark. Those who failed typically responded to only a few of the issues with the proposal and provided little comment on policy. The very weakest answers missed the point of the question and digressed onto aspects that were not relevant.

There was a grammatical error in the wording of this question that was pointed out by one of the candidates following the exam. The wording for one of the developer proposals was intended to say that the Government would compensate the developer to the extent that its return on capital was less than 17.5%. Strictly speaking, however, the wording implied that the Government would pay the developer extra if the return exceeded 17.5%. For the purposes of marking we accepted either interpretation as being correct.

Banking

Candidates were asked to prepare a methodology for a major Australian bank to help make consistent decisions about opening and closing bank branches, taking into account the profitability of the branch, potential impact on bank image, growth prospects and any other relevant issues.

Most of the candidates attempting this question showed a reasonable understanding of the issues, although few candidates really addressed how to assess the incremental contribution that a branch makes to bank value over the longer term. The 2 candidates marked as failing this question showed the weakest understanding of the branch profit economics.

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