Report to Council from the Board of Examiners

2002 PART III EXAMINATIONS REPORT

(STUDENT VERSION)

Institute of Actuaries of Australia

Publisher
The Institute of Actuaries of Australia
ACN 000 423 656
Tel: (02) 9233 3466 Fax: (02) 9233 3446
December 2002

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Summary

The year 2002 Part III examinations of the Institute of Actuaries of Australia were held between 1 and 14 October 2002 with candidates in Australia (Sydney, Melbourne, Brisbane, Canberra, Adelaide, Perth) and overseas (New Zealand, Hong Kong, Singapore, Malaysia, Korea, Japan, India, England, Ireland, Germany, Netherlands, Switzerland, USA, Canada).

The process followed in setting the exams and determining the recommended pass list was similar to the process followed in previous years.

The number of candidates, recommended passes and resulting pass rates are as follows:

Table 1: Candidate Numbers by Part III specialist subject

		1996	1997	1998	1999	2000	2001	2002
1	Investment Management	58	77	99	109	102	92	80
2	Life Insurance	58	72	66	71	82	79	86
3	General Insurance	51	49	54	43	55	59	73
4	Superannuation	34	23	21	21	25	23	26
5	Finance	27	31	34	42	45	47	68
		228	252	274	286	309	300	333

Table 2: Recommended Number of Passes by Part III specialist subject

	Subject	Sat	Passed	Pass %	2001	2000
1	Investment Management	80	29	36%	33%	27%
2	Life Insurance	86	33	38%	38%	45%
3	General Insurance	73	26	36%	34%	31%
4	Superannuation	26	8	31%	35%	44%
5	Finance	68	21	31%	38%	31%
	Total	333	117	35%	35%	35%
	2001	300	106	35%		
	2000	309	107	35%		

The Chief Examiners aim to produce a consistent standard of passing candidates rather than a consistent pass rate from year to year. This year the overall pass rate is the same as last year (and 2000). The pass rates by specialist subject have changed significantly however this year the pass rates by specialist subject are relatively consistent ranging from 31% to 38%. This was also the case in 2001 (33% to 38%). In prior years greater variation often occurred.

If the recommended passes are adopted by the Council, the number of members that will be made Fellows (subject to attendance at a Professionalism Course, satisfying the Practical Experience Requirement and paying any relevant exemptions) is 58. This compares with 43 in 2001.

Examination Administration

The Board

The Board of Examiners oversees the Part III Examination process of the Institute of Actuaries of Australia ("IAAust"). The Board of Examiners consists of the Chairman and his Assistants, the Chief Examiners for each subject, supported by IAAust staff.

For 2002 the Chairman and his Assistants were:

■ Chairman	Mr Warrick Gard
■ First Assistant Chairman	Mr David Wong
■ Second Assistant Chairman	Position not filled

The Chief Examiners for 2002 were

■ Investment Management	Mr Paul Carrett
■ Life Insurance	Ms Caroline Bennet
■ General Insurance	Mr Stephen Wilson
■ Superannuation	Mr Jason Marler
■ Finance	Mr Richard Hitchens / Mr Peter Worcester

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 IAAust and it is currently being run by a small group of committed volunteers.

I would also like to thank my assistant David Wong for his support and untiring efforts in ensuring the overview process of the Chairman worked smoothly.

Meetings of the Board

The Board met on four occasions during the year.

- The first meeting was held on 13 March and was attended by all Chief Examiners. The purposes of this meeting were:
  - general training in the setting of examination questions
  - outline of responsibilities of Chief Examiner and time table for the year

- The second meeting was held on 3 July and was attended by at least one representative from each subject (either Chief Examiner or one of the assistants) except Finance. The purposes of this meeting were:
  - discussion of status of examination papers, model solutions and marking guides
  - discussion and finalisation of examination marking procedures

- The third meeting was held on 23 August and was attended by at least one representative from each subject (either Chief Examiner or one of the assistants).

  The purposes of this meeting were:
  - finalisation and sign-off of 2002 examination papers, model solutions and marking guides
  - general training on examination marking and the marking spreadsheet used to assist Chief Examiners with the marking and grading process and for the compilation of results

- The final meeting was held on 20 November and was attended by all Chief Examiners. The purposes of this meeting were:
  - review the process adopted by each Chief Examiner
  - review recommendations on pass lists
  - discuss prize winners

It is envisaged that three meetings will be held next year at dates to be set in February, July and November.

Administration and Exam Supervision

The Board of Examiners were ably assisted by a number of IAAust staff including Ms Carolyn MacLulich and Ms Michelle Aspery (who were responsible for administering the entire process, compiling and formatting the examination papers, distributing material to students and to exam centres, processing results and collecting historical information for the production of this report). Without the dedicated support of these IAAust staff the work of the Board of Examiners would be far more onerous.

The 2002 Part III examinations in Sydney and Melbourne were run for the first time by an external consultancy – Language and Testing Consultancy (LTC). LTC reported that the examinations ran smoothly and were completed without any problems. For the first time, candidates were encouraged to complete a comments slip on the exam venue and quality of supervision. No complaints were raised. There were also no complaints raised by candidates who sat at any of the other exam centres (interstate or overseas).

The changes to the examination process, which included the introduction of photo identification, did not cause any issues.

The Examination Process

The examination process began officially in March 2002 with an initial meeting of the Board of Examiners.

