



Report to ECC from the Board of Examiners

*SEMESTER 2 2013*

*PART III*

*BOARD OF EXAMINERS' REPORT*

Publisher  
The Institute of Actuaries of Australia  
ABN 69 000 423 656  
Level 7, 4 Martin Place  
Sydney NSW 2000  
Tel: +61 (0)2 9233 3466, Fax: +61 (0)2 9233 3446  
[www.actuaries.asn.au](http://www.actuaries.asn.au)

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# CHAIR'S REPORT

## SUMMARY

### Examination Administration

The Semester 2 2013 Part III examinations of the Actuaries Institute ("Institute") were held from the 1<sup>st</sup> to 23<sup>rd</sup> of October 2013.

### Pass Rates

The number of candidates presenting for the Semester 2 2013 Part III Exams, the recommended passes and the resulting pass rates are shown in the table below, together with the corresponding numbers for the previous three exam periods:

**Table A: Recommended Number of Passes by Part III Course**

	2013 (2)			2013 (1)			2012 (2)			2012 (1)		
	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%	Sat	Pass	%
C1 Investments	n/a	n/a	n/a	n/a	n/a	n/a <sup>1</sup>	43	18	42	56	17	30
2A Life Insurance	59	25	42	50	26	52	43	14	33	67	22	33
2B Life Insurance	44	17	39	43	11	26	43	17	40	52	13	25
3A General Insurance	76	14	18	96	31	32	96	29	30	103	29	28
3B General Insurance	64	17	27	62	22	35	69	26	38	71	27	38
5A Invest. Man. & Fin.	41	21	51	n/a	n/a	n/a	30	17	57	n/a	n/a	n/a
5B Invest. Man. & Fin.	n/a	n/a	n/a	37	21	57	n/a	n/a	n/a	22	13	59
6A GRIS	n/a	n/a	n/a	19	8	42	n/a	n/a	n/a	16	5	31
6B GRIS	17	7	41	n/a	n/a	n/a	14	3	21	n/a	n/a	n/a
7A ERM <sup>2</sup>	98	22	22	98	39	40	91	30	33	83	31	37
ST1 Health & Care	20	2	10	20	9	45	16	6	38	13	5	38
F101 Health Principles <sup>3</sup>	1	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
C10 CAP	84	49	58	74	39	53	71	40	56	82	47	57
<b>Total</b>	<b>504</b>	<b>174</b>	<b>35%</b>	<b>499</b>	<b>206</b>	<b>41%</b>	<b>516</b>	<b>200</b>	<b>39%</b>	<b>565</b>	<b>209</b>	<b>37%</b>

The Chief Examiners aim to produce consistent standard of passing candidates, rather than a consistent pass rate from year to year. This semester, the recommended overall pass rate of 35% is lower than in previous semesters. Excluding the ERM and Health the Part III exams in the latest period shows a 2% decrease over the previous semester.

For this semester, subjects 3A, 3B and 5A were assessed on the new model comprising 10% online forum participation, 30% multiple choice questions and 60% for two long answer questions.

<sup>1</sup> With C1 Investments being discontinued in 2013 it is difficult to conclude overall numbers until C7A and ST1 results are released.

<sup>2</sup> All C7A ERM figures are in terms of non-fellows only.

<sup>3</sup> The ASSA F101 exam was offered for the first time this semester.

It was disappointing that the pass rate for the ST1 Health examination was so low this semester. It is difficult to ascertain the reason behind this as this is developed and assessed by the Institute and Faculty of Actuaries in the UK.

It was also disappointing that the 3A and 3B pass rates were poor for the new assessment model compared to the previous pass rates under the old model. This is consistent with the pass rates observed for Life Insurance when the new assessment model was introduced, reflecting students struggled with the two longer answer questions.

However, it was pleasing that the 5A pass rate under the new model was consistent with previous pass rates under the old model.

## Fellows

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

**Table B: Recommended Number of Fellows**

Category	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)	2011 (1)
New Fellows	31	29	27	43	36	40

## Online Forum Participation

The online forum participation mark continued for all Institute delivered courses this semester except C10.

Students are required to post 2 original posts and 4 replies. A participation mark was awarded based on the quality of these posts.

The following table provides a distribution of the participation marks received by students:

Participation Mark	Subject						Total
	2A	2B	3A	3B	5A	6B	
10	17	19	36	0	17	0	89
9	29	6	10	4	7	0	56
8	6	7	16	15	4	14	62
7	2	6	4	21	6	1	40
6	1	4	2	17	0	0	24
5	0	0	1	0	3	0	4
4	1	0	3	4	2	0	10
3	0	0	0	1	0	0	1
2	3	0	2	1	0	0	6
1	0	0	0	0	0	0	0
0	2	2	6	1	8	3	22
No. of Candidates	61	44	80	64	47	18	314
Average Mark	8.1	8.3	8.0	6.7	7.0	6.6	7.6

Observations:

- The overall average mark was 7.6/10, lower than the 8.2/10 average mark for the previous semester, Semester 1 2013.

- For 2B there was an increase in the level of participation of students in the online forum. The average participation mark increased from 7.3/10 for last semester to 8.3/10 this semester. The proportion of students achieving the maximum mark of 10/10 increased from 14% for last semester to 43% this semester.
- For 3B there was a significant decrease in the average participation mark from 8.7/10 for last semester to 6.7/10 this semester. For GRIS, there was a decrease in the average participation mark from 7.7/10 for 6A last semester to 6.6/10 for 6B this semester. For both 3B and 6B no students were able to achieve the maximum mark of 10/10. The importance of the participation assessment needs to be reinforced to students in these two subjects. These results indicate that there continues to be a high level of student engagement in the online assessment.

# Examination Administration

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## 1. The Board

The Board of Examiners oversee the Part III examination process of the Actuaries Institute. The Board of Examiners consist of the Chair and the Chief Examiners for each subject, supported by Institute staff.

### 1.1. BoE Chair

Chair                      Gary Musgrave

### 1.2. Chief Examiners

Course 2A:	Life Insurance	Bridget Browne
Course 2B:	Life Insurance	Steve Miles
Course 3A:	General Insurance	James Pettifer
Course 3B:	General Insurance	John Tucci
Course 5B:	Investment Management & Finance	David Pitt/Tim Kyng
Course 6B:	Global Retirement Income Systems	Stephen Woods
Course 10:	Commercial Actuarial Practice	Bruce Thomson

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.

### 1.3. Meetings of the Board

The Board met on three occasions this semester as part of the exam process as follows:

**Table 1: Meetings of the Board**

Meeting	Purpose
11 July 2013	<ul style="list-style-type: none"><li>• Update on enrolment numbers and course offerings for this semester.</li><li>• Identify Chief &amp; Assistant Examiners and Course Leaders for each course for this semester.</li><li>• Outline the responsibilities of Chief Examiners and this semester's schedule.</li><li>• Review progress on the drafting of the exams to date</li></ul>
11 September 2013	<ul style="list-style-type: none"><li>• Discuss the status of this semester's examination papers, model solutions and sign-off process.</li><li>• Discuss the marking spreadsheets and review the recruitment of markers.</li></ul>
27 November 2013	<ul style="list-style-type: none"><li>• Review the recommended pass lists and treatment of borderline candidates.</li><li>• Review the recruitment of Chief Examiners and Assistant Chairs for next semester.</li></ul>

## 2. Administration and Exam Supervision

The Board of Examiners was ably assisted by a number of Institute staff, in particular Philip Latham, Rebecca Moore and Liz Harding. Philip, Rebecca and Liz 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 and the Board of Examiners team is indebted to them all.



The Part III C6B Sydney and Melbourne standard examinations delivered by the Institute were once again run by an external consultancy – Language and Testing Consultancy (LTC).

The Part III CAP, Life Insurance, General Insurance and Investment Management & Finance examinations were run by an external consultancy – Cliftons, a computer training venue.

Other examinations were administered by Fellows or other approved supervisors.

### 3. Course Leaders

Since October 2004, Course Leaders have been appointed by the Institute to undertake a variety of tasks relating to modules 1-3 of the Part III education program. Course Leaders draft examination questions, conduct tutorials, monitor forums and assess the online participation mark. The following is a list of the Course Leaders for this semester:

**Table 2: Course Leaders**

Course	Roles
2A	Exam: Aaron Bruhn Tutorials, Forum and Participation: Bruce Thomson Expert Testing of MCQs: Andrew Patterson
2B	Exam: Andrew Gill Tutorials, Forums and Participation: Anthony Brien Expert Testing of MCQs: Andrew Patterson
3A	Longer Answer Questions: Carol Dolan, Gae Robinson, James Fitzpatrick Writing MCQs 3A: Kostia Lubarsky, Carol Dolan, Gae Robinson, Ben Qin, Mark Wylie Writing MCQs 3B: Colin Priest, Phichol Lee, Ben Qin, Angela Tong, Ankit Bansal, Kostia Lubarsky Reviewing MCQs 3A: Gae Robinson, Carol Dolan Reviewing MCQs 3B: Deborah Driussi (3B), Mitchell Prevett (3B Units 1 & 2), Phichol Lee (3B Unit 3), Andy White (3B Unit 4) Expert Testing of MCQs 3A: James Pettifer New Writers (post Sem 2 2013 exams): Chao Qiao, Nick Phin, Weihao Choo, Zeming Yu Tutorials: Ben Qin Forums and Participation: Felix Tang
3B	Longer Answer Questions: Carol Dolan, Gae Robinson, James Fitzpatrick Writing MCQs 3A: Kostia Lubarsky, Carol Dolan, Gae Robinson, Ben Qin, Mark Wylie Writing MCQs 3B: Colin Priest, Phichol Lee, Ben Qin, Angela Tong, Ankit Bansal, Kostia Lubarsky Reviewing MCQs 3A: Gae Robinson, Carol Dolan Reviewing MCQs 3B: Deborah Driussi (3B), Mitchell Prevett (3B Units 1 & 2), Phichol Lee (3B Unit 3), Andy White (3B Unit 4) Expert Testing of MCQs 3A: James Pettifer New Writers (post Sem 2 2013 exams): Chao Qiao, Nick Phin, Weihao Choo, Zeming Yu Tutorials: Jeffrey Thorpe Forums and Participation: Daniel Fung
5A	Longer Answer Questions (5A): Andrew Leung, Kevin Fergusson Writing MCQs: 5A : Paul Scully, Greg Vaughan, John Archer, Derek Bilney, Cary Helenius, Andrew Leung Writing MCQs 5B: Claymore Marshall, Henry Zhang, Kevin Fergusson, Andrew Leung

	Reviewing MCQs 5A: Andrew Goddard Reviewing MCQs 5B: Jeroen Van Koert, Ryan Chen, Vivien Yu Expert Testing of MCQs 5A: Andrew Fisher New MCQ Writers 5B: Shankar Jegasothy, Sam Killmier, Natalie Tan Tutorials, Forums and Participation:
6B	Exam, Tutorials, Forums and Participation: David McNeice
7A	This course is run completely external to the Institute.
ST1	This course is run completely external to the Institute.
F101	This course is run completely external to the Institute
CAP	David Service

## 4. The Examination Process

The new assessment model, that was implemented for Life Insurance in semester 2 2012, was also implemented for General Insurance and Investment Management and Finance for the first time in semester 2 2013. The following assessment structure was in place for these courses:

- A multiple choice component. (weighted at 30%), and;
- A longer answer component (weighted at 60%)

Course 6B Global Retirement Income Systems continued with the same examination assessment structure as last semester:

- 7 examination questions. (weighted at 90%)

Course 10 Commercial Actuarial Practice also continued with the same examination assessment structure as follows:

- An 8-hour case study exam (weighted at 80%)

Chief Examiners were appointed in all subjects and worked with either the Project Team or Course Leader on the draft exam questions.

### 4.1. Multiple Choice Component Question setting

The multiple choice questions in Life Insurance, General Insurance and Investment Management and Finance were developed and reviewed by Course Leaders and the project team and delivered to students using a customised version of the Australian and New Zealand Institute of Insurance and Finance's (ANZIIF) exam system. The multiple choice component was run on a closed book basis. The following process was followed:

- 6 additional multiple choice questions and sample answers were written for each course and made available to students in the LMS during the semester
- All new questions were reviewed by an independent member of the project team
- All new questions were tested by an expert (member of the Practice Committee)
- Chief Examiners reviewed for overall course coverage and pre-selected examination questions.
- Testing with new Fellows
  - scrutineers completed the multiple choice component in the actual ANZIIF online exam system
- Final selection of questions by the Chief Examiners and project team
- Sign-off of all questions for semester 2 2013 by Chief Examiners and one other writer from the project team.

