Private and Confidential

Report to Council from the Board of Examiners

2005 PART III SEMESTER TWO EXAMINATIONS REPORT

(STUDENT VERSION)

Institute of Actuaries of Australia

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SUMMARY

Examination Administration

The Semester two 2005 Part III examinations of the Institute of Actuaries of Australia ("Institute") were held between 31 October and 4 November 2005. Candidates attended the examinations in Australia (Sydney, Melbourne, Brisbane, Adelaide, Canberra and Perth) and overseas (New Zealand, Hong Kong, Singapore, Malaysia, Korea, Japan, United Kingdom, USA, Taiwan, Canada, China, and Sweden).

This is the first year in which twice yearly examinations have been held. The tables below show the number of candidates sitting each exam over recent years. The slight reduction (4%) in the number of candidates sitting in the latest period reflects the change in exam structure (to two separate modules, which can be taken in separate examination periods) and that candidates now have the option of sitting each subject twice each calendar year.

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	Semester 1 2005	Semester 2 2005
1	Investments	136[1]	187	129
2A	Life Insurance	118	61	62
2B	Life Insurance	114	22	28
3A	General Insurance	91	68	79
3B	General Insurance	91	18	34
4A	Superannuation & Planned Savings	25	19	11
4B	Superannuation & Planned Savings	25	5	10
5A	Investment Management & Finance	136[2]	20	19
5B	Investment Management & Finance	118[3]	10	16
10	Commercial Actuarial Practice	na	na	28
	Total	**432 / 854[4]**	**410**	**416**

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.

Results

Pass Rates

The number of candidates presenting for the semester two 2005 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

Subject	Semester two 2005			Semester one 2005			Prior Years		
	Sat	Passed	%	Sat	Passed	%	2004 [1]	2003	2002
C1 Investments	129	38	29	187	45	24	30%	40%	36%
C2A Life Insurance	62	19	31	61	14	23	22%	28%	38%
C2B Life Insurance	28	8	29	22	11	50	26%	28%	38%
C3A General Insurance	79	28	35	68	19	28	33%	37%	36%
C3B General Insurance	34	11	32	18	9	50	25%	37%	36%
C4A Superannuation & PS	11	2	18	19	8	42	24%	23%	31%
C4B Superannuation & PS	10	6	60	5	4	80	28%	23%	31%
C5A Invest. Man. & Fin	19	5	26	20	7	35	29%	40%	36%
C5B Invest. Man. & Fin	16	5	31	10	4	40	52%	42%	35%
C10 Comm Actuarial Prac	28	18	64	-	-	-	-	-	-
Total	**416**	**140**	**34%**	**410**	**121**	**30%**	**29%**	**35%**	**35%**

1. 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 34% exceeded the semester one pass rate of 30% and the 2004 pass rate of 29%. The latest pass rate was boosted by the strong result in course 10, CAP, of 64%.

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 specialist courses.
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 recommended passes are adopted by the Council, 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 33.

Category	2005 Semester 2	2005 Semester 1	2004
Pre-2005 system	19	7	51
Post-2005 system	14	-	-
Total New Fellows	**33**	**7**	**51**

CHAIRMAN'S REPORT

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 2005 the Chair and his Assistants were:

Chair	Mr Trevor McMahon
Assistant Chair	Mr Wesley Caine
Assistant Chair	Ms Bozenna Hinton
Assistant Chair	Ms Kim Cossart
Assistant Chair	Mr David Wong.

The Chief Examiners for semester two 2005 were:

Course 1: Investments	Mr Philip Pepe
Course 2A: Life Insurance	Mr David Ticehurst
Course 2B: Life Insurance	Mr David Ticehurst
Course 3A: General Insurance	Mr Philip Chappell
Course 3B: General Insurance	Mr Philip Chappell
Course 4A: Superannuation & Planned Savings	Mr John Hancock
Course 4B: Superannuation & Planned Savings	Mr John Hancock
Course 5A: Investment Management & Finance	Mr Stephen Jackman
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, Wesley, Bozenna, Kim, and David 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 2005 exam process.

- The first meeting was held on 16 June. It was attended by representatives from all Courses (Chief Examiners/Assistant Examiners). The purposes of the meeting were to:
    - review the CE Reports and pass lists from semester one 2005
    - identify Chief & Assistant Examiners for each subject for semester two 2005
    - outline the responsibilities of Chief Examiners and the semester two schedule.

- The second meeting was held on 25 August. It was attended by a representative from all Courses. The purposes of this meeting were to:
    - discuss the status of semester two 2005 examination papers and model solutions
    - discuss the assignment marking procedure
    - discuss changes to the Course Leader roles for 2006
    - discuss the Part III Review report, produced by Professor Tony Baker.

- The third meeting was held on 6 October and was attended by a representative from all Courses. The purposes of this meeting were to:
    - discuss the status of semester two 2005 examination papers and model solutions
    - 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
    - review the recruitment of Course Leaders and Chief Examiners for 2006.

- The fourth meeting was held on 6 December and was attended by the Chief Examiners of all courses. 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
    - review the recruitment of Chief Examiners for 2006.

1.3 Administration and Exam Supervision

The Board of Examiners was ably assisted by the Institute staff. They 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 2005 and the Board of Examiners team is indebted to them all.

The Semester two 2005 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, although some issues arose during the exam period. These included:

1. A change in the venue and time of the exam which one student (or the Institute) was not informed about.
2. An alarm rang for 10 seconds during reading time for Investments in Melbourne.
3. A power failure for about 4 minutes in the Hong Kong venue during 2A. The supervisor noted that the natural light was bright enough for the candidates.
4. The Lane Cove tunnel collapse caused several students to be late for the GI 3A examination. All students sitting their 3B exam in Sydney were contacted (or attempted to be contacted) to inform them of possible delays for the GI 3B exam.
5. There were isolated incidents of outside noise for students who several exams.

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 both semesters for 2005.

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 May 2005 with an initial meeting of Chief Examiners, Course Leaders and some of their assistants. The Chief Examiners' assistants are listed in the individual Chief Examiners' reports.

Question setting

The basic framework followed by each subject to setting exam papers is the same. The semester two 2005 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 ANU staff in the case of Module 4) 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. The draft exams and solutions are reviewed by two members of the BoE team.
- 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.
- The BoE team also sign 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:

- Each question was marked by two markers. For Investments, due to the large number of candidates, three markers marked each question, in teams of two. This meant that each marker marked two thirds of the papers. 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 middle group was reviewed individually by the Chief Examiner. 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 signed off the assignments. The Board of Examiners did not review nor comment on the assignments.

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

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. Course Leaders sample marked 5% of all assignments (or at least one assignment from each marker). Inconsistencies in marks for a candidate were 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 mark or total scaled mark for Course 1.

Assignments were submitted both electronically and in hard copy. The electronic copy was received on the due date and the hard copy (Australian based students only) also received within two days of the due date. This change occurred due to feedback from markers and students about the delay in return of assignments from semester one and limited feedback on the students performance. This process was more efficient than semester one.

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

1.7 Module 4 CAP - The Case Study Process

The CAP course was developed and delivered for the Institute by the ANU who also developed the assessment materials for the course and carried out the marking.

ANU's development and delivery of the course was overseen by the Commercial Actuarial Practice Faulty. For the first session of the course, Ken McLeod 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 practice area Faculties and also by members of the CAP Faculty.

1.8 Examination Centres

Candidates sat the exams in 6 centres in Australia and 12 centres overseas.

Table 1: Candidates by Exam Centre - Semester two 2005

	Number of Candidates
Australia	
Adelaide	1
Brisbane	8
Canberra	5
Melbourne	54
Sydney	234
Perth	2
Overseas	
Canada	1
China	1
Hong Kong	36
Japan	1
Korea	3
Malaysia	14
New Zealand	6
Singapore	23
Sweden	1
Taiwan	3
UK (13 locations)	22
USA	1
Total	416

1.9 Exam Candidature

Candidate Numbers

The number of candidates sitting the Part III exams in Semester two decreased by 4% over the number sitting in 2004, from 432 to 416.

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	Sem 1 2005	Sem 2 2005
1	Investments	136[1]	187	129
2A	Life Insurance	118	61	62
2B	Life Insurance	114	22	28
3A	General Insurance	91	68	79
3B	General Insurance	91	18	34
4A	Superannuation & Planned Savings	25	19	11
4B	Superannuation & Planned Savings	25	5	10
5A	Investment Management & Finance	136[2]	20	19
5B	Investment Management & Finance	118[3]	10	16
10	Commercial Actuarial Practice	na	na	28
	Total	**432 / 854[4]**	**410**	**416**

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.

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 in both semester for 2005. 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 equates to the 'A' component of the new 2005 course and Paper 2 equates to the 'B' component of the 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/or 2 equate to the 2005 Course 5B (Investment Management & Finance).

Candidate Mix

The mix of courses sat by candidates in semester two has changed from semester one. The new Module 1 Investments had a sharp decrease in candidature, with General Insurance and the new CAP course receiving a matching increase. The percentage enrolling in Life Insurance, Super & Planned Savings and Investment Management & Finance was similar to semester one 2006. 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.

Table 5: Candidate Mix by Part III Course – Enrolments Semester two 2005

	Subject	2000	2001	2002	2003	2004	2005 (sem 1)	2005 (sem 2)
1	Investments[1]	33%	31%	24%	27%	32%	46%	31%
2	Life Insurance	27%	26%	26%	27%	27%	20%	21%
3	General Insurance	18%	20%	22%	22%	21%	21%	27%
4	Superannuation & P.S.	8%	8%	8%	6%	6%	6%	5%
5	Investment Mgt & Finance[2]	15%	16%	20%	18%	14%	7%	10%
10	Comm. Actuarial Practice	na	na	na	na	na	na	6%
	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.

Examination Papers and Assignments

2.1 Examination Structure

The structure of the examinations in semester two 2005 was a single three-hour exam paper for Modules 1-3 and a two-hour exam paper for Module 4 (CAP).

Exams for Modules 1-3 were worth 80% of the final assessment. Each course was assessed individually. That is, a candidate chose to sit (and subsequently passed or failed) 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 exam (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 (10%); and, completion of a case study in a traditional practice area, over 8 hours on the course's 6^{th} day (40%).
- 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.

2.2 Assignment / Case Study Structure

The structure of the assignments in semester two 2005 was two assignments for each Module (1-3 only), with each of the two assignments worth 10% of the final assessment.

Module 4 (Course 10 – Commercial Actuarial Practice) included one case study, worth 40% of the final assessment. The case study was completed by candidates on the final day of the residential course, under exam conditions. In addition, general participation in the residential course was assessed at 10%.

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. Following review by the Education Council Committee during the course, only readings subsequently graded as "A" or "B" were assessable in the exam.

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

Table 6: Standards of Difficulty by Part III Course

		Knowledge & Understanding		Simple Judgement		Complex Judgement	
	Subject	Sem 2 2005	Sem 1 2005	Sem 2 2005	Sem 1 2005	Sem 2 2005	Sem 1 2005
1	Investments	22.5%	20%	40.5%	40%	37%	40%
2A	Life Insurance	20%	16%	40%	41%	40%	43%
2B	Life Insurance	22%	19%	37%	40%	41%	41%
3A	General Insurance	21%	21%	42%	40%	37%	39%
3B	General Insurance	28%	20%	39%	40%	33%	40%
4A	Superannuation and PS	22%	26.5%	37%	40.5%	41%	33%
4B	Superannuation and PS	29%	21%	39%	43%	32%	36%
5A	Invest. Management & Finance	31%	28%	33%	36%	36%	36%
5B	Invest. Management & Finance	26%	22%	32%	41%	42%	37%
	Targets	**15% - 25%**		**35% - 45%**		**35% - 45%**	

2.4 Assignment / Case Study 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. As the exam was only worth 80% of the final assessment in semester one 2005, this 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 was KU ("bookwork") and a lower proportion of the assessment was CJ ("complex judgement"), in each semester in 2005 compared to in 2004.

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
The pass rate of 29% in semester two 2005 is a solid improvement over the pass rate of 24% in semester one 2005 and is consistent with the pass rate of 30% in 2004. This course was established in 2005 and had substantial teething problems in semester one, with a very large reading list, assignments delivered late to students, lack of feedback to students on assignments and some general confusion for students. Fortunately, many of these issues have been solved by semester two and students were much happier with the course.

The two assignments and six exam questions were handled well, except for questions 2 and 4 of the exam. The questions were worth 14 marks (9 were CJ) and 20 marks (10 were CJ) respectively and had very low pass rates. These questions were regarded as fair questions by the chief examiner and due to their high "complex judgement" proportion they were used as key questions when reviewing borderline candidates.

Course 2A - Life Insurance
Overall the exam paper acted as a good discriminator, with raw marks ranging from 50 to 113 out of 200. This range was narrower than in semester one (56 to 128 out of 200). Whilst this exam was similar to that in semester one, as evidenced by the breakdown of question difficulty, overall student performance has improved from performance in prior exam periods. It was felt by the chief examiner that this exam was marginally easier than the exam in semester one. The pass rate of 31% was greater than the pass rate of 23% from semester one and 22% from 2004.
Whilst there was less evidence of candidates merely copying points from the textbook and failing to put their comments in context of the question, this problem still does exist. Candidates need to realise the exam is predominantly about applying judgment and not regurgitating points from the textbook.

Some markers commented specifically upon poor exam technique by students and whilst it has improved, there is still room for further improvement.

Course 2B - Life Insurance
Overall the exam paper acted as a good discriminator, with raw marks ranging from 50 to 131 out of 200. This range was wider than in semester one (69 to 136 out of 200). Overall student performance has improved slightly over previous years but is well down from semester one. The pass rate of 29% was well below the semester one rate of 50% but higher than the 2004 rate of 26%. In comparing semester two and semester one performance, the following points are relevant:

- the semester two exam was probably harder than that for semester one because it had harder and longer numerical questions, lower pass marks per question, lower percentages of people passing each question.
- semester one probably had a more experienced and select group of candidates.

It was significant to note that some markers commented upon poor exam technique.

Course 3A - General Insurance
It would appear from the raw marks that candidates found this examination to be slightly easier than the corresponding paper in semester one, with question 5 being an exception. The pass rate in semester two of 35% compares favourably with 28% in semester one and 33% in 2004.

The examiners again attempted to obtain an appropriate mix of questions requiring written explanation and numerical calculation. Numerical calculations formed a proportion of the marks in questions 3, 4 and 5. There was an even focus in this exam on the various units, with a slight bias towards Unit 4, Premium Liabilities.

Questions 1, 2 and 4 were generally straightforward, with solid pass rates. Candidates found questions 3 and 5 challenging. Question 3 was criticised by some candidates and the markers for "cascading", i.e. consecutive parts being dependent upon the previous part, and there was a wide spread of results here, with 30% passing and 35% scoring an E. Question 5, dealing mainly with Unit 4, was felt by the examiners to be a good test of the subject material, but fewer than 10% of candidates passed it. In the view of the examiners, this suggests a significant deficiency in candidates' understanding and potential weakness in the education process for this part of the course.