The basic framework followed by each subject is the same and all subjects contain a rigorous review processes. The general framework used to set examination papers is described as follows:

- The Chief Examiners and their Assistants set draft examinations.

- Draft exams and solutions were reviewed by scrutineers for coverage and fairness. The scrutineers were a mix of newly qualified actuaries and experienced actuaries.
- At least two scrutineers 'sat' the paper under exam conditions to assess the length of the paper.
- Exams were redrafted after feedback from the scrutineers.
- Draft exams, solutions and marking guides were then submitted to the Chairman for review. A documentation of the exam process was also submitted for review. The draft exams and solutions were reviewed by the Chairman and the Assistant Chairmen.
- Exams, solutions and marking guides were finalised by the Chief Examiners and their assistants.
- The Chief Examiners signed off the final examination papers and solutions.
- The Chairman provided final signoff on the examination papers and solutions

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

- Two markers mark each questions. For some subjects inconsistencies were discussed amongst the markers before the results were forwarded to the examiner. For other subjects the Chief Examiner and his Assistants resolved inconsistencies.
- Marks were scaled to allow for the fact that some questions were difficult and some questions were easy.
- Each question was ranked as A, B, C, D or E where A was regarded as a strong pass and B an ordinary pass.
- Candidates overall performance was determined using several metrics including total raw mark, total scaled mark, weighted average grade, weighted average rank and number of pass grades.
- Candidates were ranked based on these metrics.
- Candidates were divided into clear passes, clear failures and a middle group that required further consideration.
- The middle group was examined individually by the Chief Examiner who determined the pass standard by assessing the whole paper and the student's ability to use judgement.
- The recommended passes were examined by the Chairman in light of a reasonable mix of grades and average grades. Overall results were then reviewed by the full Board of Examiners.
- The recommended pass mark was finalised and papers were graded A, B, C, D or E.

The year 2002 Part III examinations of the Institute of Actuaries of Australia were held on the following dates:

Investment Management	Tuesday, 1 October
Life Insurance	Thursday, 3 October
General Insurance	Tuesday, 8 October
Finance	Thursday, 10 October
Superannuation	Monday, 14 October

Candidates sat the exams in 37 centres both in Australia and overseas (multiple exam centres in some countries).

Table 3: Candidates by Exam Centre

Australia	**No of candidates**
Sydney	164
Melbourne	62
Canberra	10
Brisbane	3
Adelaide	1
Perth	1
Overseas	
Hong Kong	28
United Kingdom	20
Singapore	14
New Zealand	12
Malaysia	7
Ireland	3
USA	3
India	2
Korea	2
Netherlands	1
Switzerland	1
Japan	1
Germany	1

The 2002 Part III examinations were run on an open book basis.

Exam sittings

The number of candidates sitting the Part III exams increased by 11% over the number sitting in 2001.

Table 4: Candidate Numbers by Part III specialist subject

		1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
1	**Investment Management**	58	77	99	109	102	92	80
2	**Life Insurance**	58	72	66	71	82	79	86
3	**General Insurance**	51	49	54	43	55	59	73
4	**Superannuation**	34	23	21	21	25	23	26
5	**Finance**	27	31	34	42	45	47	68
		228	252	274	286	309	300	333

The mix of specialist subjects sat by candidates in 2002 followed the broad pattern of the last few years. A significantly lower percentage sitting the Investment Management subject, a slightly higher percentage sitting the General Insurance subject and the Finance subject and a relative constant percentage sitting the other subjects over the last 3 years.

Table 5: Candidate Mix by Part III specialist subject

		1996	1997	1998	1999	2000	2001	2002
1	**Investment Management**	25%	31%	36%	38%	33%	31%	24%
2	**Life Insurance**	25%	29%	24%	25%	27%	26%	26%
3	**General Insurance**	22%	19%	20%	15%	18%	20%	22%
4	**Superannuation**	15%	9%	8%	7%	8%	8%	8%
5	**Finance**	12%	12%	12%	15%	15%	16%	20%

The number of candidates sitting the examinations increased significantly (11%) over the number sitting last year. This reversed the decline experienced in 2001. Other notable observations include:

- The number of candidates sitting Subject 1 Investment Management continued to decline from the high in 1999
- The number of candidates sitting Subject 2 Life Insurance was the highest recorded in the period 1996 to 2002
- The number of candidates sitting Subject 3 General Insurance increased significantly (24%) over 2002 and was easily the highest recorded in the period 1996 to 2002
- The number of candidates sitting Subject 4 Superannuation continued to be in the mid twenties, similar to the level since 1997
- The number of candidates sitting Subject 5 Finance increased significantly (45%) over 2001 and was easily the highest recorded in the period 1996 to 2002
- The number of candidates that enrolled for a subject but did not sit was high for both Finance (14 from 82 enrolled did not present for the exam) and Investment Management (8 from 88). Life Insurance (3 from 89) and General Insurance (5 from 78) had lower levels of candidates not presenting for the examination. The Superannuation (2 from 28) experience is not statistically significant due to the low numbers of candidates enrolled.

Examination Papers

The structure of the examinations in 2002 was identical to that in 2001.

- Investment Management 2 x 3 hours
- Life Insurance 2 x 3 hours
- General Insurance 2 x 3 hours
- Superannuation 2 x 3 hours
- Finance 2 x 3 hours

In each subject there is a mix of questions covering three categories

- interpreting bookwork to the application of familiar and unfamiliar circumstances. This group is aimed at testing the candidates' knowledge and understanding.