#### **4.2. Longer Answer Component Question setting**

The Course Leader developed the longer answer questions in Life Insurance and the Project Team developed the General Insurance and Investment Management and Finance. The longer answer questions were conducted on an open book basis. The following process was followed:

- Review and edit by Chief and Assistant Examiners.
- Testing with new Fellows
- Sign-off of all questions for semester 2 2013 by Chief Examiners and one other writer from the project team.

#### **4.3. CAP and C6B Paper Based Exam Question setting**

The exam assessments for C6B and C10 were set as per previous semesters. These examinations were also conducted on an open book basis. The framework used to set these papers is described as follows:

- The Course Leader (or equivalent) drafts the examination questions in consultation with the Chief Examiners.
- Draft exams and solutions are reviewed for coverage and fairness.
- A recently qualified Fellow scrutineered the 6B paper under exam conditions to assess clarity, coverage and length.
- A recently qualified Fellow scrutineered the CAP examination to assess any analysis/calculations, clarity, coverage and length.
- Exams are redrafted after feedback from the scrutineer.
- Exams, solutions and marking guides are finalised by the Chief Examiners and their Assistants.
- The Chief Examiner and an Assistant Examiner sign off the final examination papers and solutions.

#### **4.4. Exam marking**

The general framework used to mark examination papers, grade candidates and determine passes, except for Course 7A, ST1 Health & Care and F101 Health Principles, is described as follows:

<b>Subject</b>	<b>Minor Assessment</b>	<b>Weighting</b>
2A, 2B, 3A, 3B, 5A, 6B	Online forum participation	10%
C10	Post course report assignment	20%
<b>Subject</b>	<b>Major Assessment</b>	<b>Weighting</b>
2A, 2B, 3A, 3B, 5A	Multiple Choice Component	30%
2A, 2B, 3A, 3B, 5A	Longer Answer Component	60%
6B	Hand-Written Exam	90%
C10	Case Study Exam	80%

- Except for CAP, two markers marked each question, with CAP only those candidates with a mark above 40% or below 60% were marked a second time. 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.

- Scaling was only applied in C6B
- Each candidate was awarded a grade (A, B, C, D or E) for each question, 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, weighted average grade and weighted average rank. The key determinant however was the total raw mark.
- Candidates were ranked based on total raw mark.
- Candidates' online forum participation, multiple choice marks and assignment marks were added to the exam metrics.
- For the multiple choice component, ANZIIF provided a report which included a total mark per candidate.
- Candidates were divided into clear passes, clear failures and a middle group that required further consideration.
- The Chief Examiner reviewed the middle group individually. The pass/fail decision was made after determining the overall raw mark across all assessments.
- The principle of "fitness to practise" was applied on the basis of the following questions:
  1. Was the candidate's performance across all of the assessment components free of any serious misunderstandings?
  2. Did the candidate demonstrate that they understand the key concepts of the course across all assessment components?
  3. Was the candidate able to present reasonable arguments to back up their conclusions in their assessments?

Where the answer to all of these questions was 'Yes', the candidate was passed overall.

## **5. The Online Forum and Assignment Process (Subject 10 and Modules 2-3)**

### **5.1. Online Forum Participation**

The online forum participation mark was introduced for subjects: Life Insurance, General Insurance and Global Retirement Income Systems in Semester 1 2012, replacing the previous assignment assessment. The participation mark was introduced for Investment Management and Finance in Semester 1 2013. The online forum participation mark contributed 10% of the total assessment.

Following feedback from students and Course Leaders, the marking guidelines were changed in semester 2 2012 from students having to post three original posts and reply to three posts from other students to students having to post two original posts and reply to four from other students. A participation mark was awarded based on the quality of these posts, using the following marking guidelines:

Marks	Description
2	Candidate meets the minimum standard of 2 original posts and 4 responses to other students' posts
PLUS	
3	Posts are <b>usually</b> well communicated
2	Posts are <b>sometimes</b> well communicated
0	Posts are <b>never</b> well communicated
PLUS	
3	Posts <b>usually</b> discuss the issues and recommend a solution or practical difficulties, in the context of the current discussion (where relevant)
2	Posts <b>sometimes</b> discuss the issues and recommend a solution or practical difficulties, in the context of the current discussion (where relevant)
0	Posts <b>never</b> discuss the issues and recommend a solution or practical difficulties, in the context of the current discussion (where relevant)
PLUS	
2	Candidate makes additional posts which assist other candidates
<p>*Maximum of 10 marks</p> <p>If the candidate does not meet the minimum requirement of 2 original posts and 4 responses to other students' post they will be limited to a maximum of 5 marks.</p>	

## 6. Module 4 CAP - The Case Study Process

The CAP course was developed and originally delivered for the Institute by the ANU but is now run directly by the Institute. The CAP team included David Service, Bruce Edwards, Julie Cook, Colin Priest, Naomi Edwards, Kirsten Armstrong, Bruce Thomson, Adam Butt and Aaron Bruhn. The team also developed the assessment materials for the course and did the marking.

The assessment method changed in Semester 2 2010 due to the restructure of the CAP course. There are still two assessment tasks, but they are now:

1. A post-course report assignment on one of the three non-traditional topics, distributed after the residential course. This semester one third of the students were randomly allocated to each non-traditional topic. It is worth 20% of the final mark.
2. An 8-hour case study report chosen by each student from among the 5 traditional topic areas, to be prepared under exam conditions but with use of a computer. This is worth 80% of the final mark.

The pass mark is 50%. Candidates who had passed part of the previous course were allowed to submit only the other equivalent part this semester.

It is not mandatory for failing candidates to re-attend the residential course.

The development and delivery of the course was overseen by a Faculty, consisting of Bridget Browne (Chair), David Service (Course Leader), Bruce Thomson (Chief Examiner), Matthew Ralph (Assistant Examiner) and case study question writers.

The case study assessment questions were reviewed by Actuaries from the different areas of practice, specifically:

Life Insurance:	Etienne Chan
General Insurance:	Carson Wu
Global Retirement Income Systems:	Su Li Sin
Investments:	Henry Zhang
Banking:	Leonid Elikhis
Environment:	Kuan Kiat Cheah
Health:	Matthew Simons
Enterprise Risk Management:	Ai Nee Seow

## 7. Examination Dates

This semester's Part III examinations were held on the following dates:

**Table 3: Examination Dates**

Course	Subject	Exam Date
2A	Life Insurance	14 October 2013
2B	Life Insurance	16 October 2013
3A	General Insurance	17 October 2013
3B	General Insurance	18 October 2013
5A	Investment Management & Finance	21 October 2013
6B	Global Retirement Income Systems	22 October 2013
7A	Enterprise Risk Management	1 October 2013
ST1	Health & Care	3 October 2013
CAP	Commercial Actuarial Practice	23 October 2013
F101	Health Principles	4 November 2013

## 8. Post Course Assignment Dates

This semester's Part III Post Course assignment was due on 26<sup>th</sup> September 2013.

## 9. Examination Centres

Candidates sat the exams in 7 centres in Australia and 10 centres overseas.

**Table 5: Candidates by Exam Centre**

<b>Location</b>	<b>Number of Candidates</b>
Australia	432
Brisbane	8
Canberra	2
Perth	4
Melbourne	75
Sydney	343
Overseas	72
Japan	1
South Korea	1
China	6
USA	2
Hong Kong	15
Malaysia	6
New Zealand	17
Singapore	17
United Kingdom	7
<b>Total</b>	<b>504</b>

## 10. Exam Candidature

### *10.1. Candidate Mix*

The mix of courses sat by candidates is broadly similar to that in previous years. C1 Investments was discontinued in 2013 and the new module one structure was introduced allowing candidates to choose a variety of different options. This change has slightly affected the candidate mix in 2013.

**Table 6: Candidate Mix by Part III Course**

<b>Subject</b>	<b>2013 (2)</b>	<b>2013 (1)</b>	<b>2012 (2)</b>	<b>2012 (1)</b>	<b>2011(2)</b>
Investments	n/a	n/a	8%	10%	13%
Life Insurance	20%	19%	17%	21%	18%
General Insurance	28%	32%	32%	31%	28%
Investment Management & Finance	8%	7%	6%	4%	5%
Global Retirement Income Systems	3%	4%	3%	3%	2%
Enterprise Risk Management	19%	20%	18%	15%	16
Health	4% <sup>4</sup>	4%	3	2%	n/a
Commercial Actuarial Practice	17%	15%	14%	15%	17%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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<sup>4</sup> From semester 2 2013, the candidate mix includes both the IFoA ST1 Health and Care and the ASSA Health Principles examinations.



# Examination Papers and Assignments

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## 1. Examination Structure

The structure of the Global Retirement Income Systems examination was a single three-hour exam paper weighted at 90%.

The following components were included for Life Insurance, General Insurance and Investment Management and Finance examinations under the new assessment structure:

Multiple Choice Component	1 hour
Lunch	1 hour
Longer Answer Component (two questions)	3 hours

The multiple choice component of the exam was worth 30% and the longer answer component was worth 60% of the final assessment.

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

For Module 4, Commercial Actuarial Practice, candidates sat an eight-hour case study exam paper on five traditional areas of actuarial practice, answering 1 out of 5 questions and worth 80% of the final assessment.

## 2. Online Forum Participation/Assignment / Case Study Structure

The non-exam assessment structure for Modules 2 & 3 comprised of an online forum participation mark weighted at 10% of the final assessment.

Module 4 (Course 10 – Commercial Actuarial Practice) included a post course assignment on one of the 3 non-traditional topics (Banking, Health, Environment), distributed after the residential course for completion within 2 weeks. This semester one third of the students were randomly allocated to each topic which was worth 20% of the final assessment.

## 3. Examination Standards

The standard for 6B 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).

Life Insurance, General Insurance and Investment Management and Finance, as part of the new assessment structure, adopted the *Miller's Pyramid* approach, which is about professional performance. It is divided into four different levels of performance: *Knows*, *Knows How*, *Shows How*, and *Does*. A good system for assessing professional performance should cover all levels of the pyramid. The higher levels of the pyramid are particularly important, as the higher levels subsume the lower levels.

The questions aimed to cover the whole syllabus.

The standards to be achieved by candidates sitting each course, the principles on which papers are to be set and the marking procedures, are set out in the Guidelines to Examiners.

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

#### **4. Security of Examination Papers**

With the use of modern technology the security of Examination papers has significantly improved. With the exception of 6B, scanning is no longer required due to computer based assessments. Exam scripts were uploaded onto an internal installation of the Institute's Learning Management System and made available to markers and examiners.

Where scanning is still required for 6B, overseas supervisors were asked to photocopy papers before sending them by courier to the Institute office and secure couriers were used to transport papers.

#### **5. Comments on Candidates' Minor Assessment Performance**

As the Chief Examiners were unable to review candidates' online forum participation/assignments, no comments on their non-exam performance can be provided.

# Results

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## 1. Pass Standards

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

Candidates are required to demonstrate:

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

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

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

For Course 7A and ST1 Health and Care, passes are approved by the Board of Examiners of the Institute and Faculty of Actuaries in the UK.

For Course F101, passes are approved by the Board of Examiners of the Actuarial Society of South Africa.

## 2. Pass Rates by Centre

The pass rates by exam centre were as follows:

**Table 7: Comparison of Pass Rates by Centre**

	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)	2011 (1)
Sydney	34%	39%	38%	33%	37%	37%
Melbourne	31%	40%	51%	48%	38%	43%
Other Australian	57%	42%	48%	27%	20%	61%
Overseas	35%	51%	39%	30%	23%	36%
Other Australian & Overseas combined	38%	49%	42%	29%	22%	42%
<b>Total</b>	<b>35%</b>	<b>41%</b>	<b>40%</b>	<b>37%</b>	<b>34%</b>	<b>39%</b>

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 'Other Australian' exam centres increased by 25% this semester.
- The pass rate for 'Overseas' exam centres decreased by 13% this semester.