Course 3B - General Insurance
The pass rate in semester two of 32% is sharply lower than the 50% in semester one but higher than 25% in 2004. It would appear from the raw marks that candidates found this examination to be somewhat more difficult than the previous examination in semester one.

There was again a greater focus on Unit 1, Premium Rating, with substantial parts of the first 2 questions, and a smaller part of the third and fourth, devoted to it. Unit 4, Professionalism, was examined across several questions. This examination required few calculations, but question 4 did require candidates to set out the steps that they would undertake to calculate certain premiums.

Course 4A - Superannuation and Planned Savings
The pass rate was 18% in semester two, compared to 42% in semester one and 24% in 2004. In semester two, 27% of candidates received a grading of C for the exam and 55% received a D. As such, this represents a decline on last semester's overall performance.

Students either clearly passed or clearly failed – there were no borderline candidates. This was also the case when looking at individual questions. There were very few C's awarded (five students received no Cs and another 4 only one C). For each question, students either passed or scored very few marks.Most of the candidates who failed overall did pass one or two questions, but scored a D or E in the other questions. Most of these students passed question one, failed question two and passed one of questions three to five.

Question 2 was a very difficult question and was poorly answered. However, even after discounting results in the question, none of the students who failed came close to a pass. Performance in the financial planning question (question 1) was better than in the financial planning questions last semester (pass rate of 64% compared to 42% for last semester) and probably reflected the fact that the question was more straightforward this time.

Course 4B - Superannuation and Planned Savings A
The pass rate was 60% in semester two, compared to 80% in semester one and 28% in 2004. In semester two, 30% of candidates received a grading of C for the exam and 10% received a D. Performance was similar to last semester, with most candidates passing but with no A's awarded. Students did enough to pass without any being outstanding.

However, this semester there were 2 borderline candidates who did not pass. These candidates did well in some questions but poorly in others, generally getting some of the basic points but not going into enough detail or demonstrate they understood how the information in the course could be applied in practice.

Course 5A - Investment Management and Finance
This exam proved to be difficult for most candidates, although this is not dissimilar to the experience in previous periods. The pass rate of 26% was lower than the 35% rate in semester one and 29% in 2004. The chief examiner and the markers felt the candidates did not perform as well as expected, and the slightly lower pass rate was justified.

None of the students passed a couple of the exam questions. A reduced pass rate in question one allowed 2 students to pass but question 3 was not altered. The feedback from the markers was that students answered these questions poorly. These questions required judgement and the application of principles to slightly unusual real-life situations. Comments from the markers indicated that the students may lack practical experience, may not be able to exercise complex judgement or think holistically. A high standard was required because this course is a more ‘specialist’ course on investments than Course 1 and students should be expected to demonstrate a higher level of knowledge and judgement.

Course 5B - Investment Management and Finance
Performance in this exam has fallen from the previous two exam periods. The pass rate was 31% in semester two, compared to 40% in semester one and 52% in 2004.

Overall the exam paper acted as a good discriminator, with raw marks ranging from 57 to 138 out of 200. However, the candidate standard was poor where practical understanding was required or where the theory studied needed to be related to the real world. The study process needs to relate the in-depth theory studied back to practical applications, in order to provide candidates with useful skills.

There was a significant gap between the passing candidates and the remainder. 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.

Course 10 – Commercial Actuarial Practice
The Commercial Actuarial Practice (CAP) Course was conducted for the first time in semester two 2005. 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 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% (18 candidates) was achieved and a further 22% (6 candidates) received a pass on only one of the assessment pieces.

Overall, most of the students produced a case study report that was well set out and that communicated their recommendations clearly, although some did not provide the analysis that backed up their recommendations. Across the different subjects, those that passed were the ones that showed an understanding of the main technical and business issues.

Overall, the pass rates in the exam were quite good, although many students scored in the 50s and low 60s. The average marks in the exam were lower than in the case study. This showed a sound understanding of the basic issues, but students did not typically reveal a strong understanding of the context presented by the non-traditional exam questions.

The quality of the answers in the exam was lower than for the case study. This was to be expected given that the case study focused on one area where students were expected to have specialist knowledge and where they were given 8 hours to prepare a properly-structured, typed report. By contrast, the students were given only 2 hours to answer two questions in the exam and were not expected to demonstrate specialist knowledge. The standards required by the markers reflected these differences.

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 will 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	2000	2001	2002	2003	2004	2005-1	2005-2
1	Investments[1]	28	30	29	44	39	45	38
2A	Life Insurance	37	30	33	31	21	14	19
2B	Life Insurance	37	30	33	31	21	11	8
3A	General Insurance	17	20	26	33	23	19	28
3B	General Insurance	17	20	26	33	23	9	11
4A	Superannuation & P.S.	11	8	8	6	6	8	2
4B	Superannuation & P.S.	11	8	8	6	6	4	6
5A	Invest. Mngmt & Finance[2]	28	30	29	44	39	7	5
5B	Invest. Mngmt & Finance[3]	14	18	21	31	22	4	5
10	Comm. Actuarial Practice	-	-	-	-	-	-	18
	Total (pre 2005)[4]	**107**	**106**	**117**	**145**	**111**	**n/a**	**n/a**
	Total (post 2005)	**200**	**194**	**213**	**259**	**200**	**121**	**140**

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.

Table 8: Recommended Pass Rates by Part III Course

	Subject	2000	2001	2002	2003	2004[4]	2005-1	2005-2
1	Investments[1]	27%	33%	36%	40%	30%	24%	29%
2A	Life Insurance	45%	38%	38%	28%	22%	23%	31%
2B	Life Insurance	45%	38%	38%	28%	26%	50%	29%
3A	General Insurance	31%	34%	36%	37%	33%	28%	35%
3B	General Insurance	31%	34%	36%	37%	25%	50%	32%
4A	Superannuation & P. S.	44%	35%	31%	23%	24%	42%	18%
4B	Superannuation & P. S.	44%	35%	31%	23%	28%	80%	60%
5A	Invest. Mngmt & Finance[2]	27%	33%	36%	40%	29%	35%	26%
5B	Invest. Mngmt & Finance[3]	31%	38%	31%	42%	52%	40%	31%
10	Comm. Actuarial Practice	-	-	-	-	-	-	64%
	Total	**35%**	**35%**	**35%**	**35%**	**29%**	**30%**	**34%**

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 34% exceeded the semester one pass rate of 30% and the 2004 pass rate of 29%. The latest pass rate was boosted by the strong result in course 10, CAP, of 64%.

The pass rate for Course 10, Commercial Actuarial Practice (CAP), of 64% was significantly higher than the average pass rate for Modules 1-3 of 31%. The Board debated this with the CAP Chief Examiner, considering the need to have consistent standards across all subjects. In the end, the Board was satisfied with the pass rate for CAP. The key points discussed with the CAP Chief Examiner were:

- 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 i.e. 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. It was noted that CAP candidates that had not already passed modules 2 and 3 for a specialist subject mostly failed the case study part of the assessment.
- The actual pass rate achieved of 64% was close to that expected at the outset of the semester.
- Each assessment piece was double marked by ANU staff and then reviewed by the CAP Chief Examiner. To ensure consistency across the different subjects, one of the ANU 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 discussed in detail the comparability in assessment standard between 2004 and 2005 and the general consensus was that the standard applied was the same. Part of the standard appeared notionally harder as the requirement of passing "50% +1" questions on a six question exam translated as passing 4/6, while this translated to 7/12 on twelve questions over two papers (the average number for prior years), thus increasing the passing standard by 8%. This apparent increase was taken into account by each Chief Examiner in assessing candidates' results, especially for the borderline group. Note that other criteria are also used to assess students not only the number of questions passed (see Section 3.4 below) and these criteria have not changed between 2004 and 2005. The Board agreed that the standard as applied was ultimately the same as in previous years.

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

	2000	2001	2002	2003	2004	2005 - 1	2005 - 2
Sydney	35%	37%	37%	40%	28%	33%	43%
Melbourne	27%	38%	32%	32%	38%	33%	30%
Other*	42%	31%	32%	30%	15%	21%	19%
Total	**35%**	**35%**	**35%**	**35%**	**26%**	**30%**	**34%**

* 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 significantly lower than the overall pass rate for the Sydney/Melbourne examination centres (19% compared with 41%).
- The pass rate in Sydney, the largest centre with 43% of all candidates, was higher in 2005, compared with previous years.
- A total of 80 candidates sat for examinations in Hong Kong, Singapore, Japan, Korea, China, Taiwan and Malaysia for 9 passes from 80 attempts (11% pass rate).
- There were 3 passes in New Zealand from 5 attempts (60%).
- There were 8 passes in the United Kingdom from 22 attempts (36%).

3.4 Pass Marks and Scaling

The scaled pass marks from 2000 to 2004, out of 400 marks, have been as follows, together with the scaled pass marks for 2005 Semesters one and two, out of 200 marks:

Table 10: Scaled Pass Marks by Part III Course

	Subject	2000	2001	2002	2003	2004	2005 - 1[4]	2005 - 2[4]
1	Investments[1]	222	224	215	216	220	103	114
2A	Life Insurance	240	224	225	231	224	121	115
2B	Life Insurance	240	224	225	231	224	123.5	110
3A	General Insurance	224	231	229	230	225	117	109
3B	General Insurance	224	231	229	230	225	116	112
4A	Superannuation & P.S.	221	203	250	250	230	111	115
4B	Superannuation & P.S.	221	203	250	250	230	112	115
5A	Invest. Mngmt & Finance[2]	222	224	215	216	220	120	107
5B	Invest. Mngmt & Finance[3]	225	230	239	251	236	110	108
10	Comm. Actuarial Practice	-	-	-	-	-	-	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 2005 Exam is only one paper, and is 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 2005 Semester two was:

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

	Subject	Raw	Scaled
1	Investments	105	114
2A	Life Insurance	101.5	115
2B	Life Insurance	97	110
3A	General Insurance	106	109
3B	General Insurance	96	112
4A	Superannuation & Planned Savings	115	115
4B	Superannuation & Planned Savings	115	115
5A	Investment Management and Finance	100	107
5B	Investment Management and Finance	108	108

The same pass criteria were applied as in 2004, with adjustments as necessary to allow for the reduced number of questions from a single paper. Following the recommendation from the 2003 BoE Report, a study was made of recent pass criteria across the different subjects and years.

The BoE team subsequently agreed to use consistent pass criteria for all subjects. These have been updated to 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.

In addition, from Semester one 2005, the exam result was then weighted by 80% and combined with an assignment weighting of 20%, to give an overall grade including the assignment result.

This initiative in setting consistent pass criteria was quite successful and has meant the range of scaled marks reduced from 216 – 251 out of 400 in 2003 (i.e. a range of 35) to 220 – 236 out of 400 in 2004 (a range of 16).

The range of scaled marks in Semester one 2005 was very high, being 103 - 123.5 out of 200, a range of 20.5 marks. This was due to two factors – the low scaled mark for Investments and the very high scaled marks for Life Insurance 2B. The range of scaled marks for Semester two 2005 was much lower, being 107 – 115 out of 200, a range of 8 marks. This gives the Board some comfort that subjects have been treated consistently.

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:

(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 have to pass Module 1 (Investments), one complete specialist subject (Module 2 and Module 3) and Module 4 (Commercial Actuarial Practice).

If the recommended passes are adopted by the Council, 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 33.

Category	2005 Semester 2	2005 Semester 1	2004
Pre-2005 system	19	7	51
Post-2005 system	14	-	-
Total New Fellows	**33**	**7**	**51**

Recommendations for Semester One 2006

4.1 Board of Examiners

As this is the first time that Part III exams will be run twice in a calendar year it is proposed that there be two sets of examiners. The recommended constitution for the Board of Examiners for semester one 2006 is as follows:

Chairman and Assistants	
Chairman	Ms Bozenna Hinton
Assistant Chairman	Ms Kim Cossart
Assistant Chairman	Mr David Wong
Assistant Chairman	Mr Trevor McMahon
Assistant Chairman	Mr Wesley Caine

Chief Examiners	
Course 1: Investments	Mr Philip Pepe
Course 2A/2B: Life Insurance	tbc
Course 3A/3B: General Insurance	Mr Craig Price
Course 4A/4B: Superannuation & Planned Savings	tbc
Course 5A: Investment Management & Finance	tbc
Course 5B: Investment Management & Finance	Mr Brad Milson

4.2 Examination Dates

The dates for the examinations in semester one 2006 are as follows:

Semester 1 2006			
Module 1	Investments -	Mon	8 May am
Module 4 (10)	Commercial Actuarial Practice -	Mon	8 May pm
Modules 2/3 (2A/2B)	Life Insurance -	Tues	9 May am and pm
Modules 2/3 (3A/3B)	General Insurance -	Wed	10 May am and pm
Modules 2/3 (4A/4B)	Superannuation & Planned Savings -	Thurs	11 May am and pm
Modules 2/3 (5A/5B)	Investment Management & Finance -	Fri	12 May am and pm

4.3 Exam Solutions

The Board of Examiners has agreed to release the semester two 2005 examination papers along with the examination specimen solutions and marking guides. The 2005 examination papers have already been published on the Institute website and it is recommended that the exam solutions and marking guides be released on 12 January 2006 or as close to this time as possible.

Trevor McMahon
Chair, Board of Examiners
14 December 2005

CHIEF EXAMINERS' REPORTS

Course 1: Investments

Results Summary

136 candidates enrolled for the 2005 semester 2, course 1 exam. Of these, 7 did not sit the exam. The assessment comprised two assignments each worth 10%. The exam comprised the remainder 80%.

It is proposed that 38 candidates be awarded a pass, which implies a pass rate of 29% (i.e. 38 / 129). The pass rate for semester 1 was 24%.

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	98	37	38%
Overseas	31	1	3%
Overall	129	38	29%

Examiners

Examiners for this semester were:

Chief Examiner: Philip Pepe
Assistant Examiner: Sam Kouroupidis
Assistant Examiner: Stephen Woods
Assistant Examiner: Kumaran Yogaranandan

Degree of Difficulty and Course Coverage of Exam and Assignments

The degree of difficulty of questions and course coverage for the exam is summarised in the table below.

Question	Syllabus Topic	Units	Knowledge & Understanding ("KU")	Straight-forward Judgement ("SJ")	Complex Judgement ("CJ")	Total Marks
1a	2,2	1,2	3			3
1b	2,2	1,2	3			3
1c	2,2	1,2		4		4
1d	2,2	1,2		2		2
2a	2	2		5		5
2b	2	2			4	4
2c	2,7	2,6			5	5
3a	3,3	2,6		3		3
3b	3	6			7	7
3c	3	6		5		5
3d	2	7	1	3		4

4a	2	5		2		2
4b	1	4		6		6
4c	2	4			5	5
4d	2	4			5	5
4e	5	5	2			2
5a	5	2	4			4
5b	5	2		5		5
5c	5	2		4		4
5d	5	2			3	3
6a	1	8	4			4
6b	1	8	1.5	1.5	2	5
6c	1	8			6	6
6d	4	2	4			4
TOTAL			**22.5**	**40.5**	**37**	**100**

Based on the table above, it is noted that questions 2 and 4 out of all the exam questions had the heaviest emphasis towards SJ and CJ type marks, with little or no KU type marks. These two questions are considered to be the best differentiators of better candidates. This is elaborated on below.