- problem solving requiring simple judgement

- problem solving requiring complex judgement

The questions aim to cover the whole syllabus. Students should be aware of the fact that the whole syllabus is examinable, even when part of that syllabus is also taught and examined by the Securities Institute as for Subject 5: Finance.

The standards to be achieved by candidates sitting each subject, the principles on which papers are to be set and the marking procedures are set out in the Guidelines to Examiners (an abridged copy of which is provided in the Education Handbook). To ensure proper balance guidance as to the proportion of marks given to each category have been established.

The standards of difficulty as determined by the Chief Examiners at the time they set the papers are set out below with a comparison to prior years.

Table 6: Standards of Difficulty by Part III specialist subject

		Knowledge & Understanding			**Simple Judgement**			**Complex Judgement**		
		2000	2001	2002	2000	2001	2002	2000	2001	2002
1	**Investment Management**	27%	15%	22%	40%	48%	38%	33%	37%	40%
2	**Life Insurance**	21%	18%	25%	44%	49%	39%	35%	33%	37%
3	**General Insurance**	21%	15%	17.5%	42%	40%	44%	37%	45%	38.5%
4	**Superannuation**	20%	24%	17.5%	40%	35%	45%	40%	41%	37.5%
5	**Finance**	13%	22%	16%	45%	32%	45%	42%	46%	38%
		15%-25%			35%-45%			35%-45%		

Detailed comments on the answers to the questions are contained in each Chief Examiners report.

General observations on each paper and examination answers are as follows. These observations include my own comments.

- Investment Management

  - The exam proved to be a difficult assignment for the majority of students, although this is not dissimilar to last year.

  - The financial planning question was not well answered (P1 Q2). This is a new part of the course and it may be that inadequate study materials are available for candidates to practice questions.

  - Other poorly answered questions dealt with the following sections of the syllabus – property securitisation, general investment environment, analysing fund manager performance, derivatives, risk and return issues associated with asset allocation.

  - There was evidence that candidates have not understood what is required in an open book exam. "Although many candidates picked up significant marks by "listing the issues", very few were able to produce a meaningful valuation result and process."

- Life Insurance

  - Once again, despite the paper not being overly difficult, as evidenced by the breakdown of question difficulty outlined above, student performance has not improved markedly.

  - Some markers commented that candidates had copied answers from prior year exams that were inappropriate to the 2002 question. This was particularly noted for P2 Q6, on appraisal values, an area of the course that candidates continue to struggle with.

  - There was very poor performance on P1 Q6, which looked at the development of a Group Salary Continuance product. The question required application of judgement whereas many candidates responded with bookwork answers. This was also noted for P1 Q2.

  - In a number of questions, markers noted that candidates were not taking the time to read the question carefully and hence were not responding with the correct focus.

- General Insurance

  - This year's paper was designed to focus more on judgemental issues and include less calculation questions. Several questions were set to be

challenging for candidates and many struggled to identify the key issues in some of these questions.

- As stated last year, the performance of candidates was disappointing. Many markers commented on this.

- There were several areas of major concern to the examiners. These can be summarised as follows:

  * Failure to answer the question.
  * Candidates gave lists of points when they were asked for an explanation of the points.
  * Candidates regurgitated sections from reading materials and texts even where it was not appropriate, rather than answering the question.
  * Failure to understand key sections of the course eg nature of professional indemnity insurance, key valuation concepts and GLM.
  * Lack of knowledge of current development especially the public liability crisis in Australia (particularly as it has been discussed in all major newspapers over the last 12 months).

■ Superannuation

- Overall the Chief Examiner was surprised at the low number of answers that were "slightly below standard". Generally speaking the candidates gave an answer that was quite strong or very weak.

- The examiners identified a number of areas of major concern. These were very similar to those identified last year.

  * An open book mentality. It appears to markers that many candidates continue to concentrate on preparing detailed filing systems for course notes and lists of points and pre-prepared responses rather than understanding concepts. Candidates often copied long lists of points that included points that were fundamentally wrong or clearly irrelevant to the question being asked.
  * Candidates not answering the question asked.
  * Lack of understanding across the breadth of the course. That is, many candidates should very good knowledge of some parts of the course and a clear lack of knowledge in other parts.
  * Candidates in general demonstrated a reasonably narrow ability to apply knowledge and understanding of the environment to answer questions.

■ Finance

- It was felt that the 2002 examination was easier ("more accessible") than in 2001 however the raw marks suggested otherwise.

- The Chief Examiner feels that due to the strong emphasis on options within the course, students often neglect the corporate finance part of the course.

Results

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) which may be characterised by complexity, varying degree 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 simple lack of knowledge.

The Chief Examiners in the specialist subjects place great 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 great bearing on whether they pass or fail. The Chief Examiners however, are very conscious of the fact that it is unreasonable to expect students to demonstrate the degree of understanding of an actuary of some year's experience. In addition actuaries are expected to be able to demonstrate their skills to those outside the profession. Candidates are expected to be able to communicate clearly and will be penalised if their answers are not clearly expressed.