## 3. Pass Marks

**Table 8: Raw Pass Marks by Part III Subject**

	Subject	2013 (2)	2013 (1)	2012 (2)	2012 (1)	2011 (2)	2011 (1)
2A	Life Insurance	123.7	113.1	113.2	104.5	93.0	89.0
2B	Life Insurance	114.7	111.1	116	105.0	105.0	109.0
3A	General Insurance	105.1	117.7	111.4	109	105.0	109.8
3B	General Insurance	104.1	114.5	105	115.0	100.1	101.7
5A	Investment Management and Finance	106.5	n/a	107.1	N/A	111.9	n/a
5B	Investment Management and Finance	n/a	95.0	n/a	112.1	n/a	99.6
6A	Global Retirement Income Systems	n/a	116.8	n/a	104.4	n/a	106.5
6B	Global Retirement Income Systems	108.7	n/a	106.9	N/A	106.6	n/a

# BoE Members for Semester 1 2014

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**1. Board of Examiners** The recommended constitution for the Board of Examiners for next semester (semester 1 2014) is as follows:

## **1.1. Chair**

Gary Musgrave

## **1.2. Chief Examiners**

Course 2A: Life Insurance	Bridget Browne
Course 2B: Life Insurance	Matthew Wood
Course 3A: General Insurance	James Pettifer
Course 3B: General Insurance	David Xu
Course 5A: Investment Management & Finance	David Pitt
Course 6B: GRIS	Stephen Woods
Course 10: Commercial Actuarial Practice	Bruce Thomson

## **1.3. Assistant Examiners**

Course 2A: Life Insurance	Andy Siu, Alissa Holz
Course 2B: Life Insurance	Matthew Simon, Emily Galer
Course 3A: General Insurance	Yvonne Wong, Nadeem Korim
Course 3B: General Insurance	Jacob Sharff
Course 6B: GRIS	Jim Repanis
Course 10: Commercial Actuarial Practice	Matthew Ralph

## **2. Examination Dates**

The dates for the examinations in Semester 1 2014 are as follows:

**Table 9: Examination Dates**

<b>Module</b>	<b>Subject</b>	<b>Exam Date</b>
1 (7A – ST9)	Enterprise Risk Management	24 April 2014
1 (STI)	Health & Care (IFoA)	30 April 2014
1 (F101)	Health Principles (ASSA)	TBC
2 (2A)	Life Insurance	28 April 2014
2 (3A)	General Insurance	30 April 2014
2 (6A)	Global Retirement Income Systems	8 May 2014
3 (2B)	Life Insurance	29 April 2014
3 (3B)	General Insurance	2 May 2014
3 (5B)	Investment Management & Finance	7 May 2014
4 (10)	Commercial Actuarial Practice	9 May 2014

## **3. Exam Solutions**

Excluding the multiple choice questions and answers, the Board of Examiners have agreed to release this semester's examination questions only. The marking guides will be used as learning resources in 2014. It is recommended that the 2013 Semester 2 examination papers be released on 11 December or as close to this time as possible.

Gary Musgrave  
Chair, Board of Examiners  
6 December 2013

# EXAMINER REPORTS

## Course 2A Life Insurance

### Chief Examiner's Report Semester 2 2013

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#### 1. Summary

##### 1.1. Course Overview

The aim of the 2A Life Insurance Course is to provide the knowledge, skills and judgement necessary for an actuary to tackle a range of management related problems in life insurance relating to pricing, the general environment and risk management practices of life offices and associated funds management companies.

##### 1.2. Assessment

The assessment model is broken down into three parts:

Forum Participation	10%
Multiple Choice Exam	30%
Long Answer Question Exam	60%

The multiple choice exam contained 32 questions worth 81 marks in total. It was conducted under closed book conditions and candidates had 1 hour to complete this component.

The Long Answer Question Exam contained 2 questions. It was conducted under open book conditions and candidates had 3 hours to complete this component.

##### 1.3. Pass Rates

Of the 73 candidates enrolled in the course, 12 withdrew, and 2 did not present for the exam, leaving 59 sitting the exam. The assessment comprised of an online participation mark weighted at 10% and an exam weighted at 90%.

It is proposed that 25 Candidates be awarded a pass, which implies a pass rate of 42%. This compares with the following historical pass rates for this subject:

**Table 1 – Course Experience**

Year	Semester	Sat	Passed	Pass Rate
2013	Semester 2	59	25	42%
2013	Semester 1	50	26	52%
2012	Semester 2	43	14	33%
2012	Semester 1	67	22	33%
2011	Semester 2	54	10	20%
2011	Semester 1	60	18	30%
2010	Semester 2	55	17	31%
2010	Semester 1	39	11	28%
2009	Semester 2	52	31	60%
2009	Semester 1	58	23	40%

The 42% pass rate for this exam is lower than the 52% pass rate for the previous exam (Semester 1 2013), but is higher than the 33% for each semester of 2012.

#### 1.4. Candidate Numbers

The Candidate numbers can be summarised as follows:

**Table 2 – Candidate Numbers**

	Number of candidates
Originally enrolled	73
Withdrawn prior to exam	12
Absent from exam	2
Presented at exam	59
Passed	25
Failed	34

The analysis by examination centre is as follows:

**Table 3 – Analysis by Examination Centre**

Centre	Presented	Passed	Pass Rate
Sydney	35	14	40%
Melbourne	13	6	46%
Other Australia	1	1	100%
<b>Subtotal Australia</b>	<b>49</b>	<b>21</b>	<b>43%</b>
China	1	0	0%
Hong Kong	3	2	67%
Malaysia	1	1	100%
Singapore	3	1	33%
South Korea	1	0	0%
NZ	1	0	0%
<b>Subtotal International</b>	<b>10</b>	<b>4</b>	<b>40%</b>
Total	59	25	42%

The numbers in centres other than Sydney are too low to draw any reliable conclusions. It is, however, clear that the Sydney pass rate remains slightly lower than the others as for last semester.

The International candidates performed satisfactorily with a pass rate of 40%.

## **2. Examination Administration**

### **2.1. Examiners**

The examiners for this semester were:

Chief Examiner:           Bridget Browne

Assistant Examiners:   Andy Siu and Alana Paterson

### **2.2. Course Leader**

The Course Leaders for this semester were:

Exam:                            Aaron Bruhn

Forum & Participation Mark: Bruce Thomson

Tutorials:                      Bruce Thomson

## **3. Assessment**

### **3.1. Overall Performance**

Overall performance in the Forum Participation remains strong, in the MCQ it was stronger than previous semesters and the LA questions remained the most important differentiators in terms of fitness to practice. Overall achievement was satisfactory.

<b>Participation Mark</b>	<b>Number</b>	<b>% Frequency</b>	<b>% Cumulative Frequency</b>
10	17	28%	28%
9	29	48%	75%
8	6	10%	85%
7	2	3%	89%
6	1	2%	90%
5	0	0%	90%
4	1	2%	92%
3	0	0%	92%
2	3	5%	97%
1	0	0%	97%
0	2	3%	100%
Total	61	100%	

As previously stated, the average mark was 8.1. 85% of candidates gained a mark of 7.5 or more.



### 3.2. Exam Question by Question Analysis

Question LAQ1	Total Marks: 30			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	22.5	75%	4	7%
Pass (B)	20.0	67%	15	25%
Slightly Below Standard (C)	15.0	50%	23	39%
Weak (D)	9.0	30%	11	19%
Showed Little Knowledge (E)	4.5	15%	5	8%
Did Not Attempt (X)	-	0%	1	2%
			59	
Maximum Mark	26.5			
Average Mark	16.7			
Standard Deviation	5.3			
Coefficient of Variation	32%			

Candidates performed reasonably on this question, with a pass rate of 32%.

The question required an experience analysis. Part a) was the quantitative element as was, as expected, performed very well by most candidates. Parts (b) and (c) focused on further analyses and risk management implications respectively of the unusual experience. Most candidates identified the unusual experience by amounts (much worse than that by lives) but few were able to fully discuss possible reasons and connect this back to the information provided in the question. Very few identified the apparent cat event in the data.

But overall this was performed well and the relative ease of the quantitative component warranted the higher pass mark criterion.

Question LAQ2	Total Marks: 30			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	19.5	65%	3	5%
Pass (B)	16.0	53%	16	27%
Slightly Below Standard (C)	12.0	40%	17	29%
Weak (D)	7.5	25%	14	24%
Showed Little Knowledge (E)	3.0	10%	8	14%
Did Not Attempt (X)	-	0%	1	2%
			59	
Maximum Mark	21.5			
Average Mark	12.7			
Standard Deviation	5.0			
Coefficient of Variation	39%			

Candidates performed reasonably on this question, with a pass rate of 31%, albeit with a pass criterion set at 16 out of 30.

The question was built around consideration of a new product launch combined with the considerable extension of an existing DI product range. Part (a) required pricing of two reinsurance options for a new annuity product. This was performed well by some candidates although a number seemed to fall back on templates that contained elements that were not required for the question (e.g. reserving, lapses), which were not helpful. Part (b) asked for a discussion of the reinsurance options and a recommendation. Part (c) asked for a full discussion of the proposed strategy with advice for the CEO and the Board. Both these parts were handled fairly poorly. The distinction was between candidates who provided generic discussions and those who were able to make their points specific to the circumstances described.

# Course 2B Life Insurance

## Chief Examiner's Report Semester 2 2013

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### 1. Summary

#### 1.1. Course Overview

The aim of the 2B Life Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in life insurance relating to valuation techniques, capital management profit analysis, valuation of a company, reporting of results and professionalism.

Substantial revisions of the course were introduced following legislation changes which introduced new capital management rules for life insurance companies.

#### 1.2. Assessment

This was the third semester where the assessment for both 2A & 2B was conducted under the new assessment model intended for all Part III subjects (except CAP) in future.

The assessment model is broken down into three parts:

Forum Participation	10%
Multiple Choice Exam	30%
Long Answer Question Exam	60%

The multiple choice exam contained 29 questions. It was closed book and candidates had 1 hour.

The Long Answer Question Exam contained 2 questions. It was open book and candidates had 3 hours with no reading time. The exam was conducted on computers and candidates were required to submit their answers in the form of Word documents. Candidates were also able to submit spreadsheets but were advised that only their word document would be marked.

#### 1.3. Pass Rates

48 candidates enrolled for the Semester 2 2013, 2B Course, 4 withdrew and 44 sat the exam. It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 39%. Table 1 shows the historical pass rates for this subject:

**Table 1 – Course Experience**

<b>Semester</b>	<b>Sat</b>	<b>Passed</b>	<b>Pass Rate</b>
2013, Semester 2	44	17	39%
2013, Semester 1	43	11	26%
2012 Semester 2	43	17	40%
<b>New System</b>	<b>130</b>	<b>45</b>	<b>35%</b>
2012 Semester 1	52	13	25%
2011 Semester 2	41	6	15%
2011 Semester 1	41	16	39%
2010 Semester 2	39	16	41%
2010 Semester 1	63	28	44%
<b>Previous System</b>	<b>236</b>	<b>79</b>	<b>33%</b>

The 39% pass rate for this exam is higher than last year and slightly higher than the long term average for the new and previous system. Successful candidates were those who demonstrated good course knowledge as well as the ability to use that knowledge in a way that is relevant to the question. The ability of candidates to handle numerical calculations and understand business finance (e.g. understand a balance sheet) continues to cause concern and needs to be addressed in the course material.

#### **1.4. Candidate Numbers**

The Candidate numbers can be summarised as follows:

**Table 2 – Candidate Numbers**

	<b>Number of candidates</b>
Originally enrolled	48
Withdrawn prior to exam	4
Absent from exam	0
Presented at exam	44
Passed	17
Did not Pass	27

The analysis by examination centre is as follows:

**Table 3 – Analysis by Examination Centre**

	<b>Presented</b>	<b>Passed</b>	<b>Pass Rate</b>
Sydney	27	10	37%
Melbourne	12	5	42%
<b>Total Australia</b>	39	15	38%
New Zealand	3	1	33%
Singapore	1	1	100%
Beijing	1	0	0%
<b>Total Overseas</b>	5	2	40%
<b>Total</b>	44	17	39%

Overseas numbers are low having dropped from 10 last semester. Further analysis of local and overseas results is of limited use due to low numbers.

## **2. Examination Administration**

### **2.1. Examiners**

The examiners for this semester were:

Chief Examiner	Steve Miles
Assistant Examiners	Matthew Simon, Matthew Wood and Mark Barda

### **2.2. Course Leader**

The Course Leaders for this semester were:

MCQ Exam	New Exam Framework Team plus Andrew Gill
Long Answer Exam	Andrew Gill
Forum and Participation Mark	Anthony Brien
Tutorials	Anthony Brien

## **3. Assessment**

### **3.1. Overall Performance**

The required pass mark for this year was the same as last year but the overall the exam performance was better than last year with students achieving higher grades in each area of assessment..

Candidates continue to fall short of the pass standard by failing to answer all parts of the question. Valuable marks are lost when candidates fail to make a clear recommendation when asked. The ability to make such recommendations is one of the key considerations in considering borderline cases.