Question by Question Analysis

Question 1

Students were required to describe the main objectives and activities of the RBA and consider the independence of the RBA from the Government.

This question was of average difficulty. The proportion of candidates passing this question was 38% (based on candidates who attempted this question).

a) This was a simple book work question, normally copied out directly from the notes. It was mostly well handled however some candidates mentioned only monetary policy without stating the objective of it That is, controlling inflation within the 2-3% target range.

b) Some candidates listed out many RBA's activities, but forgot to refer back to its main objectives from part a). Others focussed only on monetary policy and ignored the RBA’s monitoring/regulatory role with respect to the stability of the financial system and payment system.

c) Not many candidates had a good grasp of exactly how monetary policy impacted the short term interest rate. Candidates fared better in explaining how longer term interest rates are impacted.

d) The majority of the candidates scored at least 1 mark by stating that being independent allows the RBA to achieve its objectives without intervention from the government.

Question 2

Students were required to discuss the recent shape and movement of the yield curve. Students were also questioned on zero coupon yield curves and how a CGS portfolio might have been constructed in light of recent yield curve movements.

This question was difficult. This was borne out in the passing proportion of students of 12%.

2a) The quality of answers here was highly variable. Most students knew the yield curve theories (some considered risk premiums and convexity without mentioning liquidity or market segmentation). Many students failed to link these theories to the situation outlined in the question or understand the relative importance of each of the theories. It was also clear that many students did not have a good feel for the macroeconomics relevant to yield curves.

2b) This was answered reasonably well. Almost all students understood what a zero coupon yield curve was and how to derive through bootstrapping or recursive calculations from coupon bonds (though some did not provide an appropriate formula). Marks were lost for failing to explicitly mention that zero coupon bonds could be created from coupon bonds. Students did not achieve full marks where they did not indicate knowledge of some subtleties such as tax effects or a need to average/fit (since calculations using different bond issues will provide different spot rates).

2c) This question was answered very poorly, particularly for calculations (which were not attempted in many instances despite explicit instruction). Because no coupon figures were supplied for the bonds this probably threw many students from calculating bond values. The time dimension also threw many students with interim yield values supplied as well as final yield values. Nevertheless, a basic understanding of bond price responses to changes in yield (given duration) should have been enough to obtain a correct conclusion and provide a basis for reasonable calculations. Many students considered yield changes without considering duration.

Students fared particularly poorly in the areas which were not just bookwork. These were mainly parts b) and c). Also, students either didn't read the question carefully or didn't know what to say so simply provided all the information they knew, which is counter productive when under time pressure. For example, part c) required specific aspects of the mandate to be spelt out but many students just put down what would be in any generic mandate, not relating it to the specific client circumstances.

Question 3
For this question students were required to discuss the philosophy adopted by an equity manager.
This question was relatively well handled, with the passing proportion of students at 40%.

a) This was generally answered well. Many candidates went into too much detail on the EMH (3 variations), when the marks did not warrant it.

b) This was consistently poorly answered. Many candidates interpreted the question as asking for the need to either support or contradict, but not reasons for both. Very few (if any) candidates scored well when discussing contradictions.

c) and d) These were reasonably well answered, and this was expected given that these parts were more akin to book work.

Question 4
This question concerned the setting up of a capital guarantee for an Australian equities, cash and associated derivatives product using a replication strategy.

This question was difficult. Accordingly, the passing proportion of students was 19%.

a) Few students answered this question well because few made a comparison against replication strategies. Many students focussed on general risks with using options. Most students discussed basis risk, counterparty risk, roll risk, imputation and tax benefits which are valid but not the main issue. Also, students did not display a strong knowledge of how option pricing works.

b) Most students talked about the BS model assumptions (e.g. constant volatility). Few discussed gapping or rebalancing. Most students misunderstood the question, confusing capital guarantee with a minimum return guarantee.

c) For this part, most students recognised that stock returns were not log normal, were fat tailed, had serial correlation and mean reversion characteristics which should be incorporated.

d) Few students incorporated rebalancing when describing the model, instead generally discussing modelling the asset and modelling the liabilities. Though most recognised the need to hold sufficient capital, few recognised that a return on the bank’s capital was required. Most discussed a need to incorporate a "profit margin" or asset management fees.

e) Better candidates recognised that derivatives could be used to adjust equity exposure quickly.

Question 5
This question revolved around the divergent views around currency hedging and required students to take a view on whether this should be implemented for a large corporate superannuation fund.

This question was poorly answered, with the passing proportion of candidates at 26%.

a) Most answers just gave a list of the advantages and disadvantages of hedging, neither of which directly address the divergent views on hedging. The question discusses "regret". Only the better answers mentioned this.

b) This part was better answered than the remainder of the question. Many answers missed options and the point of the question was to compare forwards and options. Some answers were to determine the optimal hedge ratio which totally missed the point of the question.

d) This part was also well answered. Few answers explicitly mentioned that currency was a zero-sum game or that the expected return is zero. Many also missed the fact that hedging generally removes the upside gain as well as the downside loss.

d) Students were awarded one mark for specifying any definite view, though some students didn't even do that.

Question 6
The aim of this question was to test whether students understood benchmarking, as well as the sources of return. The question also addressed direct property versus listed property.

This question was best handled question, with the passing proportion of students at 57%. Parts a) and d) were well handled as these largely required book work type responses. With respect to part b), candidates generally listed appropriate benchmarks. Many students, however, failed to mention that the overall allocation needed to be adjusted in conjunction with fund distributions. For part c), candidates generally repeated the standard asset and stock selection attribution formulae. Marks were awarded for this. Generally, candidates were not penalised for failing to discuss the issue of ambiguity in performance measurement, which many failed to address.

Philip Pepe
Chief Examiner

Kumaran Yogaranandan
Assistant Examiner

December 2005

Course 2A: Life Insurance

Results Summary

There were 64 candidates enrolled for the November 2005 exam. Of these, 2 candidates did not present at the exam. It is proposed that 19 candidates be awarded a pass, which implies a pass rate of 31%. This compares to a pass rate of 23% from the May examination session.

In summary:

	Number of candidates
Originally enrolled	64
Absent from exam	2
Presented at exam	62
Passed	19
Failed	43

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	29	6	21%
Overseas	33	13	39%
Overall	62	19	31%

Examiners

The examination team was expanded to cope with the additional resource requirements for 2005. Examiners for the 2A course this semester were:

Chief Examiner: David Ticehurst
Assistant Examiner: Owen Wormald and Puvan Arulampalam
Course Leader: Sue Howes

Degree of Difficulty and Course Coverage

The analysis of the degree of difficulty of exam questions is as follows:

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	2,3,4,6,7,12	2	3	7	**12**
2	1,2,6,7,11	7	6	8	**21**
3	2,4,6,11	1	12	7	**20**
4	2,3,6,13	6	9	3	**18**
5	2,4,7,8,11,12	0	6	8	**14**
6	1,2,3,6,7,9,12	4	4	7	**15**
Total		**20**	**40**	**40**	**100**

The degree of difficulty would suggest that this exam was marginally easier than those from prior years, with the overall allocation within the permissible range.

Overall Performance

Overall the exam paper acted as a good discriminator, with raw marks ranging from 49.7 to 112.7 out of 200. This range was narrower than May (56.3 to 128 out of 200). Whilst the exam this year was similar to May, as evidenced by the breakdown of question difficulty outlined above, overall student performance has marginally improved from performance in prior years.

It is difficult to quantify why the pass rate over recent examination sessions has remained below historical averages in this subject.

Whilst there was less evidence of candidates' merely copying points from the textbook and failing to put the comments in context of the question, this problem still does exist. Candidates need to realise the exam is predominantly about applying judgment and not regurgitating points from the textbook.

Few markers commented specifically upon poor exam technique and whilst it has improved, there is still room for further improvement.

Question by Question Analysis

Question 1 (12 Marks)

In this question candidates were presented with a scenario where there had been a significant movement in the overseas equity market (20% decline). A similar movement was expected to occur in Australia the next day and candidates were required to assess the impact on the deferred tax provision for unit pricing, evaluate the CFO's suggestion regarding the use of the deferred tax provision and assess the impact on investment performance (as measured by the change in unit price) if the suggestion was not implemented.

This question was answered poorly as indicated by the low proportion of candidates passing this question. The markers were surprised by this result given the current amount of discussion within the industry on unit pricing. The markers felt there were a number of easy marks available to the candidates (2 marks for the DITL, 1 for format, 1 for a recommendation and 1 for equity) and the pass mark could not be set any lower without losing any discriminatory power for the question.

Part (b)(i) and part (c) were particularly poorly handled by the candidates. In part (b)(i) the average mark was 1.2 out of 3 (excluding the mark available for formatting) and in part (c) the average mark was 0.0 out of 3 (57 candidates scored 0). Upon reflection the question for part (c) could have been better written. Although not commented upon during any of the scrutineering or review process, phrasing the question as "investment performance (as measured by the change in the unit price)" may have given candidates more direction. However, as all candidates performed the same no adjustments were made during the assessment process.

Common errors made by candidates included:

- A surprising number of candidates thought that the Deferred Tax Liability would reduce by 20%.

- Nearly all candidates assumed the transfer of FITB was to occur for ZERO compensation – most correctly said this was not equitable but did not go into the next step of commenting on the value to ascribe.
- Only a few students even mentioned that the DTL could be held at a discounted value.
- Only 1 student seemed to be aware of the concept of a "non earning " asset, unfortunately they didn't really go on with any explanations to justify anything.
- Many introduced incorrect actuarial issues – suggesting the process would affect resilience, solvency etc.
- Worries that the ATO would object (they only ever worry about current tax and couldn't care about equity).

Question 2 (21 Marks)
In this question candidates were presented with the results from an experience investigation for a disability income product. Candidates were asked to comment on the results, comment on further investigations required, actions that could be taken to improve the future experience and recommend actions to improve the future profitability of the product.

This question was the best answered question in the exam with over 50% of the candidates passing this question.

In part (a) candidates had little trouble commenting on the incidence experience. However, many candidates had trouble commenting on the termination experience. Many of the A/E termination ratios were less than 1 indicating poor experience, whereas many candidates commented that termination experience had been better than expected.

For part (b) candidates were generally to provide a number of relevant points, although most struggled to cover the claims management process in sufficient detail.
Parts (c) and (d) presented little difficulty to most candidates.

Question 3 (20 Marks)
In this question candidates were asked to evaluate risks associated with the development of an AIDS only product for the South African market. Specific knowledge of South Africa was not required as candidates were provided comparative information with the Australian market, which highlighted some of the significant problems in the South African population. Candidates were required to discuss the issues might arise for such a product at the issue of the policy, over the life of the policy and at claim time. Candidates were also required to identify rating factors for underwriting this product and what issues would be associated with these rating factors. The final part of the question was to determine an incidence rate based on data provided.

Based on the proportion of candidates passing, this was one of the better answered questions by the candidates in this exam.

In Part (a)(i) candidates did not cover enough points with just under a third of candidates able to produce 2 valid points. Parts (a)(ii) and (a)(iii) were both poorly answered with candidates on average producing only 1 point.

Part (b) covered rating factors and was generally well answered, with candidates achieving the majority of their marks from this part.
Part (c)(i) required candidates to calculate an incidence rate from the data provided, Just under half the candidates were successful in this task. In the next part candidates were required to discuss what adjustments were required to the incidence rate. Candidates in general struggled with this part with the candidates on average only covering two points (the best solution covered 4).

Question 4 (18 Marks)
This question was based on a Term Allocated Pension product. As this is a relatively new product on the market a description on many of the features was provided. As product actuary candidates were asked to provide advice/comments on:

- for the sales force, the circumstances in which commutations would be permitted;
- for administration, the information required at the time of commutation;
- for customer service, the information the company should supply at the time of commutation;
- the important considerations in setting a surrender value basis;
- how commutations could be incorporated into the pricing model.

The markers commented that it was a fairly straight forward question relating to commutations of term allocated pensions. The question as a whole had a strong practical focus which meant that it benefited candidates working in the life insurance area, and exposed those with little practical experience. The practical focus did not relate to the specific product covered in the question.

Overall, the question was not well answered, with an average raw mark of less than 50%. About a quarter of candidates were awarded a pass grade. The standard deviation for each marker was about 2.5, indicating the question had moderate discriminating power.

General comments on the answers:

- In part (a), few candidates seemed to realise that the ability to commute would be driven by legal requirements rather than company policy.
- A number of candidates made comments that would have made sense for lifetime annuities but which were inappropriate for term allocated pensions.
- The answers to parts (b) and (c) generally showed poor understanding of the administrative processes of life offices. Many candidates missed out on a couple of easy marks by not stating the obvious.
- In part (d), most candidates were able to accumulate some marks by quoting the surrender value considerations listed in the text book. However, answers tended to be very general and didn't directly address the issues that apply to term allocated pensions. In particular, some candidates didn't demonstrate awareness that term allocated pensions are an investment-linked product (even though this was stated in the question).

Question 5 (14 Marks)

In this question candidates were presented with a new risk product for customers who have tested positive for certain genetic traits, which in nearly all cases results in death by age 60. Candidates were asked for the main considerations for each of the following stages of product development:

- Mortality assumptions to be used;
- Pricing the product;
- Underwriting the product.

Candidates were then asked to recommend changes to result in a more viable product.
The pass mark was set quite low in this question (5.5 out of 14). This did not surprise the examiners, as when developing this question there was considerable debate whether the points in the solution should be worth 1 mark or 0.5 mark per point. Given the number of points available in the solution the Board of Examiner review recommended 0.5 mark per point. However, if as expected, candidates presented solutions expecting 1 mark per point (therefore presenting insufficient points) the overall pass mark could be lowered to reflect. The marking experience reflected that this was indeed the case. In future exams, the expectation of the examiners could be better expressed in the question by specifying the number of points to be discussed e.g. "Discuss 8 issues associated with…" for a 4 mark question.

General comments on the answers:

- Many students missed easy marks in (a)(i), e.g. "the standard mortality table is inappropriate", as well as the various sources of data, as well as the need to consider different types of diseases.
- Many students applied the "list everything" approach in (a)(ii), rather than thinking about the issues of this particular question.
- In (a)(iii) many students missed the fact that standard underwriting is still required.
- In part (b) many students suggested that coverage be limited to the genetic disease - not a valid answer. Most students picked up on age restrictions.