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

Table 7: Recommended Candidate Passes by Part III Specialist Subject

		1996	1997	1998	1999	2000	2001	2002
1	**Investment Management**	30	27	39	51	28	30	29
2	**Life Insurance**	25	30	23	29	37	30	33
3	**General Insurance**	18	15	13	17	17	20	26
4	**Superannuation**	15	10	10	12	11	8	8
5	**Finance**	13	14	15	16	14	18	21
		101	96	100	125	107	106	117

Table 8: Recommended Pass Rates by Part III Specialist Subject

		1996	1997	1998	1999	2000	2001	2002
1	**Investment Management**	52%	35%	39%	47%	27%	33%	36%
2	**Life Insurance**	43%	42%	35%	41%	45%	38%	38%
3	**General Insurance**	35%	31%	24%	40%	31%	34%	36%
4	**Superannuation**	44%	43%	48%	57%	44%	35%	31%
5	**Finance**	48%	45%	44%	38%	31%	38%	31%
		44%	38%	36%	44%	35%	35%	35%

The overall recommended pass rate for 2002 is approximately equal to the pass rate for 2001 and 2000. This pass rate is broadly similar to 1997 and 1998 however it is significantly lower than 1996 and 1999. The Board of Examiners discussed in detail the comparability in assessment standard between 2001 and 2002 and the general consensus was that the standard applied was the same and that differences in pass rates between 2001 and 2002 for individual subjects represented a real difference in the quality of the papers presented.

Further detail on the deliberations of each Chief Examiner is contained in their individual reports. I am satisfied that the processes adopted in the marking of papers and grading of papers have been fair and robust and that every effort has been made to ensure consistency between years and between subjects.

Pass Rates by Centre

Table 9: Comparison of Pass Rates by Centre

		1996	1997	1998	1999	2000	2001	2002
	Sydney	47%	38%	38%	49%	35%	37%	37%
	Melbourne	38%	32%	31%	34%	27%	38%	32%
	Other	42%	44%	37%	40%	42%	31%	32%
	Total	44%	38%	36%	44%	35%	35%	35%

Pass Marks and Scaling

The scaled pass marks since 1996 have been as follows:

Table 10:Scaled Pass Marks by Part III specialist subject

		1996	1997	1998	1999	2000	2001	2002
1	**Investment Management**	216	215	220	230	222	224	215
2	**Life Insurance**	228	224	205	219	240	224	236
3	**General Insurance**	229	204	203	220	224	231	229
4	**Superannuation**	204	208	210	206	221	203	250
5	**Finance**	234	230	230	239	225	230	239

The relationship between scaled and raw marks was:

Table 11: Raw and Scaled Pass Marks by Part III specialist subject

		Raw	Scaled
1	**Investment Management**	183	215
2	**Life Insurance**	206	236
3	**General Insurance**	218	229
4	**Superannuation**	220	250
5	**Finance**	190	239

Despite the difference in pass marks (both raw and scaled) the weighted average grade cut off for each subject was very similar. The comparability of standards of assessment was discussed by the Board of Examiners and all Board members were comfortable that the standard applied for each specialist subject was broadly similar.

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

Fellows

If the recommended passes are adopted by the Council the number of members that will be made Fellows (subject to attendance at a Professionalism Course, satisfying the Practical Experience Requirement and paying any relevant exemptions) is 58. This compares to 43 in 2001.

Warrick Gard
Chair, Board of Examiners, 2002

Recommendations for 2003

Board of Examiners

The recommended constitution for the Board for 2003 is:

Chairman and Assistants

- Chairman — Mr Trevor McMahon
- First Assistant Chairman — Mr David Wong
- Second Assistant Chairman — Ms Bozenna Hinton

Chief Examiners

- Investment Management — to be filled
- Life Insurance — Mr Andrew Mead
- General Insurance — Mr Geoff Trahair
- Superannuation — Mr David Shade
- Finance — to be filled

Examination Dates

The dates for the examinations in 2003 and those recommended for 2004 are as follows:

Table 12: Examination Dates by Part III specialist subject

	Subject	2003	2004
1	**Investment Management**	Tuesday, 30 September	Tuesday, 5 October
2	**Life Insurance**	Thursday, 2 October,	Friday, 8 October
3	**General Insurance**	Tuesday, 7 October	Monday, 11 October
4	**Finance**	Thursday, 9 October	Wednesday, 13 October
5	**Superannuation**	Tuesday, 14 October	Friday, 15 October

Exam Solutions

The Board of Examiners has agreed to release the Year 2002 examination papers along with the examination model solutions and marking guides. It is recommended that these be released immediately after the release of results on 18 December 2002 or as close to this time as possible.

CHIEF EXAMINERS' REPORTS

Subject 1: Investment Management

Results Summary

88 candidates enrolled for the 2002 Investment Management exam. Of these, 8 did not present at the exam. It is proposed that 29 candidates be awarded a pass, which implies a pass rate of 36%. This compares with a pass rate of 33% for the 2001 exam (2000: 27%).