### 3.2. Exam Question by Question Analysis

The statistical analysis of questions is given below:

Item	Participation	MCQ	Q1	Q2	All
Maximum Mark	20.0	44.6	45.5	56.0	157.3
Average Mark	16.6	32.8	27.8	31.6	108.9
Standard Deviation	4.6	7.0	9.2	9.8	20.8
(SD/Average)	28%	21%	33%	31%	19%
Pass Mark	<b>14.0</b>	<b>36.0</b>	<b>32.0</b>	<b>33.0</b>	<b>114.0</b>
% Pass	86%	39%	41%	45%	39%
Weak Mark			<b>19.0</b>	<b>21.0</b>	
% Weak			48%	43%	
% below Weak			14%	11%	

In addition the sum of the maximum marks allocated in each section of the long answer exam was 54 and 56.5 for Question 1 and 2 respectively. This is an indication that the marking guides were appropriate.

As discussed earlier, participation results were much higher than last year. The MCQ performance has been discussed above but this area of the exam is proving to be more difficult than anticipated and has a lower spread of marks. Nevertheless it is valuable in being able to assess a wide range of topics. It is recommended that questions containing more than one answer be reviewed with the aim of replacing them with questions with one answer only.

#### Long Answer Question 1

This question tested the candidates' knowledge of a company's capital base (Part a), the determination of risk margins (Part b), calculations of capital charge components (Part c) and considerations of alternative ways to reduce capital charges (Part d).

##### Part 1a)

The solution was more straightforward than many candidates thought. Most candidates became tangled up in complexity showing that they had not really examined actual company results and calculations. Very few got the shareholders fund correct.

Part 1b) - A lot of candidates copied parts of the standards without consideration to the specific details of this case. Some assumed disability had to refer to disability income insurance rather than considering TPD insurance. Allowing candidates to bring in CDs to copy and paste results in large volumes of information with limited relevance to the question. The markers recommend that information should be available in a format which does not allow the candidate to copy and paste.

##### Part 1c)

Overall there was reasonable understanding of the approach to take but some candidates didn't know how long a stress should apply for and they weren't sure what to do with IBNR and disabled life reserves. Some appeared not to check their answer for reasonability as answers were way off.

#### Part 1d)

Candidates generally answered this best of all the parts and had some ideas about reducing retention, using another reinsurer etc. Quite a number got side tracked into asset allocation issues rather than concentrating on the reinsurance aspect.

### **Long Answer Question 2**

This question required candidates to calculate a business plan forecast for 2014-17 (Part 2a), then calculate the actual profit compared with the forecast for 2014 and analyse the source of earnings (Part 2b). In part 2c) candidates were required to discuss the impact of three alternative strategies.

#### Part 2a)

Most candidates struggled with investment income (forgot to take into account interest on capital), and claims (most did not net off the IBNR and DAC calculations).

Some candidates made comments on their assumptions on timing of cash flow. Only a handful of these candidates made relevant comment to their investment income approach which allowed the marker to award them a mark.

A solution in excel format was perfectly acceptable. Some candidates put their answers in the word document and some presented their answer in a pretty report format – supplying both was unnecessary and did not get extra marks. This comment applies to 2b as well.

#### Part 2b)

Candidates were not penalized if mistakes carried across from 2a. Most candidates did not check for overall reasonableness of the numbers.

Most candidates struggled with this question and did not address what was required i.e. to explain the implications to the business. Simply commenting on the financial observation from the analysis would not get a mark.

#### Part 2c)

Communication is important for this section. Candidates that articulated their thoughts/arguments well, avoided incorrect comments, presented their comments well (nice to have but not necessary) generally got good marks.

# Course 3A General Insurance

## Chief Examiner's Report Semester 2 2013

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### 1. Summary

#### 1.1. Course Overview

The aim of the 3A General Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in relating to the general insurance industry, estimation techniques for claim cost projection, estimation of insurance liabilities, and management information for underwriting of general insurance.

#### 1.2. Assessment

The assessment model is broken down into three parts

Forum Participation	10%
Multiple Choice Exam	30%
Long Answer Question Exam	60%

The multiple choice exam contained 30 questions worth 73 marks in total. It was conducted under closed book conditions and candidates had 1 hour to complete this component.

The Long Answer Question Exam contained 2 questions. It was conducted under open book conditions and candidates had 3 hours to complete this component. The exam was conducted on computers and candidates were required to submit their answers in the form of Word documents and to submit any spreadsheets used in forming their answer.

#### 1.3. Pass Rates

Of the 89 candidates enrolled in the course, 9 withdrew from the subject, and 4 did not present at the exam, leaving 76 sitting the exam. The assessment comprised of an online participation mark weighted at 10% and an exam weighted at 90%.

It is proposed that 14 candidates be awarded a pass, which implies a pass rate of 18%. Table 1 shows the historical pass rates for this subject:

**Table 1 – Course Experience**

Semester	Sat	Passed	Pass Rate
<b>2013 Semester 2</b>	<b>76</b>	<b>14</b>	<b>18%</b>
2013 Semester 1	96	31	32%
2012 Semester 2	96	29	30%
2012 Semester 1	103	29	28%
2011 Semester 2	78	18	23%
2011 Semester 1	76	24	33%
2010 Semester 2	66	24	36%
2010 Semester 1	76	28	37%
2009 Semester 2	57	17	30%
2009 Semester 1	65	24	37%
2008 Semester 2	51	21	41%
2008 Semester 1	69	36	52%
2007 Semester 2	82	16	20%



The 18% pass rate for this exam is lower than the 32% pass rate for the previous exam (Semester 1 2013) and much lower than the historical average. Candidates seemed to struggle with their time management with the change in the new exam structure. Many students also showed limited understanding of key concepts of the course.

#### 1.4. Candidate Numbers

The Candidate numbers can be summarised as follows:

**Table 2 – Candidate Numbers**

	Number of candidates
Originally enrolled	89
Withdrawn prior to exam	9
Absent from exam	4
Presented at exam	76
Passed	14
Failed	62

The analysis by examination centre is as follows:

**Table 3 – Analysis by Examination Centre**

Centre	Presented	Passed	Pass Rate
Sydney	59	9	15%
Melbourne	8	2	25%
Brisbane	1	0	0%
<b>Australia</b>	<b>68</b>	<b>11</b>	<b>16%</b>
Auckland	1	1	100%
Kuala Lumpur	1	0	0%
Wellington	2	1	50%
Shanghai	1	1	100%
Singapore	3	0	0%
<b>International</b>	<b>8</b>	<b>3</b>	<b>38%</b>
<b>Total</b>	<b>76</b>	<b>14</b>	<b>18%</b>

The Australian pass rate of 16% is lower than the overall pass rate of 18%.

The International candidates performed satisfactorily with a pass rate of 38% (3 out of 8 passed) although this was largely driven by the high pass rate in New Zealand of 67% (2 out of 3). The Asia region had a lower pass rate of 20% (1 out of 5).

## 2. Examination Administration

### 2.1. Examiners

The examiners for this semester were:

Chief Examiner:	James Pettifer
Assistant Examiners:	Nadeem Korim Yvonne Wong

## 2.2. Course Leader

The Course Leader for this semester was:

Exam:	Project Team
Forum and Participation Mark	Felix Tang
Tutorials:	Ben Qin

The exam writing for this semester was the 3A project team. The changes in the structure put significant time pressure on the project team and the draft paper was slightly later than initially planned. Following feedback, the paper was adjusted promptly to ensure with no impact on the overall exam timetable.

The Course Leader (online participation) for this semester was Felix Tang. Thanks to Felix for his support, especially given the significant number of 3A candidates this semester.

The Tutor for this semester was Ben Qin. Thanks to Ben for his support.

## 3. Assessment

### 3.1. Overall Performance

The overall performance across the exam was considered to be extremely poor. If the pass mark had been retained at 120, only 3 students would have passed. The gap between the third highest ranked student, at 126.4, and the fourth highest ranked student, at 111.6, was 14.8 marks which suggested a significant gap in capability.

As discussed earlier, many students struggled with their time management. Based on the amount of work completed, some students appear to have spent no more than 30 minutes on one question and the remaining 2 and a half hours on the other question.

### 3.2. Exam Question by Question Analysis

Question 1	Total Marks:	60		
	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	29.0	48.3%	4	5%
Pass	23.5	39.2%	5	6%
Below Standard	17.5	29.2%	24	30%
Weak	11.5	19.2%	29	36%
Showed Little Knowledge	1.0	1.7%	14	18%
Did Not Attempt	0.0	0.0%	4	5%
Maximum Mark	32.8			
Average Mark	16.8			
Standard Deviation	6.0			
Co-efficient of Variation	0.35			

Candidates performed poorly on this question, with a pass rate of 11% even after the pass mark was reduced to under 40% of total marks.

This question was in relation to a general insurance company, MIMI, which underwrites both medical malpractice and home and contents insurance. The key theme for this question was the recent privatisation of a government medical malpractice scheme that was previously underwritten on a claims incurred basis, with MIMI now underwriting a number of public hospitals on a claims made basis. Overall, the question was very poorly attempted with a large proportion of students achieving less than a quarter of the available marks. Students clearly struggled on the more complex sections requiring deeper insight. Although adequate time was available to complete this question, it appeared as though candidates could have benefited from additional time.

Part a) required candidates to estimate the ultimate number of claims reported. Most candidates correctly applied the chain ladder development method however it was clear that many did not understand the difference between incidents occurring and claims made policies, and hence many overstated the ultimate number of claims. Only a few candidates were able to correctly calculate the number of claims for unexpired risk. The average mark for this part of the question was 2.2/7.

Part b) required candidates to write a file note covering the methodology used to calculate the ultimate number of claims from part a) and comment on the increased frequency of claims. Candidates were generally successful at describing how the chain ladder method worked but many were unable to identify why the claims frequency had increased following the commencement of the claims made product three years earlier. The average mark for this part of the question was 1.34/5

Part c) required candidates to comment on the approach they would use to value the public scheme separately from the private scheme and any additional information/data they may require. Most candidates identified that claims experience was limited and that the Bornhuetter-Ferguson method would be the most useful. Few candidates considered the blending of methods, particularly for the more developed years where other methods may be reliable. The request for additional data was poor with only a handful of candidates noting that the private scheme data may be useful or that public scheme data may be available from before the scheme was privatised. Candidates were also poor at discussing how much weight to place on the private scheme data, taking into account differences between the private and public schemes. The average mark for this part of the question was 0.9/5.

Part d) required candidates to calculate the unearned premium, calculate the premium liability provision and to also conduct the liability adequacy test. Many candidates correctly calculated the unearned premium including the correct adjustment for the home and contents portfolio. A common error for the calculation of the premium liability was for candidates to apply the loss ratio from the accounts which could include movements from prior years and variable claim experience from the current year; e.g., poor large claims experience or natural hazards experience. Many candidates forfeited marks for only calculating the above components for the home and contents policy despite the question clearly stating that these were required for MIMI as a whole. The average mark for this part of the question was 2.3/8.

Part e) required candidates to discuss how they would determine whether a provision for asbestos related liabilities is needed and how they would quantify this provision following a change to the PDS two years ago. Most candidates identified that an assessment of exposure is required and that an appropriate valuation model would include a number of claims multiplied by an average claims cost or an adaption of existing industry models. The average mark for this part of the question was 0.86/2.

Part f) required candidates to recommend a design for the management information system to monitor home insurance premiums. Most candidates identified that policy and claims data would be required and that key metrics such as frequency and average claims cost should be monitored. The better candidates also noted the further segmentation of working versus large claims and natural hazards split by event/attritional.

This final part of this question around reconciliation to the Profit and Loss statement was poorly understood by candidates with most unsure of what was required and only a few receiving marks. The average mark for this part of the exam was 0.76/3.

<b>Question 2</b>	<b>Total Marks:</b>	<b>60</b>		
	Raw Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass	33.0	55.0%	3	4%
Pass	28.0	46.7%	14	18%
Below Standard	22.0	36.7%	19	24%
Weak	12.0	20.0%	38	48%
Showed Little Knowledge	1.0	1.7%	1	1%
Did Not Attempt	0.0	0.0%	5	6%
Maximum Mark	36.7			
Average Mark	22.1			
Standard Deviation	6.1			
Co-efficient of Variation	0.27			

This question was in relation to a general insurance company, InsU Group which underwrites only workers compensation. The company has recently received a number of claims relating to employees who were exposed to a single chemical. The key themes for this question were the use of a standard PPCI method, around the impact of reinsurance on the portfolio and the calculation of risk margins. Overall, the question was not well attempted with over 50% of students obtaining less than 20% of the available marks. Although adequate time was available to complete this question, it appeared as though candidates could have benefited from additional time.