Question 6 (15 Marks)

This question tested knowledge of the Life Insurance Act 1995, regulatory responsibilities and powers and the taxation of life insurance investment business. The company in question had failed to lodge its annual returns and FCR in time (due to the resignation of the previous Appointed Actuary). Candidates were asked to discuss what options were available to the regulator and why it might not invoke these options in these circumstances.
Candidates were also provided a section of the draft FCR relating to the cessation of the transitional tax period. There were then asked to explain what this meant to the company and what advice you would provide to the company, which was continuing to write significant levels of new business.

As with Question 5, parts of this question were based on 0.5 mark per point and candidates did not write sufficient points. Consequently the pass mark was again lower than what might normally be expected on a 15 mark question. Despite this issue the markers found the question had good discriminatory power.

General comments on the answers:

- Part (a) was viewed as a real "gimme" mark.
- Part (b) required candidates to specify what general powers are available to APRA to remedy the situation. Around 20% of candidates did not grasp the meaning of the question and zeroed in on the provisions that the Company had not met (eg. not replacing the AA in the required timeframe and not submitting reports to APRA) but did not mention what provisions enabled APRA to take remedial action. Many only mentioned one or two provisions and none got all six. A number of papers made statements that APRA could revoke the company's licence or suspend new business without mentioning any of the lesser steps.
- Part (c) required candidates to state why APRA might not use their full range of powers in this case. Most candidates put 3-4 bullet points, of which 2-3 were valid.
- Parts (b) and (c) were where candidates generally failed to write sufficient points compared to the marking guide.

Part (d) was viewed by the markers as the hardest part of the question and a good differentiator overall. Comments conveyed by the markers in relation to this part include:

- Only one candidate got the 1 mark available for correctly identifying that because it was a Group policy, all new business sold was deemed to have a pre-30 June 2005 commencement and therefore was covered by the transitional arrangements.
- No candidate accurately gave the background to the transitional arrangements and an explanation of why & how these were applied and very few got the Ralph review background.
- Most candidates gained ½ or 1 mark for stating that new business profitability was reduced, with the full mark given if the explanation was reasonable. Most candidates gained the 0.5 mark for stating correctly the change to the treatment of assessable income, although none mentioned that expense deductibility was also changed and the reasons for the changes weren't particularly described well. These points were mostly "gimme" marks in any case, since the question itself gave a lot of the key information.
- Some candidates went off on a tangent about deferred tax and DAC, while many incorrectly assumed that the product was now loss-making and therefore solvency issues would arise, when in fact the product was only less profitable and should only threaten shareholder returns.

Part (e) required candidates to state what advice they would give to the company. Many candidates gave advice that was really just a statement of what the situation was, e.g. profitability had declined and there were taxation and competitiveness issues. These candidates did not recommend what steps to take, whereas better candidates focused on remedial actions.

Most candidates got a mark for "re-pricing the contract" and one other (e.g. good solvency position) but many got no other marks. A lot wrote "cease new business" on the false assumption that the product was now loss-making. This should have been expanded to "quantify the amount of business the company wishes to sell" and could have been marked negatively as a simplistic over-reaction to the Company's situation.

David Ticehurst
Chief Examiner – Life Insurance Course 2A, November 2005 Exams
10th December, 2005

Course 2B: Life Insurance

Results Summary

There were 29 candidates enrolled for the November 2005 exam. Of these, 1 candidate did not present at the exam.
It is proposed that 8 candidates be awarded a pass, which implies a pass rate of 29%. This compares to a pass rate of 50% from the May examination session.

In summary:

	Number of candidates
Originally enrolled	29
Absent from exam	1
Presented at exam	28
Passed	8
Failed	20

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	12	6	50%
Overseas	16	2	13%
Overall	28	8	29%

Examiners

Examiners for this semester were:
Chief Examiner: David Ticehurst
Assistant Examiners: Dennis Mosolov
Assistant Examiner: Brett Cohen
Course Leader: Sue Howes

Degree of Difficulty and Course Coverage

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

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1,2,3,6,7,10	4	7	0	**11**
2	4,10,11	7	7	5	**19**
3	1,2,4,5,11,13	8	0	9	**17**
4	1,2,4	0	10	16	**16**
5	5,6,8,12	0	6	11	**17**
6	5,7,9	3	7	10	**20**
Total		**22**	**37**	**41**	**100**

The degree of difficulty would suggest that this exam was comparable to those from prior years. However, examining the pass marks for each question indicated that the candidates found this exam to be much harder than the May 2005 exam. The pass mark for each question (as a proportion of the total marks available) is much lower than the May exam, along with the proportion of candidates passing.

The reasons for this possible outcome include:

- In the May exam, the numerical questions were easier and shorter e.g. the analysis of profit component was only 4 marks compared to much larger questions in the past. In November exam, they were a little bit longer and more complex.
- In the May exam a much easier analysis of profit question than in the past. In November the candidates had to analyse the movement in the excess assets above solvency.
- In May less questions involving calculations requiring practical knowledge.
- In May the significant drop in the number of candidates sitting the subject (100 less candidates than 2004) resulting in a more select group, most likely repeating students and only those candidates working in this field sitting the exam. This may not have been the case in November, as it may have included candidates sitting the exam for the first time (following the passing of 2A in May).
- After the May exam, some candidates have already posted comments on the discussion forum noting that they thought the exam was easier than previous exams.

Overall Performance

Overall the exam paper acted as a good discriminator, with raw marks ranging from 50.3 to 131.3 out of 200. This range was wider than May (68.5 to 136 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 slightly over previous years but is well down from May.
The "Question by Question Analysis" section identifies common mistakes by candidates. It was significant to note that few markers commented upon poor exam technique.

Question by Question Analysis

Question 1 (11 Marks)

This question was about the calculation of the MoS policy liability for a block of annuity business, where the investment department had improved the match position of the portfolio. Candidates were also provided past historical investment performance results.
Candidates were asked expected to comment on the benefits of the improved matched position, what interest rate might they use for the valuation and how their choice (assuming an increase) would impact the policy liability and profit margin.

This question was reasonably well answered as indicated by the proportion of candidates passing and an average mark just below the pass mark. The pass mark was quite high but the markers felt that this was quite an easy question and this mark was required to differentiate between the candidates.
For part (a) the markers noted that:

- most picked up that resilience reserves were reduced with some candidates commenting on why they reduce;
- most picked up on the lower volatility;

- some candidates commented upon the better liquidity with assets maturing when liabilities fall due;
- no candidates commented on a lower risk discount rate.

Part (b) was poorly answered with many candidates not linking their recommendation to the facts stated in the question (increasing returns, active asset management). This part discriminated between candidates passing the question.
Part (c) was well done by candidates. Around half the candidates achieved full marks and the average mark was 2.9 (out of a possible 4). Some candidates argued that the change in assumption was due to changes in the management of the portfolio, rather than due to underlying economic conditions. This was in part correct, however ignores the fact that the benchmark and risk-free rates also increased over the period from 1999. Provided this was well argued some marks were awarded.

Question 2 (19 Marks)
In this question candidates were given a scenario where a funds management company wanted to purchase a life insurance company. Candidates were supplied the valuation basis for a single premium investment-linked product. Using this basis they were required to calculate the value of new business for this product. The next part of the question required the candidates to comment on the appropriateness of various components of the assumptions.
In the final part of the question, there was a fall in the value of the equities. Candidates were asked how this might impact the value of the participating traditional product.
As indicated by the pass rates in the above table this question was not well answered. However, the question proved a good discriminator as indicated by the spread of students across each grade and the standard deviation. The markers commented upon poor examination technique in answering this question and wondered whether many candidates left this question to last as many appeared pressed for time. The issue of time was raised during the scrutineering process and consequently, the examiners shortened the question and increased the marks allocated to the question.
For part (a) the overall numerical quality of the answers was low with a number of candidates presenting solutions indicating they did not understand the basics of the profit calculation for an investment-linked policy. (This also came through in question 6). It was also apparent that some students had not read the question sufficiently (for example around the treatment of start year / end year cashflows).
Part (b)(i) was generally well answered by candidates with a good 'rule of thumb' knowledge of capital levels for an investment-linked contract. However, some candidates failed to answer the question in full by not providing an impact of the change in capital on value of new business.
In part (b)(ii) candidates generally made sensible suggestions about the level of the growth rate, yet their justification for these suggestions was often less robust, with students demonstrating a lack of familiarity with the Australian market.
For part (c) most candidates understood that the impact would cause the Appraisal Value to fall. However, many candidates failed to demonstrate an understanding of the impact in the context of a participating book of business. A number of candidates repeated excerpts from standard readings (e.g. the 3 components of an Appraisal Value) without any accompanying useful analysis directed at the question being asked.

Question 3 (17 Marks)
This question required candidates to assess the impact of changes to liability valuation and capital requirements for a multinational insurance company operating in the Asia Pacific region.

The question was not well answered. There were some good answers to part (a) that were followed by poor answers to part (b). Too many candidates did not get the point of part (b). The markers thought that while it was a good test of deep understanding of the subject, that it may have been too tough under exam conditions. Consequently, the question was not a good discriminator between the borderline candidates.

Question 4 (16 Marks)
In this question candidates were presented with two types of disability income products (mainly different benefit periods) and the BEL at inception for a standard policy for each product.
Candidates were required to comment on why the BEL was different for each product and what this meant for future profit. Part (b) concentrated on why assumptions might be different for the two products. In part (c) candidates were required to comment how each of the two products could impact the Solvency Requirement.

The examiners did not consider this to be a difficult question and were surprised that this question was poorly answered. The pass mark originally set by the markers was higher than the above table (the pass mark was originally 20). With the higher mark only 3 candidates passed and 3 candidates achieved C's. As Chief Examiner I discussed with the markers the criteria used to set the pass mark. I agreed that their methodology was appropriate.

However, upon further analysis it was possible to identify that not a single candidate achieved some of the specific points in the solution. In these circumstances the examiners decided to reduce the marks required to pass the question from 20 to 16. To confirm this was appropriate, a number of answers were reviewed. The examiners were satisfied by this review that it was appropriate to reduce the pass mark.
In part (a) candidates forgot to state the obvious, with only around half the candidates stating that the policy liability, at inception, is zero.
Part (b)(i) was not well answered. Many students seemed to miss the point entirely and discussed benefit expiry instead, or termination rates. The question was about assumptions. To include 100% termination rate, for policy A, after a benefit period of 2 years is not an assumption, but rather a policy condition.
For those candidates on the right track there was still confusion as to whether policyholders under Policy A or B would have more incentive to return to work. A number of candidates thought those under Policy B would have less incentive due to the longer benefit period and would just stay on claim until age 65, with no intervention from the life company! Most students failed to realise that active claims management can increase termination rates significantly (and reduce claims costs). The company would concentrate more on policy B claims, because of their higher potential claims costs.
Part (b)(ii) related to renewal expenses. Many students either focussed on claims expenses or other expenses and not on both. While most candidates discussed claims management expenses; less than half mentioned other renewal operations expenses. No one considered investment related expenses.
Part (c)(i) required candidates to assess the impact each policy type would have on the MTV. Many candidates struggled with this part. This could be traced to that few

candidates could state that the MTV was equal to unearned premium reserve (UPR) and open claims reserve. Many candidates forgot entirely about the open claims reserve. The worse answers thought there would be no UPR at all.
Part (c)(ii) on the expense reserve was generally well answered.

For part (c)(iii) on resilience reserve most candidates understood that policy B would have a higher claims reserve than policy A, leading to a higher resilience reserve for B. However, only a few discussed the longer-term nature of those liabilities that would necessitate holding more volatile assets. This would lead to an even higher resilience reserve for policy B.

Question 5 (17 Marks)

In this question candidates were presented with the results from the profit calculation and subsequent analysis of profit (with significant experience profit). They were also presented with the different components of retained earnings from the start of the year and the proposed distributions to policyholders and shareholders at the end of the year.
In part (a) they were required to calculate the retained earnings at the end of the year (after the distribution). In part (b) the marketing department has proposed increasing doubling the bonus rate by 4% (doubling the rate). Candidates were asked to explain the three main considerations in this situation and then provide an opinions on whether the bonus rate should be increased as suggested and alternative approaches that could be considered.

The question was generally well answered as indicated by the proportion of candidates passing the question despite the high pass mark set.
Part (a) presented no difficulties to the candidates. The most common error was not picking up that interest on retained profits is split between shareholder and policyholder differently to the other items.
Part (b) was reasonably well done. Candidates had some difficulty in zeroing in on the important issues given the openness of the question.
Part (c) was not particularly well done. Most candidates got the easy marks for making a clear recommendation and for suggesting at least one valid alternative bonus plan. However, apart from these marks few candidates were able to pick up other points in the solution and earn marks.

Question 6 (20 Marks)

This question covered the calculation of profit, the solvency requirement at the beginning and end of the year, the movement in the excess assets (defined as the difference between assets and the Solvency Requirement) for investment-linked business and explaining why the excess assets had decreased.
For these calculations candidates were provided with financial information extracted from the general ledger and valuation systems, along with the charging structure for the product. Candidates were also provided that the company uses the accumulation method to calculate the investment-linked policy liability.

Overall, the question proved a good discriminator as indicated by the spread of students across each grade and the standard deviation. However, the markers were disappointed with the quality of the responses with a number of candidates making a number of elementary mistakes. Given the structure of the question and solution, the markers have been able to provide quite detailed comments for each part of the question. These have been reproduced below as a detailed guide for future reference by candidates.

In part (a) the average mark was 1.8 out of 3. There were two possible approaches that could be taken for part (a):

(i) movement in cashflow less movement in policy liability;

(ii) fees less expenses plus increase in DAC.

There were 20 candidates using approach (i) and 8 using approach (ii). Of those using method (i) only 9 could calculate the policy liability correctly and only 4 the cashflow component. Only 2 candidates correctly applied method (ii). Only 5 candidates achieved full marks. Given the overall simplicity of the question and the similarity to a question from the 2003 exam, the performance on this part was disappointing.

The performance in part (b) was also quite disappointing, particularly as the exam is performed under open book conditions. Whilst the examiners and markers realise the candidates may have time pressures, it is hard to understand why candidates cannot follow the layout of the standards. The markers and examiners do expect candidates to have some trouble in applying the standards, particularly with resilience. However, the nature of the errors made suggested that little time had been spent reading the standards. Common errors included:

- subtracting the DAC from the account balance to get the MTV (candidates were told there were no exit charges on the product);
- only 8 candidates applied the investment-linked margin (although some used the wrong margin) to the MTV;
- including maintenance expenses or initial commission in the expense reserve calculation;
- 13 candidates did not check whether the running total exceeded the CTV (it did);
- few candidates made any errors with the other liabilities;
- only 1 candidate came close to calculating the resilience reserve correctly (and this candidate only got close because they excluded the account balance from the MTV). Although not identified by the scrutineers or the Board of Examiners, the additional information provided to candidates in an effort to simplify the resilience calculations may have in fact misled the candidates. As all candidates were in the same position this did not disadvantage the candidates and the pass mark was lowered to take this into account;
- few candidates had trouble with the Inadmissible Assets, which was not surprising as this was provided to the candidates;
- only 11 candidates checked that their solvency requirement exceeded the policy liability and other liabilities;
- only 4 candidates could correctly determine the assets to be used for the excess assets. The common mistake made by candidates was to include the DAC as an asset when determining the excess assets (some of these candidates also subtracted the DAC as part of the MTV calculation).