In summary

	Number of candidates
Originally enrolled	88
Absent from exam	8
Presented at exam	80
Passed	29
Failed	51

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Auckland	2	2	100%
Brisbane	2	0	0%
Canberra	4	3	75%
Dublin	3	1	33%
Hong Kong	7	2	29%
India	1	0	0%
London	2	0	0%
Melbourne	8	2	25%
New York	1	0	0%
Perth	1	1	100%
Singapore	3	0	0%
Sydney	41	15	37%
UK	2	1	50%
Wellington	2	2	100%
Zurich	1	0	0%
Total	80	29	36%

Examiners

Chief Examiner: Paul Carrett

Level of Difficulty and Course Coverage

The level of difficulty and course coverage per exam paper can be found in the tables below:

KU = Knowledge & Understanding
SJ = Straightforward Judgement
CJ = Complex Judgement

PAPER 1

	Topic	Unit	Aims	KU	SJ	CJ	Total
Question 1	Investment environment	1, 4	2	8			**8**
Question 2	Financial planning	9	7	3	6	12	**21**
Question 3	Fixed interest	3, 6	9, 13	5	7		**12**
Question 4	Derivatives	3	8	2	6	12	**20**
Question 5	Equities	4	10	3	6	10	**19**
Question 6	Asset modelling	1,2,7	3, 6, 15		13	7	**20**
TOTAL				**21**	**38**	**41**	**100**

PAPER 2

	Topic	Unit	Aims	KU	SJ	CJ	Total
Question 1	Performance measurement	7	14	4	12	4	**20**
Question 2	Investment environment	1	2		9		**9**
Question 3	Alternative assets, valuation	5	11,12e	3	8	9	**20**
Question 4	Property	5	12a			9	**9**
Question 5	Quantitative investing	1, 4	4, 10	4	6	13	**23**
Question 6	Fixed interest, currency	3, 5	9, 11	12	3	4	**19**
TOTAL				**23**	**38**	**39**	**100**

Question by Question Analysis

PAPER 1 QUESTION 1

This question referred to the following aims in the syllabus:

- Aim 2a: Describe the main features of Australian capital markets such as types of securities, issuers, investors, intermediaries, indices and costs.

- Aim 10: Demonstrate an understanding of the principles and techniques for managing an Australian equity portfolio.

The aim of this question is to test whether students understand the fundamental drivers of equity values.

This question was reasonably well handled, with an average raw of 56%.
This question was a moderate discriminator between candidates, and a reasonable indicator of overall candidate strength.

PAPER 1 QUESTION 2
This question referred to the following aim in the syllabus:

- Aim 7: Demonstrate an understanding of how to design personal financial plans

The aim of this question is to test whether students are able to demonstrate a basic understanding of financial planning.

This question outlined a scenario where a soon to be married couple are considering negative gearing into various share portfolios. The candidate was asked to provide examples of the matters to be considered by this couple, and then to perform some calculations regarding different capital gains/loss scenarios.

This question was poorly answered, with the average raw mark being 27%. It was a good discriminator, and a good indicator of overall candidate strength.

PAPER 1 QUESTION 3
This question referred to the following aims in the syllabus:

- Aim 7: Demonstrate an understanding of the main principles and techniques for investing in fixed interest securities

- Aim 13: Selecting and appointing investment managers

The aim of this question is to test candidates' understanding of fixed interest markets, and the issues involved with managing a portfolio of such securities.

This is a topical question regarding active management of credit risk for fixed interest portfolios.

This question was the best answered question of the examination based on raw average marks, with the average raw mark being 58%. It was a relatively poor discriminator while being a good indicator of overall candidate strength.

PAPER 1 QUESTION 4
This question referred to the following aim in the syllabus:

- Aim 8: Demonstrate knowledge of the various derivatives used in the Australian market

The aim of this question is to test candidates' understanding of equity derivatives, and the risks involved with implementing derivatives strategies.

This question required an understanding of how to use derivatives to construct capital protection strategies.

This question was poorly answered, with an average raw mark of 32%. Few students were able to accurately describe the nature of the various derivatives required to provide the payoff required. It was a good discriminator but a poor indicator of overall candidate strength.

PAPER 1 QUESTION 5
This question referred to the following aim(s) in the syllabus:

- Aim 10: Demonstrate an understanding of the principles and techniques in investing in managing an Australian equity portfolio

The aim of this question is to test candidates' understanding of fundamental equity investment, and the risks involved.

This question required students to analyse and assess the relative merits of two companies, using information taken from their P&L and Balance Sheets.
Perhaps surprisingly, this question was only moderately well answered, with an average raw mark of 41%. It was a moderate discriminator but a good indicator of overall candidate strength. The Chief Examiner's view is that greater emphasis on the core investment skills involved in performing such analysis needs to be made in the investment course (this should be addressed as the Chief Examiner is reviewing the course in December).

PAPER 1 QUESTION 6
This question referred to the following aims in the syllabus:

- Aim 3: Identify the main characteristics of the major asset classes
- Aim 6: Formulate an asset allocation strategy for institutional investors
- Aim 15: Monitor the overall risk framework

The aim of this question is to test candidates' understanding of risk and return issues associated with asset allocation issues. The question also permits them the opportunity to demonstrate an understanding of the current environment and what types of assumptions might be appropriate in this environment.

This question was poorly answered, again somewhat surprising given that expected return type questions might be considered somewhat "stock standard". The markers noted that the information provided in the course needs to be updated regarding taxation, and this shall be followed up over December during the course review. No students lost marks for applying the (outdated) information in the course notes.

Overall, this question was poorly answered, with an average raw mark of 36%. It was a poor discriminator but a good indicator of overall candidate strength.