Part a) required the undertaking of a PPCI valuation. In general, the mechanics of undertaking a PPCI valuation was not an issue for candidates. The challenge in awarding marks for this part was that many candidates ignored the information provided in the introduction to this question. The change in benefit structure at 2009 and the different RI programs over the history were key pieces of information that were largely ignored when making selections for the projection. Calculation of PPCI's and the projection of payments was reasonable; candidates did not gain marks for using simple averages but this was not the general technique applied. Recognition of pre- vs post- 2009 was poor. This was very clearly stated in the question however most candidates did not assess or apply separate PPCI's to the different segments. Extending the tail beyond the data triangle is necessary for this type of portfolio. This was poorly recognised and tail factors were uncommonly selected, sensible ones even less so. Analysis of RI recoveries was poorly done. Even when an attempt was made at RI valuation very few candidates took note of the different deductibles and varied selections by year. Several candidates valued the net payments triangle – the analysis of RI recoveries was not explicitly asked for in the question but this was awarded marks for those who performed it. Many candidates worked from a template spread sheet rather than starting fresh. This approach did not seem to provide an advantage but in fact gave superfluous diagnostics and workings. From a markers perspective this seemed to take the focus away from what was actually asked in the question and the particular hints given about the data (For example selecting both pre- & post- 2009). However, it is noted that about 4 of the marks available on the question (particularly those on discounting and inflation) would be immediately given on use of a

simple template. Overall this part produced a wide spread of marks with the average non-nil mark being 5.9 out of 9.

Part b) required the student to discuss the limitations around the method and any additional data required. This was a straightforward question but not answered particularly well. The question was about the aggregate triangle PPCI approach however many candidates went a bit left-field in their answers. Some candidates did not include both limitations and data in their answer which is an exam technique oversight. Textbook answers, particularly those that appeared to be a straight copy-paste from revision sheets, on limitations of PPCI that did not make sense in context of question were not awarded marks. Average non-nil mark 1.0 out of 2

Part c) required the student to draft a section of a valuation report. This was a straightforward and prescriptive question and very poorly answered. It was clear that candidates did not put this question into the context that they were writing a report about the valuation. It was very rare to see an introduction before the tables were inserted and many candidates did not include all of the three columns of data clearly requested. For full marks, the student needed to provide commentary on the results not on the underlying assumptions or methodology. A key observation was the increase in ultimate costs as a result of the change in benefits at 2009 – this was not mentioned by many candidates. Many candidates interpreted this question as observing the difference between the net and the gross outstanding claims amount but not an observation of trend in ultimate costs. Average non-nil mark 1.7 out of 3

Part d) required the candidates to calculate the net discounted central estimate under Basis 1. There were a large number of common errors in the answers provided which largely were a result of the students not reading the question

- Candidates took the deductible to be in 2004 dollars rather than in current dollars as stated in the question
- Payments assumed to be made on average in 1.5 years but the question stated that these were expected to be paid in 3 years' time
- The ceded amount to the reinsurer was often quoted as the net cost
- The term for inflation was often taken as the difference between 2016 and the report year

Average non-nil mark 1.1 out of 2

Part e) required the candidates to calculate the net discounted central estimate under Basis 2. It was clear that many candidates clearly limited by time – clear commentary was commonly missing and many lacked the calculation for basis 2. Similarly to part c) many candidates did not recognise that this was supposed to be in draft report format. There was also a significant variation in the understanding of basis 2 similarly to the issues raised in part d). Candidates seemed to also be confused around the stated interpretation which was that *The cost of each claim will be allocated evenly between the three years of exposure, and the deductible applied to the cost in each year*. Even though this was clearly stated, many candidates were unable to grasp the concept of the deductible potentially needing to be paid 3 times. Average non-nil mark 1.1 out of 3

Part f) required the candidate to calculate risk margins for the portfolio. The question was reasonably large and being the 2nd last question not answered well. This seemed more to be a reflection of time rather than difficulty. Many candidates reached the non-cancer 75% risk margin based on a theoretical normal distribution but did not translate this into a dollar figure or a gross/ net answer. Simulating the cancer claims was not performed either at all, or well, by the majority although some time poor candidates did provide the steps required to calculate the risk margin. The question asked for a recommendation and mostly candidates ignored this. Comments to the CFO were generally well answered by candidates who had attempted, with most candidates noting the immediate P&L impact

of an increase in risk margins from the 75th percentile to a 90th percentile. Average non-nil mark 1.4 out of 8

Part g) required the candidate to assess the level for superimposed inflation and the implications for the valuation. The analysis was done reasonably well although many candidates did not split pre and post 2009. This gave an average SI quite high because of the step change. A large number of candidates who attempted this question had diagnostic tools for performing superimposed inflation analysis in-built in their templates – a key concern was that many students just took the values from this diagnostic tool, rather than looking for any trends pre- and post-2009. Many candidates did not attempt this question. Average non-nil mark 1.1 out of 3.

# Course 3B General Insurance

## Chief Examiner's Report Semester 2 2013

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### 1. Summary

#### 1.1. Course Overview

The aim of the 3B General Insurance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in general insurance relating to the pricing of all general insurance products, including capital management and financial condition reporting.

#### 1.2. Assessment

The assessment model is broken down into three parts as follows:

Forum Participation	10%
Multiple Choice Question (MCQ) Exam	30%
Long Answer Question (LAQ) Exam	60%

The MCQ exam contained 30 questions worth 73 marks in total. It was conducted under closed book conditions and candidates had 1 hour to complete this component.

The LAQ Exam contained 2 questions. It was conducted under open book conditions and candidates had 3 hours to complete this component. The exam was conducted using computers and candidates were required to submit their answers in the form of Word documents and spreadsheets used in forming their answer.

#### 1.3. Pass Rates

It is proposed that 17 candidates be awarded a pass, which implies a pass rate of 27%.

Table 1 shows the historical pass rates for this subject:

**Table 1 – Course Experience**

Year	Semester	Sat	Passed	Pass Rate
<b>2013</b>	<b>Semester 2</b>	<b>64</b>	<b>17</b>	<b>27%</b>
2013	Semester 1	62	22	35%
2012	Semester 2	69	26	38%
2012	Semester 1	71	27	38%
2011	Semester 2	65	20	31%
2011	Semester 1	58	20	34%
2010	Semester 2	53	21	40%
2010	Semester 1	53	21	40%
2009	Semester 2	63	33	52%
2009	Semester 1	50	16	32%

The 27% pass rate for this exam is lower than the 35% pass rate for the previous exam (Semester 1 2013) and significantly lower than the average experience since 2009.

Candidates appeared to be significantly challenged by the two LAQs with only four candidates demonstrating sufficient knowledge to achieve a strong pass (Grade A) for LAQ 1 and only one candidate for LAQ 2.

From the spread of marks, it appears that most candidates struggled to complete both LAQs within the three hour exam duration. This was particularly evident with LAQ2.

Overall performance for the multiple choice questions was also disappointing with the average score being 39 out of 73. The highest score was 54 out of 73.

#### 1.4. Candidate Numbers

The Candidate numbers are summarised in Table 2 as follows:

**Table 2 – Candidate Numbers**

	Number of candidates
Originally enrolled	68
Withdrawn prior to exam	4
Absent from exam	0
Presented at exam	64
Passed	17
Failed	47

The analysis by examination centre is shown in Table 3 as follows:

**Table 3 – Analysis by Examination Centre**

Centre	Presented	Passed	Pass Rate
Sydney	44	14	32%
Melbourne	7	1	14%
Brisbane	2	0	0%
Perth	1	1	100%
<b>Subtotal Australia</b>	<b>54</b>	<b>16</b>	<b>30%</b>
China	3	1	33%
Hong Kong	3	0	0%
Malaysia	1	0	0%
United Kingdom	2	0	0%
New Zealand	1	0	0%
<b>Subtotal International</b>	<b>10</b>	<b>1</b>	<b>10%</b>
<b>Total</b>	<b>64</b>	<b>17</b>	<b>27%</b>

The Australian pass rate of 30% is below the pass rate for the previous semester (35%).

The number of international candidates at this sitting was lower than for the 2013 Semester 1 examination (10 compared to 14). The pass rate for international candidates of 10% was significantly lower than the result for 2013 Semester 1 (36%). Given the small numbers involved, it is difficult to draw accurate conclusions on the main causes of the disparity between Australian and overseas candidates' pass rates.



### **1.5. Chief Examiner's Observations on process (not included in public version)**

Course leader responsibilities for Subject 3B were split into three areas, namely exam setting, on-line forum supervision and tutorials. The chief examiner also provided input into the examination by reviewing both the LAQs and MCQs and making a number of alterations prior to finalisation. The chief examiner also selected the final set of MCQs to include in the exam from the complete set of questions submitted for consideration.

The marking process proceeded reasonably efficiently with responses from all marking pairs on the LAQs submitted by the due date. The final marks for each pair of examiners were quite consistent across all papers, thereby simplifying the Chief Examiner's role.

Feedback from the examination markers indicated that the time requirement for marking the long answer questions was significantly more onerous compared to the old examination format with difficulty being expressed in having to separately assess word documents and spreadsheets for the same question. This is an aspect that the board of examiners may wish to review for future examinations.

As mentioned earlier, it appeared that many candidates struggled to complete the long answer questions within the three hour examination period. It is recommended that this aspect should be given further attention when setting future long answer questions.

## **2. Examination Administration**

### **2.1. Examiners**

The examiners for this semester were:

Chief Examiner: John Tucci

Assistant Examiners: Cindy Lau  
David Xu

### **2.2. Course Leader**

The Course Leader for this semester was:

Exam: Project Team  
Forum and Participation Mark: Danny Rouel  
Tutorials: Jeffrey Thorpe

## **3. Assessment**

### **3.1. Overall Performance**

Overall performance on all aspects of the examination (forum participation, multiple choice questions and long answer questions) was disappointing. Whilst it is considered that the examination did a reasonable job in differentiating students' performance between passing and failing students, the overall level of understanding demonstrated across the breadth of the candidates was quite low.

The overall performance in the forum participation was quite poor. The forum presents an easy opportunity for students to score 20% of the overall examination marks and the fact that many students failed to achieve full marks (with a number scoring lower than 14 out of 20) was disappointing.

For candidates selected for review, the examiners focused more on their overall exam performance and relatively less weight was put in their forum assessment result.

Common issues observed this semester are:

- Overall, the quality of responses was disappointing. There were no outstanding candidates with the highest mark being 119.5 marks out of 200.
- The overall level of performance for the multiple choice questions was also disappointing with the highest candidate score being 54 out of 73 and the average score 39 out of 73.
- Performance for both LAQs, which were considered reasonably standard general insurance pricing and financial/risk management related questions, was particularly poor.
- There was evidence that candidates struggled for time to complete the LAQs, with sections of LAQ2 being not attempted by the majority of candidates. As discussed earlier, the Chief Examiner reviewed and reduced the cut off marks set by the Markers for LAQ2.

Specific common mistakes and weakness are discussed in the question analysis below.

### 3.2. Exam Question by Question Analysis

Multiple Choice Questions	Total Marks: 60			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	42.0	70.0%	1	2%
Pass (B)	36.0	60.0%	18	28%
Slightly Below Standard (C)	28.0	46.7%	31	48%
Weak (D)	20.0	33.3%	12	19%
Showed Little Knowledge (E)	1.0	1.7%	2	3%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	44.4			
Average Mark	32.1			
Standard Deviation	5.8			
Coefficient of Variation	0.18			

The highest mark for the multiple choice questions was 44.4 out of 60, the lowest 19.7 and the average 32.1.

The assessed pass mark (B Grade) for the multiple choice questions was set at 60% (36 out of 60). The overall pass rate of 30% (19 out of 64 candidates) was disappointing.

Long Answer Question 1	Total Marks: 60			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	34.0	56.7%	4	6%
Pass (B)	26.0	43.4%	13	20%
Slightly Below Standard (C)	20.0	33.3%	27	42%
Weak (D)	16.0	26.7%	10	16%
Showed Little Knowledge (E)	1.0	1.7%	10	16%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	40.2			
Average Mark	22.9			
Standard Deviation	6.9			
Coefficient of Variation	0.30			

The overall performance on this question was poor with a pass rate of 26%.