With the common error made in determining resilience most candidates produced results which would suggest the company was insolvent (at both the beginning and end of the year). The better candidates distinguished themselves by commenting on this result suggesting they had made an error and a few of them even suggested the resilience reserve was the source of the problems. The poorer candidates failed to provide any comment.

Part (c) was quite challenging for the candidates, as is to be expected from the last part of the last question (as overall, questions are presented in order of difficulty). The new CFO had expressed their concern by the sudden decline in the Excess Assets and had requested an approach similar to the analysis of profit to explain the decline. A number of candidates presented a response stating that as the analysis of profit compares actual to expected, such an approach was not possible and left their solution at that. This was a poor display of judgement.

A number of candidates did attempt to explain the decline in excess assets addressing the concerns of the CFO but performed poorly in their attempts. The average mark for part (c) was less than 2 (out of 10) with a maximum mark of 7. There were a number of easy marks available for candidates, such as the movement in the expense reserve, inadmissible assets, the transfer to shareholders, the total of their explained movements and the unexplained component that were missed by the majority of candidates. A number of candidates commented in their scripts for this part that they had run out of time suggesting poor examination technique across the exam.

David Ticehurst

Chief Examiner – Life Insurance Course 2B, November 2005 Exams

10 December, 2005

Course 3A: General Insurance – Part A

Results Summary

80 candidates enrolled for the November 2005 exam. Of these, 1 did not present at the exam.

It is proposed that 28 candidates be awarded a pass.

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	62	23	37%
Overseas	17	5	29%
Overall	79	28	35%

Examiners

Examiners for this year were:
Chief Examiner: Philip Chappell
Assistant Examiner: Kaise Stephan
Assistant Examiner: Craig Price
Course Leader: Colin Priest

Degree of Difficulty and Course Coverage

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

Question	Aims Addressed	Unit	Degree of Difficulty	Total Marks
1a	1	1	SJ	3
1b	1	1	KU	4
1c	2	1	KU	2
1d	3	1	SJ	5
1e	3	1	CJ	3
1f	9	4	SJ	3
2a	6	2	SJ	6
2b	6	2	KU	2
2c	5	2	CJ	3
2d	5	2	KU	2
2e	6	2	CJ	8
3a	8	3	SJ	3
3b,d	7	3	SJ	5
3c	7	3	CJ	6
3e	8	3	CJ	3
3f	9	4	KU	3

4a	8	3	KU	2
4b	8	3	SJ	4
4c,d,e	9	4	CJ	9
4f	9	4	KU	4
5a	3	1	KU	2
5b	3	1	SJ	2
5c	7	3	SJ	4
5d	10	4	CJ	5
5e,f	10	4	SJ	7
Total				**100**

Overall Performance

There was a fairly even focus this time on the various units, with a slight bias towards Unit 4, Premium Liabilities.

The examiners again attempted to obtain an appropriate mix of questions requiring written explanation and numerical calculation. Numerical calculations formed a proportion of the marks in Questions 3, 4 and 5.

It would appear from the raw marks that candidates found this examination to be slightly easier than the corresponding paper in May, Question 5 being a noteworthy exception. Questions 1, 2 and 4 were generally straightforward, with reasonably high pass rates. Candidates found Questions 3 and 5 to be challenging. Question 3 was criticised by some candidates and the markers for "cascading", i.e. consecutive parts being dependent upon the previous part. There was a wide spread of results, with 30% passing and 35% scoring an E. Question 5, dealing mainly with Unit 4, was felt by the examiners to be a good test of the subject material, but fewer than 10% of candidates passed this question.

Question By Question Analysis

QUESTION 1 (20 MARKS)

This question was a reasonably straightforward question dealing with the rebirth of a failed insurer and the issues arising from its return to business. These issues covered (a) the run-off of existing claims, (b) issues in deciding whether to start up the new insurer, (c) potential sources of information on the profitability of various classes of business, (d) possible advantages from a commercial distribution agreement with a home mortgage lender, (e) underwriting issues arising therefrom, and (f) methods for reserving new and old claims.

A number of candidates understood that the inclusion of margins in outstanding claims liabilities could lead to claims being settled for less than the provisions held in the accounts, but few recognised the other commercial realities of a run-off insurer, namely the ability to do deals to commute liabilities and the ability to be tougher in negotiations, as there is no ongoing business to protect. Consequently, the average score for part (a) was only 1.2 out of 3.

Candidates also took a much narrower view than the solutions on the considerations that would be made before setting up a new insurer. The average score in part (b) was 1.7 out of 4.

Parts (c) and (d) were handled much better, with an average score of 4.5 out of the 7 marks available, but few candidates understood all of the underwriting differences between selling through a home mortgage provider and through a broker (e), with an average score of just 0.9 out 3 marks.

Candidates handled part (f) on valuation methodologies quite well, with an average score of 2.3 out of 3 marks.

The correlations between the markers were 91% (marks), 85% (ranks) and 86% (grades). The less than perfect correlation on grades was manifested in 17 candidates to whom one marker awarded a B and the other awarded a C, and 6 candidates where the markers differed over C/D. The chief examiner reviewed 26 papers to resolve these issues, and also reviewed the lowest A, to confirm the A/B boundary. Various adjustments were made to the marks to reflect the revision, but the grade boundaries remained largely unchanged.

QUESTION 2 (21 MARKS)

This question dealt with a comparison between two different Compulsory Third Party compensation schemes, and issues arising from their differences.

In part (a) candidates were asked what factors would affect the cost of each scheme and which scheme was likely to have the higher costs overall. This part of the question was reasonably well answered, with an average score of 3.8 out of the 6 marks available.

Parts (b) – (d) required candidates to comment on local regulatory requirements for licensing insurers, issues relating to uninsured motorists, and considerations for a government to self-insure. Many candidates focused on solvency issues (i.e. the role that APRA plays), rather than the broader role that a Government regulator such as the NSW Motor Accidents Authority plays. There also seemed to be some confusion about the precise nature of CTP. Some candidates suggested that because people thought that they “wouldn’t use it” they might not be inclined to take out cover. Overall, candidates scored an average of 4 marks of the 7 on offer.

Part (e) dealt with the issues surrounding the move to a common scheme for the two jurisdictions. Candidates scored an average of 4.4 of the 8 marks on this part.

There was a difference of approximately 2 marks in the average mark awarded by the two markers; the correlation between marks was only 88%. However, this was partially compensated for by different grade boundaries. The rank and grade correlations were 86% and 91% respectively. There were a number of candidates who received conflicting B/C grades from the two markers. 11 candidates around the B/C grade boundary were reviewed in detail by the Chief Examiner, and marks were adjusted as necessary.

QUESTION 3 (20 MARKS)

This question covered outstanding claims, dealing with the operational time payment per claim finalised (PPCF) method. This method is covered by the syllabus, and is an important tool in analysing Compulsory Third Party schemes, but it has rarely if ever been examined.

In part (a) of the question candidates were required to describe how they would select which of the projected case estimate (PCE) and PPCF models they would use for assessing outstanding claims in different accident years of a CTP portfolio. The average mark in this 3 mark part was 1.5; candidates generally had some understanding of the differences between the models, but did not always express themselves clearly.

Parts (b) and (c) were designed to test whether candidates could apply operational time models in practice. In part (b), candidates were given a specific result and asked to demonstrate it using the data provided. This was designed so that, if necessary, candidates could work backwards to determine the methodology. This methodology was then used in part (c) to perform additional calculations. There was some criticism from candidates and markers that this was unfair, denying the opportunity to gain marks in part (c) to those candidates who could not get part (b). In fact, 5 candidates actually scored marks in part (c) without scoring any marks in part (b).

48 of the candidates scored marks for part (b), averaging 1.5 out of 2 marks, and 40 scored marks for part (c), averaging 3.8 out of 6 marks.

Parts (d) and (e) were a continuation of part (c), requiring candidates to estimate outstanding claims for a particular accident year and split it into case estimates, incurred but not reported (IBNR) claims, and incurred but not enough reported (IBNER) claims. However, part (c) had been specifically constructed to contain information from which candidates could derive an approximation to proceed with parts (d) and (e) if they had been unable to calculate an answer for part (c). Markers were instructed to give full credit where this happened. One aspect of actuarial judgement is the ability to make approximations when the full picture is not available. 6 candidates who did not score any marks in part (c) scored some marks in parts (d) and (e). This was disappointingly low.

37 of the candidates scored marks in parts (d) and (e), averaging a total of 3.4 marks out of the 6 marks on offer.

Part (f) was essentially bookwork, asking candidates what additional work needed to be done to produce an outstanding claims estimate. The average score for this part was 1.2 out of 3.

The examiners gave considerable thought to this question, and made a deliberate attempt to give candidates some clues along the way about a methodology that most would not have seen before in practice. It was encouraging to see that quite a number of candidates were able to score well on this question. As such, the examiners consider that the question was quite a good discriminator between the candidates.

Marker 2 was slightly more generous than marker 1, but there was a high correlation between them on marks (99%), ranks (99%) and grades (100%). Very minor adjustments were made to the grade boundaries.

QUESTION 4 (19 MARKS)

This question was designed to test candidates' knowledge of the Mack method for estimating risk margins in outstanding claims estimates (parts (a), (b) and (f)), and their general understanding of the impact of various actions/events (e.g. storms, backlogs, changes in estimation procedures) on Mack estimates and outstanding claims estimates (parts (c), (d) and (e)).

The marking of this question posed problems for the examiners. In common with a number of other markers, the markers of this question were satisfied that they had adequately resolved their major differences. This was unfortunately not true at the level of the individual parts of questions, and in particular the markers awarded quite different, sometimes divergent, marks to parts (d) – (f). A review of several papers suggested that higher of the total marks given by either marker in total for these parts was close to an appropriate mark (or was perhaps still slightly below). This adjustment was made for all candidates. Individual adjustments were then made as a result of reviewing candidates around the grade boundaries.

The discrepancies between the markers was caused in part by the fact that very few candidates gave answers in the form wanted, and the difficulty the markers faced in assessing the answers. In retrospect, it seems clear that the specimen solutions were too specific, and will need to be rewritten before the solutions are published.

Notwithstanding the difficulties encountered for this question, 42% of the candidates passed, and the question was a useful litmus test on several of the marginal candidates.

QUESTION 5 (20 MARKS)

This question was drafted by the Course Leader, and went through several versions before being reviewed by the scrutineers. Following their comments, some additional changes were made. The examiners were (and still are) of the view that this question was a challenging but fair test of candidates' understanding of premium liabilities and ability to calculate them in a practical, if slightly out of the ordinary, situation.

The results for this question were very poor, with only 6 candidates assessed as passing it (the markers originally passed only 3 candidates). The examiners still consider that candidates should have been able to answer this question far better than was actually the case. In our opinion, the results in this question reveal a serious shortcoming in candidate's knowledge and understanding of this topic.

In part (a) candidates were asked what underwriting restrictions they would place on an extended warranty policy for white goods. Most candidates quoted wear and tear exclusions, but these are really claims restrictions. Few understood the real issues, namely the requirement to take out the policy at the time or purchase, the need for the extended warranty policy to follow on from the manufacturer's warranty without a gap, and the need for the natural life of the product to be significantly longer than the total warranty period. Candidates needed to state only two of these to score the full 2 marks available. The average score was only 0.4 marks.

In parts (b) and (c) the examiners focussed on the candidates' understanding of accident year and underwriting year approaches to calculating premium liabilities and the appropriateness of different outstanding claims methodologies in estimating premium liabilities. Although a number of candidates had some idea about part (c), many appear to have unclear thinking about accident and underwriting years, and few made enough comments to score heavily in either part, with the average score being 1.7 out of 6 marks.

Part (d) required the candidate to use the information given (chain ladder factors) to estimate the exposure pattern for a cohort of policies and for an individual policy. Few candidates recognised the need to use the chain ladder factors, and fewer still used them correctly. It was this part that the examiners found the most disappointing. The average score was only 1 out of 5 marks.

Part (e) required the candidate to estimate the GPS 210 premium liability. This was also poorly handled, with an average mark of 1.3 out of 4. A number of candidates allowed incorrectly for the effect of investment income, by discounting the premium liability instead of increasing it by the income between the average policy inception date and the balance date.

Part (f), dealing with the impact of an exchange rate change on premium liabilities, was handled well by the few better candidates. The average score of 1.1 out of 3 on what a straightforward judgement question, was disappointing.

The correlations between the markers were 88% (marks), 86% (ranks) and 85% (grades), marker 2 being slightly more generous than marker 1. Because of the very low grades attained on this question, the major grade discrepancies were at the C/D and D/E boundaries. The top 7 papers were examined in detail to confirm that the markers had not been unduly harsh in their assessment of the candidates. As a result of these reviews the pass mark was reduced from 20 (out of 40) to 17 and the number of candidates passing increased from 3 to 6.

Of the 15 candidates who presented for both Subjects A and B, 2 (13%) passed both subjects, and 5 (33%) passed subject A only. Of the 64 candidates who attempted Subject A only, 21 candidates (33%) passed. Note that this list does not take into account other subjects (e.g. Modules 1 and 4) that the candidates might have taken.

Philip Chappell

Chief Examiner – General Insurance Course A, November 2005
December 2005

Course 3B: General Insurance – Part B

Results Summary

34 candidates enrolled for the November 2005 exam, and all presented at the exam.

It is proposed that 11 candidates be awarded a pass.

The

Location	Attended	Passed	Pass rate
Australia	28	11	39%
Overseas	6	0	0%
Overall	34	11	32%

analysis by examination centre is as follows:

Examiners

Examiners for this exam were:
Chief Examiner: Philip Chappell
Assistant Examiner: Kaise Stephan
Assistant Examiner: Craig Price
Course Leader: Colin Priest

Degree of Difficulty and Course Coverage

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

Question	Aims Addressed	Unit	Degree of Difficulty	Total Marks
1a,b	13	1	SJ	7
1c	13	1	CJ	2
1d	11	1	SJ	2
1e	11	1	KU	2
1f	11	1	CJ	3
2a,c	12	1	SJ	3
2b,d	12	1	KU	7
2e	12	1	CJ	5
2f	19	4	CJ	2
3a,c	15	2	KU	2
3b,e	15	2	SJ	8
3d	13	1	KU	6
4a	12	1	KU	2
4a	12	1	SJ	3
4b,d	12	1	CJ	5
4c	15	2	CJ	3
4e	17	3	SJ	3
5a	17	3	KU	2
5b,e	14	2	KU	4
5c,f	19	4	SJ	5

5d	17	3	CJ	3
5f	19	4	CJ	3
6a,b	17	3	KU	2
6c	17	3	SJ	6
6d	16	3	CJ	3
6e	16	3	KU	1
6f	18	3	SJ	2
6f	18	3	CJ	4
Total				**100**

Overall Performance

There was again a greater focus on Unit 1, Premium Rating, with substantial parts of the first 2 questions, and a smaller part of the third and fourth, devoted to it. Unit 4, Professionalism, was examined across several questions. This examination required few calculations, but Question 4 did require candidates to set out the steps that they would undertake to calculate certain premiums.