PAPER 2 QUESTION 1
This question referred to the following aim in the syllabus:

- Aim 14: Monitor investment performance

This question seeks to test the students understanding of analysing fund manager performance, and the tools used to perform such analysis.
This question was a relatively challenging question discussing the analysis of investment returns relative to benchmark. It was very poorly handled in the main, with an average raw mark of 29%. It was a poor discriminator but a good indicator of overall candidate strength.

PAPER 2 QUESTION 2
This question referred to the following aim in the syllabus:

- Aim 2: Explain the main features within the general investment environment in Australia as they affect asset consulting, investment management and financial planning.

This question seeks to test the students understanding of how "big picture" issues that can impact economic systems. In a sense, this question could be framed as a more traditional asset-liability type question.

This question discussed the possibility of the Commonwealth Government borrowing money (to maintain the government bond market) in the bond market and investing in financial assets.

This question was handled quite poorly, with an average raw mark of 25%. It was a good discriminator but only a poor indicator of overall candidate strength.

PAPER 2 QUESTION 3
This question referred to the following aims in the syllabus:

- Aim 11: Demonstrate an understanding of the principles and techniques for managing other international investments.

- Aim 12e: Outline the features and advantages of "alternative" asset classes such as: high yield debt, private equity, hedge funds, managed futures.

This question should prove quite challenging for students. It should stretch them to apply their knowledge to a "novel" situation.

This was a challenging question requiring students to apply their knowledge to a (likely in most cases) unfamiliar situation, including the valuation of an equity investment in a toll road.

Somewhat surprisingly, in average raw mark terms this question was handled moderately well, with the average raw mark being 42%. It was a poor discriminator but a very good indicator of overall candidate strength.

Although many candidates picked up significant marks by "listing the issues," very few were able to produce a meaningful valuation result and process.

PAPER 2 QUESTION 4
This question referred to the following aim in the syllabus:

- Aim 12a: Describe the various types of property investment and their characteristics.

This question is largely a property question, but also deals with the issues relating to using leverage when investing.

Few students seemed to understand the issues raised by the question – perhaps the topic of securitisation proved somewhat difficult for many of them.

This question was the most poorly answered question of the examination. The average raw mark was only 23%. It was a good discriminator but only a moderate indicator of overall candidate strength.

PAPER 2 QUESTION 5
This question referred to the following aims in the syllabus:

- Aim 4: Critically review the framework of modern financial economics.

- Aim 10: Demonstrate an understanding of the principles and techniques for managing an Australian equities portfolio

This is a relatively challenging question that tests the student's knowledge of quantitative investing techniques.

This was a challenging question on quantitative investment processes. That being said, good students were obviously able to pick up many marks from the core elements of the question.

This question was well handled, especially given its complexity, with the average raw mark being 46%. It was a moderate discriminator and a moderate indicator of overall candidate strength.

PAPER 2 QUESTION 6
This question referred to the following aim(s) in the syllabus:

- Aim 9: Demonstrate an understanding of the principles and techniques for investing in fixed interest securities

- Aim 11: Demonstrate an understanding of the principles and techniques for managing other international investments

The aim of this question is to give the student the opportunity to demonstrate their understanding of yield curves, asset liability management using bonds, and the concept of duration.

This question required students to demonstrate an understanding of yield curves, and the use of fixed interest investments to match general insurance liabilities.
This question was well handled overall, with an average raw mark of 51%. It was a moderate discriminator and indicator of overall candidate strength.

OVERALL COMMENTS

Overall, this year's exam proved to be a difficult assignment for the majority of students, although this is not dissimilar to the experience of previous years. The coverage of the breadth of the course and questions was obviously challenging. That being said, the results suggest that good students accorded themselves tolerably well and a good spread of marks was achieved.

Paul CARRETT
Chief Examiner, Investment Management
November 2002

Subject 2: Life Insurance

Results Summary

89 candidates enrolled for the 2002 exam. Of these, 3 did not present at the exam while a further 1 entered no answers in exam booklets. It is proposed that 33 candidates be awarded a pass, which implies a pass rate of 38%. This compares with a pass rate of 38% for the 2001 exam (2000: 42%).

In summary:

	Number of candidates
Originally enrolled	89
Absent from exam	3
Presented at exam	86
Passed	33
Failed	56

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Sydney	41	18	44%
Melbourne	7	3	43%
Adelaide	1	0	0%
New Zealand	3	1	33%
Canada	1	1	100%
Hong Kong	13	5	38%
India	1	1	100%
Japan	1	1	100%
Korea	1	0	0%
UK	6	3	50%
Malaysia	5	0	0%
Singapore	6	0	0%
Total	86	33	38%

Examiners

Examiners for this year were:

Chief Examiner: Caroline Bennet
Assistant Examiner: Andrew Mead
Assistant Examiner: Anthony Brien

Degree of Difficulty and Course Coverage

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

	KU	SJ	CJ
Paper One	30%	38%	32%
Paper Two	20%	39%	41%
Combined	25%	39%	37%

PAPER ONE

Question	Syllabus Aims	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
Q 1	1,7 & 9	15			**15**
Q 2	4 & 9		23		**23**
Q 3	2,3 16 & 17			23	**23**
Q 4	5, 11 & 16		5	5	**10**
Q 5	2 & 6	15			**15**
Q 6	9 & 11		10	4	**14**
TOTAL		**31**	**28**	**41**	**100**

PAPER TWO

Question	Syllabus Aims	Knowledge & Understanding	Straight-forward Judgement	Complex Judgement	Total Marks
Q 1	14	5	5	3	**13**
Q 2	5	5	15		**20**
Q 3	6	5	5	5	**15**
Q 4	4 & 9		3	22	**25**
Q 5	4		11		**11**
Q 6	13	5		11	**16**
TOTAL		**20**	**39**	**41**	**100**

Question by Question Analysis

PAPER 1 QUESTION 1

This question was reasonably answered but in many cases students took a narrow view of the question which led to them getting low marks.