This was designed as a question to test understanding of technical and commercial aspects of pricing a statutory class of business. Unfortunately, very few candidates were able to score sufficient marks to pass the question overall.

*Specific comments on question:*

This appeared to be a very difficult question for students to answer, particularly in the areas where recommendations were required. In general the most common finding was a lack of comprehension in respect to the operation of a regulated class and the restrictions that this places on insurers. It was evident that some candidates were putting forward answers that may apply to a non-regulated class without understanding how CTP would operate differently. Advice to future candidates should include spending greater time on studying the different features of particular classes so that answers can be tailored within exam situations.

a)

The markers were looking for some reference to what would prompt a review of rates, i.e. it is not enough for the candidate to state that they would look at current inflation forecasts but to identify that there would need to be a change from previous position.

The best answers recognised that a rate review was only required if future experience was expected to be different from the assumptions used to form the current premium rates. These answers focused on explaining how this change would be determined.

Most candidates listed items that would need to be reviewed but failed to recognise that at this stage it is merely a test to determine if a full review needs to be completed. Therefore it was necessary to identify that there would need to be a change in order to prompt a review and how this change would be identified.

This question required some understanding of the Australian CTP product in that this is a heavily regulated product where the policy terms and conditions are set by the regulator. Therefore there is no ability to change policy terms and conditions and this would not be a factor to consider when determining if a rate review is required.

b)

This question was generally answered reasonably well with most candidates understanding the pricing methodology. The selection of assumptions was straight-forward and achieved

by most candidates. There was some difficulty in projecting the costs forward with confusion around the expected average date of a claim (which would actually be 6 months after the average writing date of the policy and hence 2 years from 31 Dec 2012).

A common mistake was in the application of relativities, with candidates assuming that the 100 stated as appropriate for City Class 1 standard meant that this was equal to the base premium instead of realising that it was necessary to adjust for the business mix within XYZ.

Very few candidates understood how to calculate a credibility factor, which most students (who attempted to use credibility) assuming a weighting a 4% instead of taking the square root.

Another common mistake was in the application of inflating and discounting to large claims – most students did not realise that it is not necessary to inflate and discount payments already made to date.

Around half the candidates did not make any adjustment for large claims to be capped at the reinsurance threshold.

c)

This question was generally poorly answered. Most candidates were very brief and touched only on how the assumptions had been derived. Better answers detailed why there is a need to use industry data to for large claims and why it is necessary to split expenses into CHE, fixed and variable.

Some candidates stated that they used assumptions from the 'Expenses' tab in the workbook, which is hardly appropriate in a draft rate file note. It would have been pleasing to see more reference to where data was sourced from (e.g. financial statements).

d)

Candidates were not penalised for any mistakes in part b. It was surprising how few realised that in order to determine the current market premium they could take their average premium (before applying relativities) and multiply by the number of vehicles with many repeating the relativities calculation.

Candidates generally struggled in calculating the impact of the change in relativities. A common mistake was also related back to part b) where there was a lack of recognition that the premium did need to be adjusted for class 1. This led to the case of achieved premium under the revised relativities being higher than \$80m and led to some confusion in answering the second part of the question.

When asking for recommendations on moving the GWP back up to budget, candidates also struggled. There was limited appreciation for particulars of the CTP class with the majority of candidates suggesting options such as relaxing underwriting standards or changing premium relativities (even though the question had clearly stated that relativities were set by the regulator).

There was also evidence of inefficient time usage in this question with candidates writing quite lengthy responses to how and why the premiums were lower under the revised relativities but rushing through the recommendations section (which is where numerous points were given).

e)

This section was very poorly answered by the majority of candidates, partly driven by a heavy reliance on the actions identified. Many candidates failed to receive marks as the actions recommended were inappropriate and therefore the resultant risks were also not applicable to the CTP situation. Where risks were identified appropriately most candidates

did not provide any description of how these could be quantified or suggested future monitoring as a method of quantification.

f)

This question was a reasonably good differentiator of students although it was rare for all three parts of the question to be answered appropriately.

There was quite large variation in how well this question was answered. Better answers were able to clearly articulate the threat – in particular noticing that a 10% reduction in premium for a product with a 5% profit margin would result in a loss. Better answers also gave considered answers as to what the company should do in each case. Poorer answers struggled predominantly with giving recommendations in each of the scenarios with suggestions on next steps being to complete more analysis.

<b>Long Answer Question 2</b>	<b>Total Marks: 60</b>			
	<b>Marks Required</b>	<b>% of Total Marks</b>	<b>Number of Candidates</b>	<b>Proportion of Candidates</b>
Strong Pass (A)	37.0	61.7%	1	2%
Pass (B)	28.0	46.7%	16	25%
Slightly Below Standard (C)	22.0	36.7%	23	36%
Weak (D)	16.0	26.7%	17	27%
Showed Little Knowledge (E)	1.0	1.7%	7	11%
Did Not Attempt (X)	0.0	0.0%	0	0%
Maximum Mark	39.5			
Average Mark	24.0			
Standard Deviation	6.6			
Coefficient of Variation	0.27			

The overall performance on this question was poor with a pass rate of 27%.

This was designed as a question to test understanding of technical and commercial aspects of pricing in relation to:

- the link between capital and profitability management, particularly in regards to exposure management
- portfolio pricing modelling and merits of GLM modelling.

*Specific comments on question:*

In terms of general course content, the question was considered quite reasonable by the markers.

It seemed quite clear that candidates struggled for time to complete LAQ2. This is evidenced by the fact that many didn't attempt part (c) and if they did, the section was poorly answered.

In general, the other sections were better answered. Here are our general observations:

a)

This question was generally well answered. Many candidates failed to provide a good discussion around an alternate profit margin approach.

b)

Although many candidates made a good attempt at this question, a number of candidates failed to correctly inflate and discount to the correct period.

c)

As discussed above, most candidates did not attempt this question.

d)

This question was generally well answered. The main difficulty was around the discussion to approximate the additional profit, with many candidates failing to discuss the challenges involved in such an approximation.

# Course 5A Investments Management & Finance

## Chief Examiner's Report Semester 2 2013

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### 1. Summary

#### 1.1. Course Overview

The aim of the 5A Investment Management and Finance Course is to provide the knowledge, skills and judgment necessary for an actuary to tackle a range of management related problems in investment and finance relating to analysis of accounting information, valuation of debt securities, equity markets and portfolio management, company valuation and asset allocation.

#### 1.2. Assessment

This semester the assessment for 5A changed to the style intended for all Part III subjects.

The assessment model is broken down into three parts

Forum Participation	10%
Multiple Choice Exam	30%
Long Answer Question Exam	60%

The multiple choice exam contained 30 questions worth 62 marks in total. Of these marks 56 were for 2 mark, single response questions and the remaining 6 marks came from 3 mark questions with multiple responses. The examiners were happy with the selection of multiple choice questions which was representative of those developed in terms of mark allocations by question. It may be of use to explore further the development of higher mark multiple choice questions with multiple correct responses. The multiple choice component was conducted under closed book conditions and candidates had 1 hour to complete this component.

The Long Answer Question Exam contained 2 questions. It was conducted under open book conditions and candidates had 3 hours to complete this component. A decision was made by the exam development team, to allow students to submit their files either in Word format and hand-written format, as it was felt that students would be disadvantaged for time if they had to type mathematical equations in Word. It was therefore agreed to give students the choice of:

1. Typing their longer answers in full for one of both questions
2. Handwriting their longer answers in full to one or both questions
3. Answering one or both questions using a combination of typing and handwriting.

Students choosing a combination of typing and handwriting their answers were asked to clearly reference their work so that markers can understand their answers.

### 1.3. Pass Rates

Of the 54 candidates enrolling into the course, 7 withdrew and 6 did not present at the exam, leaving 41 sitting the exam.

It is proposed that 21 candidates be awarded a pass, which implies a pass rate of 51%. Table 1 shows the historical pass rates for this subject:

**Table 1 – Course Experience**

Semester	Sat	Passed	Pass Rate
C5B Semester 1 2013	37	21	57%
C5A Semester 2 2012	30	17	57%
C5B Semester 1 2012	22	13	59%
C5A Semester 2 2011	26	16	62%
C5B Semester 1 2011	16	6	38%
C5A Semester 2 2010	38	20	53%
C5B Semester 1 2010	34	19	56%

The 51% pass rate for this exam is broadly consistent with the pass rate on this subject over the last three years.

### 1.4. Candidate Numbers

The Candidate numbers can be summarised as follows:

**Table 2 – Candidate Numbers**

	Number of candidates
Originally enrolled	54
Withdrawn prior to exam	7
Absent from exam	6
Presented at exam	41
Passed	21
Failed	20

The analysis by examination centre is as follows:

**Table 3 – Analysis by Examination Centre**

Centre	Presented	Passed	Pass Rate
Sydney	29	14	48%
Melbourne	5	3	60%
Other Australia	2	2	100%
<b>Subtotal Australia</b>	<b>36</b>	<b>19</b>	<b>53%</b>
Auckland	1	0	0%
Hong Kong	2	1	50%
Singapore	1	0	0%
USA	1	1	100%
<b>Subtotal International</b>	<b>5</b>	<b>2</b>	<b>40%</b>
<b>Total</b>	<b>41</b>	<b>21</b>	<b>51%</b>

The pass rates do not vary significantly by exam centre.



## 2. Examination Administration

### 2.1. Examiners

The examiners for this semester were:

Chief Examiners: David Pitt  
Tim Kyng

### 2.2. Course Leader

The Course Leader for this semester was:

Exam: Andrew Leung  
Forum and Participation Mark: Andrew Leung  
Tutorials: Andrew Leung

The course leader performed all duties required satisfactorily.

## 3. Assessment

### 3.1. Overall Performance

The overall performance on forum participation was very good with most candidates engaging actively on the forum and using it to enhance their learning experience. A handful of students who attempted the exam did not take the forum participation seriously which is surprising. Candidates will in future be reminded of the importance of forum participation in this subject. The multiple choice questions proved to be good discriminators and informed the overall assessment very effectively. The first long answer question was well handled by about half of the students. Judgement, clear expression and understanding were well demonstrated by these students. The second long answer question was set to be more difficult and it proved to be challenging for the students. Overall though it served the purpose of testing students' understanding of core material.

### 3.2. Exam Question by Question Analysis

Question 1	Total Marks: 60			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	40	66.7%	8	19.5%
Pass (B)	33	55.0%	14	34.1%
Slightly Below Standard (C)	27	45.0%	7	17.0%
Weak (D)	12	20.0%	10	24.4%
Showed Little Knowledge (E)	1	1.7%	2	3.3%
Did Not Attempt (X)	0	0.0%	0	0.0%
Maximum Mark	48.0			
Average Mark	31.4			
Standard Deviation	9.28			
Coefficient of Variation	0.30			

Candidates performed quite well on this question, with a pass rate of 54%.

The question concerned the issues arising when performing stock selection on an active basis having regard to risk factors when acting as a portfolio strategist.

Part a):

Candidates were asked to identify portfolio objectives and constraints

Objectives were generally well identified and some suitable constraints given. The use of benchmark was less well understood by some of the candidates.

Part b):

Candidates were asked to identify how relevant risk factors can be chosen from financial statements, market pricing and positioning and industry structure

Choice of risk factors was well done with some good reference to the required financial information identified in the question.

Part c):

Candidates were asked to describe how risk factors can be quantified in terms of all the publicly available information.

This part proved a good discriminator between those able to provide a sensible quantification relevant to the situation and those who did not progress beyond generalities or who did not think about quantification at all.

Part d):

Candidates were asked to comment on how the process of portfolio construction can be implemented to achieve objectives

This part was more difficult for the candidates with the very best ones providing well considered portfolio construction arguments while others did not really answer the question in the context given.

Part e):

Candidates were asked to discuss how different economic scenarios could be accommodated in the stock selection context given.

This was not well handled with many candidates not adequately connecting the given scenarios back to the model requirements.

Question 2	Total Marks: 60			
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	32	53.3%	2	4.9%
Pass (B)	26	43.3%	9	22.0%
Slightly Below Standard (C)	16	26.7%	21	51.2%
Weak (D)	10	16.7%	5	12.2%
Showed Little Knowledge (E)	1	1.7%	4	9.8%
Did Not Attempt (X)	0	0.0%	0	0.0%
Maximum Mark	34.0			
Average Mark	20.8			
Standard Deviation	7.27			
Coefficient of Variation	0.35			

Candidates performed poorly on this question, with a pass rate of 27%. The question was intended to be difficult and it provided the right level of discrimination. Candidates would be well advised in future to think carefully about the issues relating to strategy design.