It would appear from the raw marks that candidates found this examination to be somewhat more difficult than the previous examination in May.

Question By Question Analysis

QUESTION 1 (16 MARKS)

Question 1 dealt with experience rating for fleet motor portfolios and the interpretation of the output from a generalised linear model.

Parts (a) – (c) covered experience rating. Candidates were asked why experience rating is used on fleets, and when it is or is not appropriate. They were also asked to comment on a proposed experience rating formula, possible alternatives to experience rating, and on one-year versus two-year premiums. Candidates scored an average of 4.9 marks out of the 9 marks available for these parts.

Parts (d) – (f) dealt with the output from a generalised linear model, and required candidates to explain various features of the output. Candidates scored an average of 3.4 out of the 7 marks available.

The correlation between markers was 90% on marks but only 81% on rank and 84% on grades. It was expected that the markers would resolve discrepancies in the marking, but there were still discrepancies between the markers around the pass/fail borderline. Three candidates were assessed as B by one marker and as C by the other.

One candidate was assessed as B by both markers, but when the marks and the grade boundaries were added, the final result was C. It was necessary to review the candidates around the B/C borderline closely to resolve the discrepancies. Candidates around the C/D boundary and the highest and lowest scores were also reviewed. This process resulted in reductions to the grade boundaries set by the markers.

QUESTION 2 (17 MARKS)

Question 2 dealt with a specific aspect of pricing, namely how to incorporate profit shares.

In parts (a) – (c) candidates were asked to comment on various aspects of a proposed formula for profit sharing. This required candidates to apply the principles of premium rating to a situation that most would not have encountered. The average score of 1.8 out of 5 for these parts is an indication that the majority of candidates had difficulty with this.

Part (d) required candidates to comment on the use of accident year versus underwriting year for calculating profit shares. Candidates again demonstrated a relatively poor understanding of the differences between underwriting and accident years, scoring an average of 2.2 out of the 5 marks available.

In part (e) candidates were asked to discuss the suitability of different portfolios for inclusion in a profit-share scheme. This required candidates to think through the issues such as volatility of results and the time taken to recognise liabilities. This part was also not very well handled, with an average score of 2.1 out of 5 marks.

Part (f), worth 2 marks, required candidates to state what PS 300 said about profit shares. This required complex judgement, as PS 300 does not explicitly mention profit shares. It was necessary for candidates to recognise that profit shares are caught under PS 300 as prospective contractual liabilities. The average score here was 0.5 marks.

The markers had relatively high correlations between marks (94%), ranks (93%) and grades (99%). The markers originally passed 6 candidates. A review of the candidates in 7th and 8th placed candidates confirmed that they both had sufficient idea of what was wanted to have earned a pass. Three candidates tied for 9th place. A preliminary review confirmed one as B, and one as C. The third was initially rated as C, but when the three examiners reviewed this candidate's entire paper as part of their later review of marginal candidates, the question was assessed as B.

Candidates at the high and low end of total marks were also reviewed, as a result of which the A/B grade boundary set by the markers was reduced while the D/E grade boundary was increased.

QUESTION 3 (16 MARKS)

Question 3 was a fairly straightforward reinsurance question that covered excess of loss reinsurance for a commercial motor fleet.

In parts (a) – (c) candidates were asked to comment on why this type of insurance would be sought, what factors would determine how excesses and limits were chosen, and how the premium rate would be expressed. The average mark for these sections was 3.8 out of 7.

Part (d) required candidates to outline how they would carry out a burning cost calculation of the premium payable. This part of the question was poorly handled, with an average score of only 1.9 out of the 6 marks available. Common errors were not allowing for IBNR, IBNER or inflation and discounting.

Part (e), worth 3 marks, was a general question asking what further information would be required before calculating a final premium and making a recommendation. Candidates scored an average of 1.7 marks on this part.

The correlation between the markers was reasonable (92% for marks, 83% for ranks, and 86% for grades). A number of borderline candidates were assessed as B by one marker and C by the other. A review of the borderline passes and papers around the other grade boundaries resulted in a slight decrease in each grade boundary. As might be expected, this question had the highest pass rate in the exam (16 candidates out of 34).

QUESTION 4 (16 MARKS)

This question dealt with both premium rating and reinsurance, in the context of establishing a separate scheme to fund certain costs of catastrophic injuries.

In part (a) candidates were required to describe how they would estimate the size of a levy on Workers' Compensation premiums to fund the proposed scheme. Many candidates appeared to understand the general approach, but did not present a clear picture of precisely how they would determine, for example, which historical claims would have been covered by the new scheme. This woolliness in thinking was reflected in the average score of 2.1 out of 5.

Similarly, in part (b), candidates were asked to describe how the CTP calculations would differ. Some understood the basic issue, namely the inclusion of additional claimants, but the overall average of 0.7 out of the 2 marks available again showed the candidates' deficiencies.

The final three parts of the question dealt with the calculation of reinsurance premiums, the difficulty of including public liability in the new scheme, and the impact of the scheme on profit margins. No part was answered well, with an average of score of only 2.3 out of the 9 marks available.

The overall response to this question was disappointing. It required candidates to apply what they had learned from different parts of the course and apply it to a practical situation. The top mark was 17.5 out of 32. This candidate was the only one that the examiners felt was worthy of an A.

The correlation between the markers was reasonable – 89% for each of marks, ranks and grades. Marker one was on average 1 mark more generous than marker 2. The examiners were generally happy with the grade boundaries set by the markers, but investigated a number of cases where the markers disagreed on whether a candidate was B or C, or C or D. One candidate was originally assessed as a mid range C, and was not initially reviewed. This candidate was subsequently assessed as a borderline B when the examiners reviewed marginal candidates in detail.

QUESTION 5 (17 MARKS)

This question dealt with the possible establishment of a Builders Warranty insurer by two builders. This question required candidates to apply the course materials to an unfamiliar situation.

In parts (a) and (b) candidates were asked to comment on the adequacy of the initial capital and the appropriateness of the assets held. This should have been largely bookwork, or at most the application of bookwork to the specific circumstances. The average score awarded by the markers was 1.8 out of the 4 marks available, with candidates missing the application to the specific circumstances.

Part (c), worth 3 marks, required candidates to explain how they would treat free work by the first builder and whether the expected value net claims incurred would be zero for the first 2 years. This turned out to be quite difficult, with the average score of 1 mark. Few candidates nominated that the free work would be treated as a third party recovery, although some had the right idea without using the correct terminology. A greater number understood that the expected net incurred claims would not be zero, but the explanations frequently diverged from the specimen solution.

In part (d) candidates were expected to understand and explain the difference between statutory solvency and cashflow. Few candidates answered the question in this way, although it was clear that most candidates understood that the insurer could become insolvent even if not paying out claims. The average score awarded by the markers was 1.2 out of the 3 marks available – most candidates did not justify their conclusion very well.

Parts (e) and (f) dealt with reinsurance and the preparation of a complying PS300 report. The reinsurance was reasonably well handled, although many candidates were marked down for suggesting too many types of reinsurance– a scattergun approach without really making and justifying specific recommendations. The average score of 1 out of 2 reflected this. Candidates gave a wide variety of answers for the preparation of a complying PS 300 report. Most candidates made at least a few of the points in the solutions, but few scored really well. Many ignored the key issue of being asked to use specific assumptions. The average score of 1.5 out of 5 marks was disappointing.

The marking for this question proved to be problematic. Although the correlations between the marks, ranks and grades awarded by the markers (both experienced actuaries), were higher than 80%, a preliminary check of the grades around the markers' B/C boundary showed significant differences between them, including one candidate assessed as B by one marker and as E by the other. This was partly due to the narrow grade bands chosen by the markers.

The markers wrote comments against each candidate that were reviewed by the Chief Examiner. These comments seemed to be based on expectations higher than those of a candidate just commencing their professional life as an actuary.

In order to ensure that all candidates were fairly treated, it was necessary to review all of the papers and make adjustments to the marks for each candidate. This resulted in an increase in the marks awarded to most candidates, with an increase in the total average mark awarded from 13.3 out of 34 to 14.4 out of 34. The grades were also broadened. This resulted in a reduction in the number of As awarded by the markers, with a corresponding increase in the number of Bs. There was also a significant movement from E to D and D to C.

QUESTION 6 (16 MARKS)

This question covered financial management of an insurance company.

Parts (a) and (b) briefly covered capital charges and the term 'Maximum Event Retention". These were essentially bookwork questions and candidates averaged 1.5 out of the 2 marks available.

Part (c) required candidates to explain how an external actuary would estimate the solvency capital held by an insurer. The term is actually ill-defined, but only a handful of candidates noted this. Many candidates proceeded to try to do what the examiners had intended. For 6 marks the examiners expected a fairly detailed description. However, there was a distinct lack of detail and also a lack of clarity in thinking, and the average score was only 2.1 marks.

In parts (d) and (e) candidates were required to comment on how the DFA model would justify investment mix, and how one would determine whether a dividend was payable. In part (d) candidates scored 1.3 out of the 3 marks available. For part (e) a few candidates picked up the obvious point that a dividend was not payable on the numbers given, and scored 1 mark. Those who stated how to do the calculation were awarded 0.5 marks. The average score was 0.4.

Part (f), worth 6 marks, was a substantial question dealing with the price for which a portfolio would be sold. This part elicited a much wider variety of responses than the examiners envisaged, and the markers gave some credit for sensible suggestions that were not in the specimen solutions. The average score was 2.7 marks.

The correlation between the markers was 93% (marks), 94% (ranks) and 89% (grades). There were a few discrepancies between the markers that were examined, as were the papers around the B/C boundary and the C/D boundary. The examiners were generally satisfied with the marking, but a made a few adjustments to individual marks and increased the B/C boundary by 0.5 and the A/B boundary by 1.0 mark. The ultimate effect of the changes was that two candidates assessed as B by the markers were reassessed as C and one candidate assessed as C was reassessed as B.

Of the 15 candidates who presented for both Subjects A and B, 2 (13%) passed both subjects and no-one passed Subject B by itself. Of the 19 candidates who attempted Subject B only, 9 candidates (47%) passed. Note that this list does not take into account other subjects (e.g. Modules 1 and 4) that the candidates might have taken.

Philip Chappell

Chief Examiner – General Insurance Course B, November 2005
December 2005

Course 4A: Superannuation & Planned Savings

Results Summary

13 candidates enrolled for the November 2005 exam. Of these, 11 were present at the exam.

It is proposed that 2 candidates be awarded a pass, which implies a pass rate of 18%. This compares with a pass rate of 42% for the May 2005 exam.

In summary:

	Number of candidates
Originally enrolled	13
Absent from exam	2
Presented at exam	11
Passed	2
Failed	9

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	9	1	11%
Overseas	2	1	50%
Overall	11	2	18%

Examiners

Examiners for this year were:

Chief Examiner: John Hancock
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	Syllabus Aims	Units	K&U	SJ	CJ	Total Marks
Q1.(a)	3,4	2		2.0		2.0
Q1.(b)	5	3		3.0	2.0	5.0
Q1.(c)	3	2	2.0	2.0	2.0	6.0
Q1.(d)	3	2		3.0	2.0	5.0
Q1.(e)	3,4	2	1.0	2.0		3.0
Q2.(a)	5	3	2.0			2.0
Q2.(b)	5	3		2.0		2.0
Q2.(c)	1,2,3,6	1,2,3	5.0	8.5	12.5	26.0
Q3.(a)	5,6	3		1.5	3.5	5.0
Q3.(b)	3,4	2		1.5	1.5	3.0
Q3.(c)	4,5,6	2,3	3.0		7.0	10.0

Q4.(a)	1,2	1	6.0			6.0
Q4.(b)	5,6	3		4.0	3.0	7.0
Q4.(c)	6	3		1.0	3.0	4.0
Q5.(a)	5,6	3	2.0	2.5	2.5	7.0
Q5.(b)	6	3	1.0	2.0		3.0
Q5.(c)	2,4	1, 2		2.0	2.0	4.0
TOTAL			**22.0**	**37.0**	**41.0**	**100.0**

Question by Question Analysis

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

Question 1 (21 Marks)
This question was predominately a financial planning question, based on a scenario of an individual planning for retirement and requiring advice.
It was a fairly straightforward question requiring basic financial planning knowledge and some judgment as well as a simple benefit projection.
It was answered reasonably well by most candidates, with 7 passing.

Of those who failed, some failed to take into account the individual's circumstances in providing advice and others made errors in the calculations – either not making appropriate assumptions or not calculating present values/future values correctly.

Question 2 (30 Marks)
This question was based on a scenario of a client considering the purchase of another company. Students were given information relating to the superannuation arrangements of the vendor and were asked to comment on various issues relating to the sale and prepare a report for the client.

Parts (a) and (b) required students to calculate funding indices and comment on the treatment of pension liabilities.

Part (c) required students to draft a report to the client covering specified issues relating to the sale.

This was a difficult question that was generally answered poorly, with only one student passing.

Parts (a) and (b) were straightforward and were satisfactorily answered. Part (c) was generally poorly answered, with students missing many of the relevant points and not addressing all the issues

Question 3 (18 Marks)

This question tested students understanding of valuation assumptions and ability to use given valuation results to calculate contribution rates.

Parts (a) and (b) required students to comment on the suitability of a given set of assumptions and suggest possible changes.

Part (c) required students to calculate a suitable contribution rate and suggest alternative funding strategies.

Overall it was not a well answered question, with only three candidates passing.

Parts (a) and (b) were generally well answered but many candidates did not provide sufficient comments on the mortality assumptions.

Part (c) was poorly answered and was a good differentiator between pass and fail candidates. Candidates did not give sufficient answers and appeared to either have run out of time or did not appreciate what information was provided.

Question 4 (17 Marks)

This question was on the new accounting standard AASB119.

This question tested students' understanding of the effect of AASB 119 on company accounts. In order to pass the question students were required to demonstrate that they were able to explain the workings of AASB 119 to a client as well as perform relevant calculations and understand their impact on company accounts. Students found this question quite tough, with the calculations in particular confusing a number of students.

Four students passed this question.

Question 5 (14 Marks)

This question concerned a group of members transferring out of a defined benefit superannuation plan.