The overall results were as follows:

Paper One Question One	% of total
Strong Pass	9%
Pass	38%
Below Standard	33%
Weak	16%
Serious Lack of Knowledge	0%
Did not attempt	4%

As well as listing possible measures of profitability, the question called for the explanation of projections, profit analysis and other steps in performing a sound test of profitability.

Further, as the director was new to life insurance students should have explained any new concepts clearly and without jargon.

Finally, although capital was often mentioned as an important factor in pricing, tax was only mentioned in a few occasions.

A top answer would have covered all of these things.

PAPER 1 QUESTION 2

This question was answered poorly. Simple judgement was required, so the answer could not simply be obtained from copying parts of the course. It was obvious from the same irrelevant statements appearing in multiple responses that many students tried to guess which part of the course this question was attempting to test and extracted points from that section even though these didn't answer the question.

The overall results for the question were as follows:

Paper One Question Two	% of total
Strong Pass	10%
Pass	22%
Below Standard	46%
Weak	17%
Serious Lack of Knowledge	0%
Did not attempt	4%

Exam technique is very important for a question such as this. Students should try to figure out exactly what the question is asking and not just pick up key words like "product features", "eligibility criteria" and "data fields" and write down everything they know about them.

For part (a), WHY did the particular product features and eligibility features suggested manage the risk to the Bancassurer? Even flawed reasoning, but internally consistent reasoning, is better than no reasoning at all. For example, a comment that the age eligibility for the Accidental Death product should be greater than 20 to avoid the extra mortality risk associated with the accident hump (which actually occurs in the 20s) is better that simply saying the age eligibility of the product should be greater than 30. Any product features and eligibility criteria included which did not manage the risk to the Bancassurer received no marks.

Similarly, for part (b), any comments about the data fields which did not relate to the direct mail campaign referred to in the question were irrelevant.

Generally, students with better answers identified the risks to the Bancassurer prior to providing their suggested product features and eligibility criteria for each of the products. Even though no marks were given for identifying the risks, the thought

process triggered by doing this appears to have produced better responses to the question.

i) Mortgage Protection Cover

Of the three products, responses to the Mortgage Protection Cover were the best.

Most students correctly identified that financial underwriting would not be required since the loan had already been issued (or similarly, that such financial underwriting could be performed from information provided to obtain the loan in the first place).

ii) Accidental Death Cover with no underwriting

It was common for responses to include product features and/or eligibility criteria which could only be assessed by an underwriting process, even though the question explicitly stated that the product was "Accidental Death Cover with no underwriting". No marks were given for such features and criteria.

iii) Term Life Cover with a simple application form with five YES/NO underwriting questions
Of the three products, responses to the Term Life Cover were the worst. Answers spent too much time and effort discussing the YES/NO underwriting questions and not enough discussing other product features and eligibility criteria.

Part (b)

This question had four distinct parts:

- the principles used to select the lives to be targeted by the direct marketing campaign;
- the criteria used for the Mortgage Protection Cover;
- the criteria used for the Accidental Death Cover; and
- the criteria used for the Term Life Cover.

Again, good exam technique would provide an answer in four parts to match the four parts of the question. A number of students did not write anything for the first part, missing out on 2 marks immediately. Generally, the criteria used for the three products were better set out in three separate sections.

To a greater extent than in part (a), the intent of this question was misunderstood and/or students saw something familiar (i.e. the client database fields) and decided to write down what they knew about it rather than answer the question. A number of responses perceived that the task was to complete the database with client's details so that appropriate product pricing or a liability valuation could be performed, rather than use the existing database to target existing customers for new direct marketing products. Such responses received no credit.

PAPER 1 QUESTION 3
This question required students to exercise judgement in relation to expense allocations and participating funds. It was not a question that students could readily

resort to answering through referring directly to the text rather than considering what was being asked.

Overall the results were poor as indicated by the results below:

Paper One Question Three	% of total
Strong Pass	7%
Pass	20%
Below Standard	20%
Weak	45%
Serious Lack of Knowledge	3%
Did not attempt	4%

In response to part (a), many students failed to sufficiently identify the roles and responsibilities of the Appointed Actuary in this situation.

In relation to part (b), very few students were able to consider a broad range of the issues confronting the Appointed Actuary in the situation presented in the question. Most students noted the need for consideration of equity issues but few considered enough issues to gain a significant portion of the allocated marks.

Following on from part (b), part (c) was poorly answered as it required further analysis in relation to issues raised in (b) and as most students did not consider enough issues in (b) it made it difficult to achieve good results for part (c).

Part (d) was poorly answered, with most students noting that whistle blower provisions exist and that this was the ultimate step for the Appointed Actuary should the situation not be resolved but few students considered what steps the Appointed Actuary should consider before exercising these provisions of the Life Act.