The question concerned the issues arising when you are asked to design a pricing and investment strategy for an equity linked product.

Part a):

Candidates were asked to determine whether asset returns were normally distributed using given data.

Most students answered this well, doing some form of calculation to show that the historic returns were non-normal; however, few commented on both cash and equity separately (i.e. only focussed on equity) and if they did very few said both were non-normal.

Part b):

Candidates were asked to identify the asset model they would employ in light of the given historical data provided.

Most students were able to identify a suitable model.

Part c):

Candidates were asked to identify appropriate investment objectives and constraints and the reasons for them given a required return on capital.

This was generally very poorly answered. No candidate could identify the expression  $Z = B - A$  to be modelled (which was the key to this question). Lots of candidates talked around the subject in general terms but focussing on B. We struggled to give marks but tried hard for any mention of ALM. Some candidates took the Utility function approach; however, used a text book general form and struggled to apply it adequate to the problem.

Part d):

Candidates were asked to describe how they would design a pricing and investment strategy according to their asset model.

Similar comments to part (c). Many candidates offered only generalised modelling discussion but not really applicable to the problem.

Part e):

Other benefit designs were presented here and candidates were required to comment on how their approach would change given these new structures.

Candidates often became lost in the detail here and did not identify the most fundamental aspects of the modelling that were relevant in this part.

Part f):

Outsourcing the management of the portfolio to an investment bank was considered in this part.

Most candidates described counterparty risk and reduced profit/higher costs (1 mark) The remaining points on the marking guide proved more elusive for most candidates.

Part g):

Candidates were asked to comment on the applicability (or otherwise) of option pricing methods in the context of the given equity linked benefit.

This was answered better as most students mentioned the Black-Scholes model and limitations relevant to the context.

# Course 6B Global Retirement Income Systems

## Chief Examiner's Report Semester 2 2013

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### 1. Summary

#### 1.1. Course Overview

The aim of the GRIS 6B course is to provide the knowledge, skills and judgement necessary for an actuary to effectively tackle a range of issues as retirement income systems evolve away from group-based defined benefit schemes to individual defined contribution plans. The changing context has significant implications for product design, risk management and how scheme members are communicated with. Actuaries need the skills and knowledge to help design and manage schemes to best meet members' individual retirement income needs.

#### 1.2. Pass Rates

19 candidates enrolled in the course. 1 candidate withdrew prior to the exam and 1 candidate did not attend the exam, resulting in 17 candidates sitting the exam. The assessment comprised an online participation mark (10%) and an exam (90%).

It is proposed that 7 candidates be awarded a pass, which implies a pass rate of 41%. This compares with the following historical pass rates for this subject:

**Table 1 – Course Experience**

GRIS	Course A Semester 1			Course B Semester 2		
Year	Sat	Passed	Pass Rate	Sat	Passed	Pass Rate
2013	19	8	42%	17	7	41%
2012	16	5	31%	14	3	21%
2011	18	9	50%	8	5	63%
2010	16	4	25%	13	7	54%
2009	14	5	36%	19	10	53%

The pass rate is below the average rate for this course in recent years, although the recent high pass rates were possibly unsustainable. Nevertheless the pass rate is a significant improvement on last year.

#### 1.3. Candidate Numbers

Candidate numbers can be summarised as follows:

**Table 2 – Candidate Numbers**

	Candidates
Originally enrolled	19
Withdrew prior to exam	1
Absent from exam	1
Presented at exam	17
Passed	7
Failed	10

The analysis by examination centre is as follows:

**Table 3 – Analysis by Examination Centre**

Centre	Attended	Passed	Pass Rate
Sydney	11	5	45%
Melbourne	5	1	20%
<b>Subtotal Australia</b>	<b>16</b>	<b>6</b>	<b>38%</b>
Japan	1	1	100%
<b>Subtotal International</b>	<b>1</b>	<b>1</b>	<b>100%</b>
<b>Total</b>	<b>17</b>	<b>7</b>	<b>41%</b>

## 2. Examination Administration

### 2.1. Examiners

The chief examiner for this semester was Stephen Woods.

The assistant examiner for this semester was Jim Repanis.

### 2.2. Course Leader

The course leader for this semester was David McNeice.

### 2.3. Overall Performance

The standard of candidate responses in this course was generally pleasing and reflected a significant improvement from last year.

There were 2 differentiating (but probably overlapping) factors that separated the passes from the fails and these were:

- Level of detail in responses generally, reflecting the ability to communicate a deeper or more through understanding of the issues
- Performance in the complex judgement questions – possibly in conjunction with time management skill, since these were the last 2 questions on the exam paper.

### 2.4. Exam Question by Question Analysis

Question 1	Total Marks: 18		(KU:10, SJ:4, CJ:4)	
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	15.5	86%	2	11%
Pass (B)	10.5	58%	11	61%
Slightly Below Standard (C)	6.5	36%	4	22%
Weak (D)	4	22%	0	
Showed Little Knowledge (E)	1		0	
Did Not Attempt (X)	0		1	6%
Maximum Mark	17	94%		
Average Mark	11.8	66%		
Standard Deviation	3.8			

Coefficient of Variation	0.32
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This question was a poor differentiator. It had a pass rate of 72%.

Candidates were tested on financial planning with respect to retirement income plans. The question was straightforward, as reflected in the high raw marks and pass rate.

Part (a) re goals of a retirement plan

Answered well and for the most part candidates did not have difficulty listing the relevant goals and considerations.

Part (b) re factors of attitude towards risk

Generally handled well but answered poorly by some candidates who did not differentiate between tolerance and attitude to risks

Part (c) re background risks

Generally handled well but answered poorly by some candidates who did not list specific background risks that cannot be hedged, instead listing generic risks

<b>Question 2</b>	<b>Total Marks: 42</b>		<b>(KU:10, SJ:22, CJ:10)</b>	
	<b>Marks Required</b>	<b>% of Total Marks</b>	<b>Number of Candidates</b>	<b>Proportion of Candidates</b>
Strong Pass (A)	28	67%	2	11%
Pass (B)	24	57%	5	28%
Slightly Below Standard (C)	19	45%	4	22%
Weak (D)	11	26%	6	33%
Showed Little Knowledge (E)	1			
Did Not Attempt (X)	0		1	6%
Maximum Mark	28.5	68%		
Average Mark	20.5	49%		
Standard Deviation	6.6			
Coefficient of Variation	0.32			

This question was a good differentiator. It had a pass rate of 39%.

Candidates were tested on a defined benefit pension plan valuation. The question was relatively straightforward and of a topic and nature that should be expected by candidates sitting this course. Hence the pass rate was slightly disappointing.

Part (a) re pre-valuation investigations to determine a valuation method

Generally handled well although few students earned full marks.

Part (b) re asset valuation methods and deviation from net market value

Some candidates repeated their answer from part (a), which meant missing easy marks.

Part (c) re actuarial funding methods

Bookwork question, so not surprising that students did well.

Part (d) re contribution rate

Straightforward calculation question. As it was not clear whether the new entrant rate given in the question wording was before or after member contribution rates were taken into account, both interpretations were accepted. Responses generally were poor given the easy marks on offer. In particular, few candidates scored the full 4 marks for a correct valuation balance sheet. Candidates who were able to derive the correct deficit typically passed the question overall. The most common error was allowing for only the past service surplus in the supplementary contribution calculation. Also, allowance for tax was often overlooked or applied incorrectly.

The markers noted that funding methods form a significant part of the course notes for 6A and surmised that some students may have assumed funding methods would not be covered in the 6B examination.

Part (e) re discount rate

Required students to argue the case for using the expected return of assets as the discount rate for funding purposes, the key being to explain why an expected return is preferred over bond yields in these circumstances. The markers observed that some candidates structured responses very similar to the model solutions, as similar questions had been used in past exams; these students obviously did well. However, in general, very few students made reference to the cashflow budgeting exercise of funding valuations and even fewer identified the surplus/deficit that would be expected to arise if bond yields were used instead of the expected return on assets.

<b>Question 3</b>	<b>Total Marks: 40</b>		<b>(KU:16, SJ:8, CJ:16)</b>	
	<b>Marks Required</b>	<b>% of Total Marks</b>	<b>Number of Candidates</b>	<b>Proportion of Candidates</b>
Strong Pass (A)	24	60%	1	6%
Pass (B)	18	45%	7	39%
Slightly Below Standard (C)	15	38%	3	17%
Weak (D)	10	25%	6	33%
Showed Little Knowledge (E)	1			
Did Not Attempt (X)	0		1	6%
Maximum Mark	24.5	61%		
Average Mark	16.1	40%		
Standard Deviation	5.2			
Coefficient of Variation	0.33			

This question was a good differentiator. It had a pass rate of 45%.

Candidates were tested on pension plan valuation and asset-liability modelling (ALM). The first two parts of the question were straightforward and handled easily by candidates, however the last two parts of the question offered a challenging extension and produced a wide range of outcomes. Many candidates seemingly were unable to make the important connection between assets and liabilities.

Part (a) re sources of surplus

Well-answered bookwork question

Part (b) re provision for pension benefits

Well-answered bookwork question



Part (c) re ALM and investment policy

Most responses were too high-level and did not address the question

Part (d) re running ALM and presentation to the client

Responses generally were poor. Most candidates did not provide details on how to project future asset and liability values. A few candidates misread and/or misunderstood what the question required.

<b>Question 4</b>	<b>Total Marks: 26</b>		(KU:10, SJ:8, CJ:8)	
	<b>Marks Required</b>	<b>% of Total Marks</b>	<b>Number of Candidates</b>	<b>Proportion of Candidates</b>
Strong Pass (A)	22	85%	4	22%
Pass (B)	15	58%	9	50%
Slightly Below Standard (C)	11	42%	4	22%
Weak (D)	8	31%		
Showed Little Knowledge (E)	1			
Did Not Attempt (X)	0		1	6%
Maximum Mark	24.5	94%		
Average Mark	16.8	65%		
Standard Deviation	5.7			
Coefficient of Variation	0.34			

This question was a poor differentiator. It had a pass rate of 72%.

Candidates were tested on a comparison of a defined benefit and a defined contribution benefit. A question of this topic and nature undoubtedly should be expected by candidates sitting this course and in the main candidates performed well.

Part (a) re factors for an adequate retirement benefit

Well-answered bookwork question

Part (b) re market and longevity risk

Generally answered well, although some candidates did not fully understand the key issue in the question. Also some candidates went off on a tangent and made additional points that were not relevant or necessary

Part (c) re advantages and disadvantages of taking the defined benefit pension option described

Answered poorly. The majority of candidates provided the advantages and disadvantages of purchasing a lifetime pension, rather than the specific plan pension. Whilst this provided some relevant points, the markers were quite generous and there was little differentiation between candidates who gave specific points and candidates who gave generic points.

Question 5	Total Marks: 20		(KU:14, SJ:6, CJ:0)	
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	16	80%	2	11%
Pass (B)	12	60%	9	50%
Slightly Below Standard (C)	8	40%	6	33%
Weak (D)	6	30%		
Showed Little Knowledge (E)	1			
Did Not Attempt (X)	0		1	6%
Maximum Mark	18.5	93%		
Average Mark	11.9	60%		
Standard Deviation	4.0			
Coefficient of Variation	0.34			

This question was a fair differentiator. It had a pass rate of 61%.

Candidates were tested on operational risk in the context of a growing public offer superannuation fund, with particular emphasis on return calculation. The question was relatively straightforward and segmented into small parts that facilitated the judgement component.

Part (a) re daily unit pricing versus monthly crediting rates with interim rates  
Most candidates were able to provide relevant points

Part (b) re definition of operational risk  
Well-answered bookwork question

Part (c) re operational risk of changing return policy  
Generally answered well as relevant issues pre-empted in earlier parts

Question 6	Total Marks: 24		(KU:0, SJ:0, CJ:24)	
	Marks Required	% of Total Marks	Number of Candidates	Proportion of Candidates
Strong Pass (A)	18	75%	1	6%
Pass (B)	12	50%	4	22%
Slightly Below Standard (C)	9.5	40%	4	22%
Weak (D)	6	25%	7	39%
Showed Little Knowledge (E)	1		1	6%
Did Not Attempt (X)	0		1	6%
Maximum Mark	19.5	81%		
Average Mark	10.2	43%		
Standard Deviation	4.6			
Coefficient of Variation	0.46			

This question was a good differentiator. It had a pass rate of 28%.