In part (a) students were required to calculate transfer values based on data provided.

Four students passed this question.

Many students did not address what was asked and failed to do the calculations required in part (a). Many also failed to understand the calculation of the adjusted VBI.

Those students who passed were able to make a good attempt at the calculations, however there were no A passes mainly due to lack of detail for other written parts of the question.

Being the last question on the paper, it also appeared some students ran out of time.

John Hancock
Chief Examiner, Superannuation & Planned Savings 4A
December 2005

Course 4B: Superannuation & Planned Savings

Results Summary

10 candidates enrolled for the November 2005 exam. Of these, 10 were present at the exam.

It is proposed that 6 candidates be awarded a pass, which implies a pass rate of 60%. This compares with a pass rate of 80% for the May 2005 exam.

In summary:

	Number of candidates
Originally enrolled	10
Absent from exam	0
Presented at exam	10
Passed	6
Failed	4

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	8	5	63%
Overseas	2	1	50%
Overall	10	6	60%

Examiners

Examiners for this year were:

Chief Examiner: John Hancock
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	Syllabus Aims	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	7, 9, 11	1,2,3	2			2
1b	7, 9, 11	1,2,3	4	3		7
1c	7, 9, 11	1,2,3			9	9
2a	7, 9, 11	1,2,3	34	2		56
2b	7, 9, 11	1,2,3		36		36
2c	7, 9, 11	1,2,3			6	6

2d	**7, 9, 11**	**1,2,3**			**5**	**5**
3a	**8, 9, 11**	**1,2,3**	**3**	**3**		**6**
3b	**8, 9, 11**	**1,2,3**	**5**	**3**		**8**
3c	**8, 9, 11**	**1,2,3**		**8**		**8**
3d	**8, 9, 11**	**1,2,3**		**5**	**3**	**8**
4a	**9, 12**	**2,3**	**4**			**4**
4b	**9, 12**	**2,3**	**3**	**4**		**7**
4c	**9, 12**	**2,3**		**4**	**3**	**7**
5a	**7, 9**	**1, 2**	**2**			**2**
5b	**7, 9**	**1, 2**		**4**		**4**
5c	**7, 9**	**1, 2**	**34**			**34**
5d	**7, 9**	**1, 2**			**2**	**2**
5e	**7, 9**	**1, 2**			**4**	**4**
TOTAL			**2931**	**3942**	**3227**	**100**

Overall Performance

Overall, 60% of students passed the course, 30% of candidates received a grading of C for the exam and 10% received a D. Last semester these percentages were 80%, 0% and 20% respectively (but out of a group of only five candidates).

Performance was similar to last semester, with the majority of candidates passing but with no A's awarded. Students did enough to pass without any being outstanding.
However, this semester there were 2 borderline candidates who did not pass. These candidates did well in some questions but poorly in others, generally getting some of the basic points but not going into enough detail or demonstrate they understood how the information in the course could be applied in practice.

Question by Question Analysis

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

Question 1 (18 Marks)
This question was predominately a financial planning question, based on a scenario of an individual choosing a superannuation fund and requiring advice.
Part (a) was a bookwork question and was answered satisfactorily.
Part (b) required students to recommend a fund based on cost alone. This required no complex judgement and was generally well answered.
Part (c) required students to provide a recommendation taking into account other factors. Four students passed this question, but only one student was awarded an A.
Most students answered (a) and (b) satisfactorily. In part (c) many students provided only brief recommendations or reasons or omitted important factors.

Question 2 (19 Marks)
This question was based on a scenario of the students providing advice on investment strategies and choice in relation to a corporate fund that has recently converted from defined benefit to accumulation and transferred into a master trust.

Part (a) required students to draft a letter to members promoting the fund in a choice of fund environment.

Part (b) asked students to outline the issues they would discuss in one-one-one meetings with members to help them make an investment choice.

Part (c) asked students to comment on a proposed change in default investment option.

Part (d) asked students' about new target date investment options and tested their ability to apply their knowledge to a new situation.

Five students passed this question, with no As awarded.

Students did well in part (a), but had more difficulty with (b), (c) and (d). They generally got the basic points but not all went into enough detail or demonstrated they understood the issues.

Question 3 (30 Marks)

This question was based on a scenario of a company wishing to outsource its stand alone corporate superannuation fund

Part (a) required students to draft a note to the Trustee describe the three alternative approaches given in the question.

Part (b) required students to outline the pros and cons of these alternatives.

Part (c) asked students to write a report for the client outling the factors to consider in choosing a public offer fund.

Part (d) asked students to calculate and recommend a target benefit contribution rate for an individual member and project the member's benefit to retirement age.

Overall, not a well answered question – a good differentiator between strong candidates versus others (not a good differentiator within the other group).

Only three candidates passed this question, with no As awarded.

In part (a), few candidates explained the obvious i.e. what is a defined benefit versus an accumulation benefit.

Part (b) was an "easy mark" question but many candidates failed to give sufficient information and really passed up on easy to get marks.

Part (c) was generally well answered.

Part (d) was poorly answered and many candidates either did not make it very clear what they were doing or in some cases confused the difference between present value and future value.

Question 4 (18 Marks)

This question required students to demonstrate an understanding of different types of pensions that can be paid from a self-managed superannuation fund and the relevant RBL implications. Students were also required to apply this knowledge to a specific individual.

Overall students found this question very easy, with almost all passing. Very few students identified the opportunity to 'compress' the benefit for RBL purposes as an advantage of paying a lifetime pension from a SMSF.

Nine students passed this question.

Question 5 (15 Marks)

This question covered group insurance for a superannuation master trust.

Many students did not understand or adequately explain the more practical aspects of group insurance arrangements vs individual products, eg how AALs worked and requests for additional cover. Also a lack of understanding was shown about the practical distribution of the products (eg relating to planners, PDSs).

Four students passed this question.

John Hancock
Chief Examiner, Superannuation & Planned Savings 4B
December 2005

Course 5A: Investment Management and Finance

Results Summary

19 Candidates enrolled for the 2005 semester two Investment Management and Finance 5A exam. All candidates were present at the exam.

It is proposed that 5 Candidates be awarded a pass, which implies a pass rate of 26%. This compares with a pass rate of 29% for the 2004 Investment Management exam and 35% for the 2005 Semester One Investment Management exam.

In summary

	Number of candidates
Originally enrolled	19
Absent from exam	0
Presented at exam	19
Passed	5
Failed	14

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	16	5	31%
Overseas	3	0	0%
Overall	19	5	26%

Examiners

Examiners for this year were:

Chief Examiner: Stephen Jackman
Assistant Examiner: Not Filled

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	Units	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
1a	1	6	2		8

1b	1	1	2		3
1c	1		1	2	3
1d	1		2	3	5
2a	2	3		1	4
2b	2		2		2
2c	2		2	2	4
2d	2	2		3	5
2e	2	1	1	1	3
3a	3	2	2		4
3b	3	2	2		4
3c	3	3	1	2	6
3d	3		1	3	4
3e	3			4	4
4a	4		3		3
4b	4	2	2	4	8
4c	4	1	1	2	4
4d	4		1	4	5
5a	5	3			3
5b	5	2	2		4
5c	5	1	1	1	3
5d	5	2	1		3
5e	5			4	4
5f	5		4		4
TOTAL		**31**	**33**	**36**	**100**

Overall Performance

Overall, this year's exam proved to be difficult for the majority of candidates, although this is not dissimilar to the experience of previous years. The pass rate of 26% is slightly lower than in previous examinations. My impression, and that of a number of the markers, is that this group of students did not perform as well as expected, and therefore I am comfortable with the slightly lower pass rate.

A couple of the questions on the exam none of the students passed. My adjustments to Q1 allowed 2 students to pass, but I decided not to alter Q3. The feedback from the markers was that the students did a very poor job of answering these questions. These questions tended to be the ones requiring judgement and the application of principles to slightly unusual real-life situations. Comments from the markers indicated that the students may lack practical experience, may not be able to exercise complex judgement or think holistically.

However, a high standard was required due to the fact that this course is a more 'specialist' course on investments than Course 1 and therefore students should be expected to demonstrate a higher level of knowledge and judgement.

Question by Question Analysis of the Examination

Question 1

This question was based on an analysis of the accounting statements for Biota, a medical research company that is developing antiviral drugs (actually related to Bird Flu but this knowledge was not required). There were 2 passes out of 19 students and an average mark of 4.8 out of 19.

Part a) called for a reconciliation of the movement in the cash position for the year and a comment on the liquidity position. The average raw mark was 2.75 out of 8. This was disappointing as the question was largely bookwork.

In part b) the students were asked why the company might have a healthy share price when the company had been making losses. The solution called for a comment that the value of certain R&D expenditure was not captured in the accounts, and that the market had obviously placed a value on future revenues from this. The average mark was approximately 1 out of the 3 marks.

Part c) asked the students whether the accounting statements provided a suitable basis for evaluating the future prospects of the company. The solution was looking for a comment to the effect that the future prospects of the company depended on the value of the R&D and this was not reflected in the accounts. The average mark was roughly 0.5 out of 3.

Part d) asked for some improvements to accounting policy that could facilitate the evaluation of the company. The solution was looking for some comments along the lines of probabilistic estimates or actuarial valuations of the value of the R&D, along with further information on the nature of the R&D. The average mark was approximately 0.7 out of 5.

I was disappointed with this result as I believed that the question was largely bookwork plus I thought that the students were to some extent ‘led’ to the answer by the wording of the question. The question was also one-dimensional to the extent that it almost entirely relied on the understanding of one point. Also a factor was the way in which the question was marked, which probably was too rigid to the marking guide.
I adjusted each of the pass marks downwards by 4.5 marks as I believe that the markers had been slightly hard on the candidates, and I don’t believe gave sufficient marks for answering the question in a different way to the answer guide. This was also required to get a reasonable distribution of the scaled mark and avoid excessive truncation at the bottom end. The pass mark was adjusted down to 14.5 marks out of 38 (38% of total). Even so, my adjustment resulted in only 2 ‘B’ grades.

The question was also unusual for an actuarial exam in that there were a couple of cases of 3 or 5 marks for the discussion of a single point, rather than 3 marks for 3 points. The two markers were first-time markers and this may have been a factor. In addition, with the benefit of hindsight, the solution could have been more expansive on how marks should be allocated.

Question 2

This question was about yield curves and modelling techniques for yield curves. There were 12 passes out of 19 and an average mark of 12.6 out of 18.

Part a) asked the students about the zero coupon curve and the differences to the CGS curve and which was more suitable for modelling. The average mark was 2.6 out of 4 which indicates that most students handled it well.

Part b) asked for the characteristics that you would choose to model and this generally did not cause the students any problem.

Part c) asked for some financial or economic factors that might be considered in explaining the yield curve. The average mark was 3.4 out of 4 which suggests that most students were able to identify the relevant factors.

Part d) asked about the differences between a multifactor approach and the term structure models. The average mark was 3.1 out of 5.

Part e) asked how you would estimate factor exposures and confirm their appropriateness. Average marks gained were 2 out of 3 marks.

Overall, this appears to be an area where the students were comfortable. Largely, the question related to bookwork with some judgement as to how that bookwork might be applied.

Question 3

Question 3 was about valuation techniques, specifically DCF versus earnings based techniques for a company that had two distinct lines of business. It required students to pragmatically apply knowledge on how the principles could be applied to a particular company. The average mark was 6.7 out of 22 and the markers set the pass mark above the maximum mark granted.

Part a) asked for the difference in the two lines of business for the purpose of placing a value on the company. The two lines were a funds management business and a deposit taking/lending business. The average mark was 1.1 out of 4. The question required an understanding of the nature of the two types of business and this was clearly beyond the majority of students.

Part b) asked for the relative merits of the two valuation techniques for each line of business. The average mark was 2 out of 4.

Part c) asked about the issues that may arise with a DCF valuation of a lending/deposit business, suggestions of how to resolve the issues and the specific risks. In retrospect too many parts were loaded into the one question as many students did not address parts of the question. The DCF issues required specific understanding of how a DCF analysis would be applied to this type of business. The average mark for this section was 1.3 out of 6. This was a poor effort and reflected poor exam technique as well as there are definite techniques to accumulating marks in this type of question.

Part d) asked for potential synergies between the business and how these would be allowed for in the valuation. Lots of students rehashed generalities here and did not apply their thinking to the situation described. The average mark was 1 out of 4.

Part e) asked for additional considerations in recommending an issue price for the IPO. Most students wrote down too few points to gain many marks. We came up with 8 considerations so allocated them half a mark each. The markers commented that historically in actuarial papers a point in a list is worth half a mark, but the students gave a maximum of four points, thereby limiting their ability to earn marks. The average mark was 1.3 out of 4.

Overall, the question was a difficult one and required application of the principles to a real-life example. I believe that the students suffered from poor exam technique and should have been able to accumulate marks more easily. I'm not sure however that it is the Institute's responsibility to teach this!

I did not adjust the pass marks downwards which resulted in none of the students receiving a pass mark for the question. I satisfied myself that while the markers were not overly generous, there was no reason to adjust the marks. When questioned on the matter, the markers were of the view that the results were a fair reflection of the way in which the students answered the question.

Question 4

This question dealt with multifactor models for structuring investment portfolios. The average mark was 9.3 out of 20 and 7 out of 19 students passed the question. The performance of students was average, but the equivalent question on the Semester 1 paper was poorly handled and I was happy with the way the students responded to this question. I am told that there was a tutorial on this subject.

Part a) asked for some factors that might be used to specify the model. This was well handled with averages of just over 2 out of 3.

Part b) asked for benefits and limitations of a particular approach. The average mark was 3.9 out of 8. Students generally missed the interaction of factors which was worth two marks.

Part c) asked for benefits and limitations of an alternative approach. The average mark was 1.6 out of 4. Many students missed that the factors must be assumed to be stationary over time.

Part d) asked how to avoid bets that were not specified by the client. This was essentially bookwork from one of the course readings. However, students answered this poorly, averaging 1.8 out of 5 marks. This was however a difficult question.

Question 5

Question 5 tests knowledge of asset allocation models. The average was 9.1 out of 21 and 7 out of 19 students passed the question.

Part a) asked for comments on the relationship between some of the economic variables. More of an economic question than an actuarial one, but important nonetheless! The average was 1.8 marks out of 3.

Part b) asked for the relevance of the yield curve in predicting the components of equity returns. The average mark was 2 out of 4.

Part c) asked about the components of modelling equity returns. The average was 1.4 out of 3. The question related to basic investment concepts.

Part d) asked about the relationship between currency and the performance of debt instruments. The average was 1.4 out of 3.

Part e) asked when timing effects were likely to occur when projecting equity and debt returns. The average mark was 1.2 out of 4. From some of the responses there was confusion as to what this question meant – it could have been better worded. However, it was the first part of this question that tested complex judgement and perhaps the marks reflect that.