Candidates were tested on defined benefit to defined contribution conversion. A question on this topic reasonably should be expected by candidates sitting this course and this question provided good opportunity for candidates to demonstrate a level of understanding of relevant issues and complex judgement. The question provided a very wide range of results and correlation was high between candidates performing well in Q6 and Q7 and passing the course.

Part (a) re recommendation of conversion method

Many candidates struggled to adequately describe a simplified transfer value method.

Part (b) re assumptions in conversion calculations

Some candidates struggled to list assumptions beyond the obvious salary inflation and investment return. Many candidates did not actually provide a recommendation on a conversion method or assumption values, as instructed in the question, but rather merely stated the options available.

<b>Question 7</b>	<b>Total Marks: 30</b>		<b>(KU:0, SJ:0, CJ:30)</b>	
	<b>Marks Required</b>	<b>% of Total Marks</b>	<b>Number of Candidates</b>	<b>Proportion of Candidates</b>
Strong Pass (A)	22	73%		
Pass (B)	15	50%	2	11%
Slightly Below Standard (C)	10	33%	4	22%
Weak (D)	6.5	22%	7	39%
Showed Little Knowledge (E)	1		3	17%
Did Not Attempt (X)	0		2	11%
Maximum Mark	17	57%		
Average Mark	7.9	26%		
Standard Deviation	5.2			
Coefficient of Variation	0.66			

This question was a good differentiator. It had a pass rate of 11%.

Candidates were required to compare the regulatory framework governing Australian superannuation funds with the European Solvency II insurance framework (which was described in the question). This topic represented an extension question, requiring candidates to demonstrate their knowledge of relevant points through application to a reference point that likely was unfamiliar to them. The question provided a wide range of results and correlation was high between candidates performing well in Q6 and Q7 and passing the course.

Candidates found this question difficult; only two candidates passed and neither of these was a strong pass. Candidates with a thorough understanding of superannuation regulation should have been able to compare and contrast the two frameworks. Despite the possible qualifications of exam pressure and the fact that this was the last question on the exam paper and hence candidates may have been running out of time, performance in this question was disappointing. The markers surmised that candidates may have had difficulty due to the different terminology used in insurance and superannuation.

Pillar 1 (quantitative) typically was answered best by candidates. Most candidates also scored marks for referring to risk management strategies for pillar 2 (qualitative). Candidates struggled with pillar 3 (reporting, disclosure and transparency).

# Course 10 Commercial Actuarial Practice

## Examiners' Report Semester 2 of 2013

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### 1. Summary

#### 1.1. Course Outline

The Commercial Actuarial Practice (CAP) Course is designed to teach students to apply actuarial skills across a range of traditional and non-traditional areas by "contextualizing" actuarial solutions or approaches in the wider commercial environment.

The two assessment tasks are:

1. A take-home Post-Course Assignment ("Assignment") on one of the 3 non-traditional topics (Banking, Health, Environment). One-third of the students were randomly allocated to each topic. It is worth 20% of the final mark.
2. An 8-hour Case Study Exam ("Exam") worth 80% of the final mark, under exam conditions with the use of a computer (open book, but no internet access). The candidates had to choose 1 from the 5 mainstream topics (Life Insurance, General Insurance, Investment, Global Retirement Income Systems - GRIS, Enterprise Risk Management - ERM), perform all the necessary analysis and prepare a substantial written report.

An overall pass requires a total of 50%, without necessarily passing the Exam.

#### 1.2. Pass Rates

84 candidates presented for the course. Of these, it is proposed that 49 be awarded a pass, representing a **pass rate of 58%**. This pass rate is slightly higher than in recent years, and is despite a very poor 28% pass rate in the Life Insurance topic.

**Table 1 – Recent Course Experience**

Semester	Sat	Passed	Pass Rate %
Semester 2 of 2013	84	49	58
Semester 1 of 2013	74	39	53
Semester 2 of 2012	71	40	56
Semester 1 of 2012	82	47	57
Semester 2 of 2011	87	48	55
Semester 1 of 2011	79	47	59
Semester 2 of 2010	102	56	55
Semester 1 of 2010	97	57	59

#### 1.3. Candidate Numbers

A total of 89 candidates were enrolled for the CAP course in Semester 2 of 2013. 2 repeat candidates took the option to attend the GRIS part of the residential course, undoubtedly due to the flexibility to attend selected sessions for a reduced price.

The candidate numbers and results can be summarized as follows:

	Post-Course Assignment only	Case Study Exam only	Both	Total
Originally enrolled	0	1	88	<b>89</b>
Withdrawals	0	1	3	<b>4</b>
Absent	0	0	1	<b>1</b>
Presented	0	0	84	<b>84</b>
Passed	0	0	49	<b>49</b>
Failed	0	0	35	<b>35</b>

The analysis by number of attempts is as follows:

**Table 2A – Number of CAP Attempts**

Attempt	Number	Passes	Pass Rate
1	49	29	59%
2	19	10	53%
3	7	5	71%
4	4	3	75%
5	2	1	50%
6	1	0	0%
7	2	1	50%
All	84	49	58%
3 or more	16	10	63%

Although the statistical credibility of the numbers is not convincing, the relative uniformity of pass rates by duration is different to many past semesters, when first-time candidates have tended to have a higher pass rate. The 4 failures with 4+ attempts were all clear fails, with overall marks of 43, 42, 41 and 34. The 4 highest Life failures comprised 2 sitting for the first time and 2 sitting the second time.

The following table shows the experience separated by the Exam topic chosen by each candidate:

**Table 2B – Analysis by Topic**

Exam topic	Chosen by	Overall Passes	Overall Fails	Pass Rate
ERM	15	11	4	73%
General Ins	36	24	12	67%
GRIS	3	2	1	67%
Investment	12	7	5	58%
Life Insurance	18	5	13	28%
All	84	49	35	58%

The pass rate for Life candidates is lower than the other subjects and lower than it has been historically. It is the worst topic result I can recall.

As observed in most past semesters "Overseas" candidates again had a slightly lower pass rate than Australian-based candidates.

<b>Results by Exam Centre</b>			
Centre	Presented	Passed	Pass rate
Brisbane	1	1	100%
Melbourne	6	5	83%
Perth	2	2	100%
Sydney	57	32	56%
Sunshine Coast	1	1	100%
China	1	1	100%
Hong Kong	5	3	60%
London	3	1	33%
New Zealand	6	3	50%
Singapore	2	0	0%
Total	84	49	58%
Australia	67	41	61%
Overseas	17	8	47%

The number of candidates in Melbourne continues to shrink, partially due to Melbourne's consistently high pass rate!

## **2. Course Administration**

### **2.1. Course Outline**

The overall objectives of the CAP course are to enable students to:

- Apply actuarial skills across a range of traditional and non-traditional areas by "contextualizing" actuarial solutions or approaches in the wider commercial environment;
- Apply ethical concepts, corporate governance requirements and actuarial professional standards when writing a report; and
- Successfully communicate the actuarial solutions or approaches to a range of audiences.

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

Since semester 2 of 2011, ERM has been moved into the mainstream topics. The two assessment tasks are now as follows:

1. A take-home Post-Course Assignment ("Assignment") on one of the 3 non-traditional topics (Banking, Health, Environment), distributed after the residential course for completion within 2 weeks. One-third of the students were randomly allocated to each topic, albeit with a check that repeat candidates are not allocated to the same topic 3 times in a row. The Assignment is worth 20% of the final mark. The result and feedback were supplied to candidates 3 weeks prior to the Exam.
2. An 8-hour Case Study Exam ("Exam") worth 80% of the final mark, under exam

conditions with the use of a computer (open book, but no internet access). The candidates had to absorb the question material, choose 1 from the 5 mainstream topics (Life, General, Investment, GRIS, ERM), perform all the necessary analysis and prepare a substantial written report.

The pass mark is 50%, which is regarded as equivalent to the 60% pass mark adopted for the part III courses. Marks are no longer awarded for quality of participation in the residential course.

## **2.2. Examiners**

The examiners for this semester were again:

Chief Examiner: Bruce Thomson

Assistant Examiner: Matthew Ralph

## **2.3. Course Leader**

The assessment materials for the course were developed by a team, consisting of David Service (Course Leader), Colin Priest, Kirsten Armstrong, Julie Cook, Bruce Edwards and Naomi Edwards. Bridget Browne is Chair of the CAP Faculty.

As part of his role, David Service normally presents 3 of the topics at the residential course, prepares 3 of the Exam case studies, and marks at least the borderline candidates for all 8 of the case studies in order to ensure consistency of standards across the topics. David tested our contingency plans this semester, when he was forced to be absent from the residential course at the last minute. Our heartfelt thanks to Adam Butt and Aaron Bruhn who, as well as Bruce Thomson, presented David's sessions with 24 hours of notice.

A noteworthy result was the detailed, consistent and very good feedback received yet again from candidates after the 4-day residential course. All the presenters and Institute staff are to be congratulated for a job done particularly well. This course delivery mode is being appreciated.

## **3. Case Studies**

### **3.1. Preparation and structure**

Case studies were prepared by the Course Presenters in the 8 topic areas listed below. Each was designed to be completed within 8 hours under exam conditions, even though the 3 non-traditional topics were completed as a take-home assignment. Each was fine-tuned in consultation with the Chief Examiner, formally scrutineered, and signed off by the Examiners.

The 5 traditional-topic questions aim to be practical within the subject area, without necessarily being entirely and strictly within the Part III syllabus.

<b>Topic</b>	<b>Course Presenter / Author</b>
Health	Kirsten Armstrong
Banking	David Service
Environment	Naomi Edwards
ERM	Bruce Edwards
Life Insurance	David Service
Investments	David Service
GRIS	Julie Cook
General Insurance	Colin Priest

This was Naomi Edwards' first semester in the role, and we are very pleased to have her aboard.

## **4. Post Course Assignment**

Although marks and grades were given for the Post-Course Assignment, a pass/fail decision was not required for each candidate; this simply formed 20% of their overall mark. Nevertheless, marks around 50% were reviewed carefully by each Marker. David Service marked a selection from each topic to ensure a consistent standard across the 3 topics. The Examiners later reviewed other marks when they had the potential to impact the overall pass decision.

### **4.1. Banking**

The Banking case study required candidates to provide advice to a bank considering a salary plus commission remuneration structure for Branches. Some metrics were provided to prompt options.

Although most candidates reached the pass standard, progress beyond that was disappointing.

### **4.2. Environment**

The Environment case study required candidates to advise the Mayor of Albury-Wodonga on whether to support a local station on a proposed Brisbane-to-Melbourne high-speed rail line. Professionalism was tested with a request regarding the Mayor's cousin who owned the local airport.

The question was well answered, with many candidates showing great enthusiasm in considering the costs and benefits but also the issues arising from the scenario outlined.

### **4.3. Health**

The Health case study required candidates to design a methodology for how future health expenditure and Disability Adjusted Life Years could be projected, to help the Department of Health justify increased expenditure on public health.

This question produced a wide range of answer quality, with a good spread of marks.

## **5. Exam**

### **5.1. ERM**

The ERM Exam required candidates to provide advice to the Australian financial planning subsidiary of an international bank. Past problems, reputation risk, conflict of interest and issues with the operational risk capital formula had to be discussed, and an outline given for a risk management plan.

### **5.2. GRIS**

The Exam for Global Retirement Income Systems required candidates to provide advice to the National Retirement Fund for a small country. Problems with benefit design, investment strategy, operations and even solvency had to be identified and solutions suggested.

### **5.3. General Insurance**

The case for General Insurance required candidates to act in the role of a GI company actuary in a fictional country which has recently relaxed its regulations relating to the rating of personal insurance. A major competitor has introduced a significantly predictive



rating factor closely related to race, and the candidate must recommend a course of action.

#### **5.4. Investment**

The Investments case required candidates to advise on investment strategy for a proposed new and exotic product, which guarantees the return on the US S&P500 shares index, but adjusted for “currency” movements in the “Big Mac Index”. The Big Mac Index moves relative to the prices of a McDonalds Big Mac in the USA vs in the mythical country of Capland. Return is required on sufficient capital to back the guarantee, as the index can not be hedged.

#### **5.5. Life Insurance**

The Life case required candidates to provide pricing and product design advice to a Life Reinsurer for the provision of excess cover on life annuities ie if an annuitant lives longer than expected, the reinsurer will make the payments thereafter.

Matthew Ralph

Assistant Examiner,

Commercial Actuarial Practice

26 November 2013

Bruce Thomson

Chief Examiner,

Commercial Actuarial Practice