Part f) asked about information advantages relating to the investment bank. The average mark was 1.3 out of 4. This was really bookwork so I am surprised the marks were not higher.

Stephen Jackman

Chief Examiner, Investment Management and Finance 5A 2005
December 2005

Course 5B: Investment Management & Finance

Results Summary

There were 20 candidates enrolled for the November 2005 exam. Of these, 4 candidates did not present at the exam.

It is proposed that 5 candidates be awarded a pass, which implies a pass rate of 31%. This compares to a pass rate of 40% from the May examination session.

The average level of student preparation was very low, with a significant gap between passing students and the remainder. The narrow theoretical focus of students (particularly those that were under prepared) was also evident.

In summary:

	Number of candidates
Originally enrolled	20
Absent from exam	4
Presented at exam	16
Passed	5
Failed	11

The analysis by examination centre is as follows:

Location	Attended	Passed	Pass rate
Australia	12	4	33%
Overseas	4	1	25%
Overall	16	5	31%

Examiners

Chief Examiner for the 5B course this semester was Brad Milson.
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 Institute is as follows:

Question	Syllabus Aims	Knowledge & Understanding	Straight-Forward Judgement	Complex Judgement	Total Marks
1	1,3,8	7	7		**14**
2	1,2,4,6	5	8	5	**18**
3	2,5,8	8	4	6	**22**

4	4	2		8	**10**
5	7	2	4	6	**12**
6	8		3	7	**10**
7	8		4	6	**14**
Total		**26**	**32**	**42**	**100**

Question by Question Analysis

Question 1 (28 Marks, using combined marker results)
In this question candidates were examined on basic option pricing using Black-Scholes. The questions were relatively straight forward, with a high proportion of bookwork.

This question was answered well by almost all candidates, reflecting the standard, relatively easy nature of the question. There were no weak responses.
The performance was weaker on part (d) of the question with many careless errors. The markers noted that the option given in part (d) of the question is out of the money and yet earlier in the question it was stated that the option was in the money. This error in the question did not appear to affect the students.

Question 2 (36 Marks, using combined marker results)
This question examined more difficult option pricing.

In part (a) of the question candidates were presented with a scenario involving an exchange option. The questions asked covered pricing to stochastic modelling of the situation.

Part (b) covered an cross currency equity, requiring students to derive the growth rate with respect to the second currency. This part was a more complex implementation of Ito's Lemma.

The performance on part (a) of the question was reasonable. Almost all students could identify the risk faced and most students could recommend that an exchange option was a suitable derivatives product that could be used for hedging. The majority of the students made a good attempt at part (iii) although again careless numerical errors were evident in many students' work.
The performance on part (b) of the question was very poor. Most students failed to recognise the need for Ito's Lemma. Those students who did attempt to use Ito's Lemma often demonstrated a lack of understanding of how to apply it. This question was based on bookwork and therefore the results were very disappointing.

Question 3 (44 Marks, using combined marker results)
In this question, candidates were asked to identify various aspects of option price behaviour, based on graphs of the option price. Part (b) required the candidates to graph option payoff behaviour and part (c) examined put-call parity. All parts of this question should be relatively easy for students with a good understanding of the fundamentals of option behaviour.

This question clearly separated the students with a reasonable understanding and those that did not understand the fundamentals of option behaviour. Most students picked up the easy marks in part (a), but failed to understand how delta hedging translated from the formulas to

implementation. Questions on gamma and theta were very poorly answered, as were the graphing questions. Very few student recognised the need to show premium levels in the graph of option price behaviour.
The last question was again, more difficult, but none the less straight bookwork, but very poorly answered.
The response levels for the more difficult parts of this question were very disappointing. It is clear that the majority of students were poorly prepared for the exam in this area.

Question 4 (20 Marks, using combined marker results)

Part (a) of this question examined option pricing models, and the implication where the behaviour does not fit Black-Scholes assumed behaviour.

Part (b) of the option asked students to value a compound option. Solving this part required students to use put-call parity formula within a pricing formula. As such, it was a more difficult, theory based exercise.

Overall, this question was poorly answered with very few students making a credible attempt at part (b). This was perhaps understandable, as one of the hardest parts of the exam, focused on theory. However, part (a) was straight bookwork, with 25% of the students failing this part is extremely poor reflection of the average preparation levels for students.

Question 5 (24 Marks, using combined marker results)

This question tested fixed interest products. Part (a) examined an arbitrage test in bank bill pricing; part (b) tested hedging a bank bill portfolio, utilising a convexity adjustment; and part (c) tested pricing a non-standard contract, based on bank bill pricing. Again, this question appeared relatively easy for candidates with a good understanding, but would quickly lead to problems for candidates without the fundamental knowledge.

The poor pass rate on this question was extremely disappointing. Less than half of the students were able to pass parts (a) and (b), which were questions on a fundamental part of the course. Part (c) was answered well by only four candidates, proving a good discriminator of students with a fuller understanding of the subject.

Question 6 (20 Marks, using combined marker results)

This question presented a scenario of a company hedging a floating interest borrowing with a cap. In part (a), the company seeks to replace the existing cap with a collar arrangement, where the borrowing is expanded. Part (b) asks candidates to graph the payoff of the collar arrangements, adding digital options.

The poor pass result for this question reflects a relatively harsh marking guide. Overall, the question was one of the better attempted questions on the exam.

The solution to part (a) required a chain of pricing analysis to get to the final result. Most students demonstrated good exam technique to show sufficient working, and concentrate on demonstrating the methodology required. Students demonstrating a basic understanding and good exam technique were able to get to the “slightly below standard” level quite easily.

Relatively few students recognised the need to value the cap or collar as caplets and floorlets, with two separate interest payments involved. This proved a good discriminator for a passing mark.

Part (b) was a relatively simple exercise testing basic understanding of the collar arrangement. Several students reversed the payoff on the digital floor in the graph, but this was a very easy

Question 7 (28 Marks, using combined marker results)

This question examined the more practical issues with managing a hedging process. Part (a) considered hedging within a hypothetical bank. Part (b) examined the accounting and taxation implications of hedging. The questions were not directly within the course material covered. However, the marking guide was pitched at a relatively low level, requiring only common sense answers to achieve a passing grade.

The pass rate for this question was again poor, considering the low level that the marking guide was assessing. This low level reflected in the relatively high “below standard” level of responses. It was very disappointing that the course work clearly ignored practical aspects to focus on theory, and that the average student was unable to consider these issues in an intelligent manner.

This question demonstrates the focus of the course on theory rather than practice and the examiner will endeavour to improve this situation in the future.

Brad Milson

Chief Examiner –Investments and Finance 5B, November 2005 Exams

13th December, 2005

Course 10: Commercial Actuarial Practice

SUMMARY

The Commercial Actuarial Practice (CAP) Course was conducted for the first time in semester two of 2005.

The overall objectives of the 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 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 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.

28 candidates enrolled for the Course in semester two of 2005. All of these candidates attended the residential course, completed the case assessment and also completed the non-traditional exam.

It is proposed that 18 of the candidates be awarded a pass, which implies a pass rate of 64%. This pass rate is in line with that hoped for at the time the course was being developed.

In addition, it is proposed that one candidate be given a pass for the residential course and case assessment, but a failure in the exam, and 5 candidates be given a pass for the exam, but a failure for the case assessment. These candidates will be subject to the rules for second attempts.

In summary, the proposed results are:

	Number of candidates	Percentage
Enrolled	28	100%
Passed	18	64%
Failed case but passed exam	5	18%
Failed exam but passed case	1	4%
Failed both case and exam	4	14%

The results by examination centre are given below:

Location	Attended	Passed Overall	Pass rate
Australia	22	15	68%
Overseas	6	3	50%
Overall	28	18	64%

EXAMINERS

The CAP course was developed and delivered for the Institute by the ANU. The ANU Team for the Course were David Service, Richard Cumpston, Tim Higgins, Richard Madden, Peter Martin and Colin Priest. These people also developed the assessment materials for the course and did the marking.

ANU's development and delivery of the course was overseen by a Faculty, consisting of Ken McLeod (Chair), Andrew Brown, Kent Griffin, David Knox and Donna Walker.

For the purposes of this first session of the course, Ken McLeod also acted as Chief Examiner, assisted by the other members of the Faculty.

ASSESSMENT PIECE 1

Residential Course and Case Assessment

There were two separate pieces of assessment for the course and students were required to pass each in order to pass the course. Assessment Piece 1, in turn, had two parts: participation in a residential course and a case assessment.

10% of the potential marks for Assessment Piece 1 were based on the students' participation during the first five days of a residential course. The participation was graded according to the effort demonstrated in the completion of one report and seven sets of notes and to the students' general participation in syndicate work and plenary discussion. This grading was performed by the ANU team 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 students 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 piece of written communication. As a guide, the students were advised that a report of around 10 pages of text, plus graphs, tables, and a one page executive summary would be expected to be adequate.

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 assessment was open book, and students were allowed to bring any written material to the session, but were not allowed any outside communication.

Results

All of the students were awarded 8 out of 10 for participation in the residential course. All completed the pre-work satisfactorily and all contributed actively to the syndicates and the plenary discussions.

The proposed pass results for Assessment Piece 1 as a whole were the same as the pass results for the case assessments. These are shown by subject below:

Subject	Sat	Pass	Fail	Pass Rate
Life Insurance	10	7	3	70%
General Insurance	12	8	4	67%
Superannuation	2	1	1	50%
Investments	4	3	1	75%
Total	28	19	9	68%

Overall, most of the students produced a report that was well set out and that communicated their recommendations clearly, although some neglected to provide the analysis that backed up their recommendations. Across the different subjects, those that passed were the ones that demonstrated an understanding of the main technical and business issues.

Life Insurance

The Life Insurance case required candidates to assess the value of AMP from the perspective of a potential foreign acquirer, using publicly available data. Students were required to produce a report for the potential acquirer with advice on the value of AMP and potential synergies, given the acquirers experience with previous acquisitions and its specific financial targets.

In general, those awarded pass marks demonstrated a sound understanding of how to value AMP's life business, identified the main issues affecting the value of the business, and prepared a clear report setting out their conclusions. Those awarded marks below 50 typically showed poor understanding of important aspects of the valuation.

General Insurance

The General Insurance case required candidates to "peer review" an actuarial report and comment on the bonus scheme for a specialist motor insurer. The actuarial report recommended provisions for the insurer that were clearly on the low side.

The original intent of this case was to describe a conflict-of-interest situation. An internal actuary had recommended provisions low enough – and hence a profit number high enough – to ensure that he and other managers would just qualify for a bonus.

There is a clear gap between the level of the marks of the students awarded a pass and the marks of the 4 students who failed. In general, those awarded pass marks identified the issues with the level of provisions and provided clear recommendations for addressing those issues. The better answers touched on business issues such as pricing and reinsurance as well as reserving.

Superannuation

The Superannuation case presented a situation where a client wanted an actuary to recommend continued contributions from its parent company towards the cost of a closed super fund, when the actuary had already recommended lower contributions from the subsidiary. The candidate was required to prepare a file note addressing technical, commercial and professional issues as well as drafting a report for the client.

Investments

Candidates selecting the Investments case were required to prepare a report for the Board of the Government's new Future Fund. The purpose of the report was to recommend the investment strategy for the Fund, including asset allocations, taking into account risks such as the political risk of significant falls in asset values and the risk of failing to meet future liabilities.

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 student was required to attempt 2 out of the 5 questions. Students were permitted to take any materials into the examination.

Results

It is proposed that 23 out of the 28 candidates, or 82%, should pass.

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

Question	Sat	"Passed"[1]	Percent Passed	Average Mark A	Average Mark B	Average Mark
Ageing Populations	14	12	86%	57	56	57
Environment	14	10	71%	53	54	53
Health	7	6	86%	57	56	57
Infrastructure	15	11	73%	56	54	55
Banking	6	3	50%	43	44	44
All Questions	56	42	75%	54	54	54

[1] 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 Assessment Piece 2 were relatively good, although the distribution of marks included a lot in the 50s and low 60s and the average marks were lower than for Assessment Piece 1. The highest mark was only 66 for the two questions combined. In general, this reflected a sound understanding of the basic issues, but students did not typically demonstrate strong understanding of the context presented by the non-traditional questions.

The quality of the answers was lower than for Assessment Piece 1. This was to be expected given that Assessment Piece 1 focused on one area where students were expected to have specialist knowledge and where they were given 8 hours to prepare a properly-structured, typed report. By contrast, the students were given only 2 hours to answer two questions, handwritten, in Assessment Piece 2, and were not expected to demonstrate specialist knowledge. The standards required by the markers reflected these differences.

Ageing Populations

The Ageing Populations question asked students to prepare a draft address to some senior Treasury staff, covering a list of specific issues. The issues concerned the ageing population and labour force trends, including the drivers behind these trends, their impact on Government finances and how the Government might respond.

Most of the students could identify the main drivers of labour force trends and their implications, and as a result most students scored more than 50 for this question. In the Chief Examiner's view, this may have reflected the relatively focused teaching provided in this subject and the fact that many of the issues raised by the question required bookwork rather than practical business understanding or judgement. Students were also asked to comment on a proposal to increase the number of skilled workers in the ageing population and gave relatively poor answers on this issue.

Environment

This question asked the students to discuss the key issues raised for one company, Woolworths, by the introduction of a carbon emissions trading scheme.

Most students demonstrated a solid grasp of the general economic impacts of global warming and the implications of the carbon emissions trading scheme. However, many failed to identify the specific implications from the perspective of Woolworths as their client.

Health

Students were asked to prepare a submission seeking the role of actuarial advisor to an industry body for the Australian pharmaceutical industry. The submission was required to set out the issues around the assessment of costs and benefits of medicines and the skills that an actuary could bring to bear on these issues.

Only 7 students attempted this question. One student did not understand the context at all. However, the others all demonstrated a good understanding of the task at hand, although typically without much detail around how the analysis might be conducted. The best response provided a very convincing and well-written submission from the perspective of a non-technical audience.

Infrastructure

This question asked students how they would measure the risks involved in the construction of new venues or upgrading of existing venues for the 2016 Olympic Games in Johannesburg.

There was quite a wide range of marks awarded for this question, reflecting a wide range of appreciation of the issues. The best answers identified the major issues and explained how they might be measured, whereas some of the poorer answers showed little understanding of the basic concepts of risk measurement.

Banking

Students were asked to prepare the executive summary of a report for the CEO of a major Australian bank, assessing the implications of a proposed increase in the risk weighting for residential housing loans from 50% to 80%.

Only 6 students attempted this question and the answers were disappointing. The students generally demonstrated a poor understanding of the practical world of banking. For example, few showed that they understood how banks take into account capital requirements in setting their prices and no one showed a good understanding of likely competitive responses. One student thought that the change would have a positive impact on the bank's financials because it would reduce the capital required!

I believe that the CAP course teaching needs to be strengthened in this area in 2006.

Ken McLeod

Chief Examiner, Commercial Actuarial Practice
December 2005