PAPER 1 QUESTION 4

The results for this question overall were as follows:

Paper One Question Four	% of total
Strong Pass	4%
Pass	27%
Below Standard	45%
Weak	17%
Serious Lack of Knowledge	2%
Did not attempt	4%

Part (a) appeared to be ambiguous to and consequently responses were varied and marks were awarded for sensible answers.

In response to part (b), many students looked for a section of the textbook to draw from directly. Better students recognised the key issues around solvency and considered asset mix, investment policy, size of the existing investment equalisation reserve and sources of returns. Weaker students reflected irrelevant points sourced from a list in the textbook. Many students thought unrealised capital gains should not be distributed but didn't consider or explain whether the risk was higher than distributing realised capital gains.

Part (c) was relatively straightforward and was generally well answered by better students.

PAPER 1 QUESTION 5

This was a fairly straightforward question dealing with the drivers of discontinuance experience.

Paper One Question Five	% of total
Strong Pass	22%
Pass	30%
Below Standard	27%
Weak	15%
Serious Lack of Knowledge	1%
Did not attempt	4%

Part (a), worth 10 marks, asked candidates to list and explain potential reasons for a large disparity between lapse rates for term and DII business. Part (b), worth 5 marks, asked what additional investigations should be conducted to more fully understand the experience.

The quality of answers varied quite widely – with just more than 50% of candidates were awarded a pass mark. On the whole, part (b) was better answered than part (a). Part (a) had greater discriminating power.

The answers that were given fail grades typically had one or more of the following problems:

- irrelevant comments about underwriting
- an over-emphasis of the economic environment as a driver of lapses for risk business
- were able to list relevant points (eg effect of different distribution methods) without being able to explain why these might affect lapse rates
- a failure to identify commission rates, commission structures or twisting as factors that could affect lapse experience

In a few cases, candidates did not seem to know that term life and DII are risk products.

PAPER 1 QUESTION 6

Overall performance on the question was very poor, primarily due to many students repeating bookwork rather than addressing the question asked and applying the required judgement. The results can be summarised as follows:

Paper One Question Six	% of total
Strong Pass	3%
Pass	13%
Below Standard	22%
Weak	51%
Serious Lack of Knowledge	6%
Did not attempt	4%

There were 8 identifiable areas where marks could be awarded in response to the question. A candidate was awarded a mark for correctly identifying an aspect of these; two marks for correctly identifying why the difference exists or for identifying several aspects of the difference, and; no marks where the difference is framed as a question (indicating a lack of knowledge) or is descried the wrong way (GSC will have heavier morbidity than DI).

For example no marks were given where a student confused Mortality with Morbidity (which was very frequently) or GSC was confused with Group Life.

Many students answered the question with bookwork – "you cannot cut corners but must follow the 10 steps of product development and these are …" as this was a judgement-focused question no marks were given for this repetition of bookwork.

PAPER 2 QUESTION 1

The performance on this question was as follows:

Paper Two Question One	% of total
Strong Pass	3%
Pass	33%
Below Standard	31%
Weak	26%
Serious Lack of Knowledge	2%
Did not attempt	4%

In part a, those students who correctly interpreted the question answered it reasonably well. There were, however, a significant number who missed the point in part a) in that it's focus was on identifying the *sources* of publicly available information and what would be drawn from each. A small number of students incorrectly listed the Financial Condition Report as a public source of information.

The majority of students correctly identified the key differences between appraisal value profit and MoS profit at a technical level. However, few students gave adequate consideration to the context and audience concerned – ie a potential acquirer of a life company. In particular, many students failed to give any definition, up front, of these two ways of measuring profit and many of those who did, used a text book definition that only an actuary would understand. Many students structured their answer around the advantages and disadvantages of each, whereas the question asked for the two methods to be *contrasted*. The focus therefore should have been on the points of difference and, for maximum marks, solutions organised around this theme.

PAPER 2 QUESTION 2
The performance on this question was as follows:

Paper Two Question Two	% of total
Strong Pass	4%
Pass	19%
Below Standard	29%
Weak	40%
Serious Lack of Knowledge	2%
Did not attempt	4%

The question asked students to consider the asset and liability position of a company. The question required a mixture of Knowledge/Understanding and Simple Judgement.

Overall the question was poorly done. The majority of students recognised that asset-liability matching was the main point of the question, however few students adequately explained the concept. This was clearly required given the non-actuarial audience to whom the written advice was addressed. Fewer students still adequately explained the consequences of moving away from the matched position. Statements like "Mismatching should be avoided" do not gain marks (or convince Chairmen) without explanation as to why.

Few students also utilised the numerical information provided to support their analysis. When commenting on liability or product specific points an alarming number of students classified disability income as a short-term product. There were also easy marks to be gained by simply providing some form of a reasonable conclusion, but many of the students did not actually make a conclusion or recommendation on the basis of their analysis.

PAPER 2 QUESTION 3
The majority of students interpreted the question in accordance with the marking guide. Overall performance was as follows:

Paper Two Question Three	% of total
Strong Pass	9%
Pass	20%
Below Standard	25%
Weak	36%
Serious Lack of Knowledge	6%
Did not attempt	4%

Part (a)

This part was generally well answered, as this was predominantly straight bookwork. However, many students were not able to see how this could result in competitive pricing;

Very few students seemed to grasp the basic rationale as stated in the marking guide, that is, "….. the business will *initially* be sub-scale and unable to support the fixed costs, but the cost of administering each additional member will be relatively small …". As a consequence, they did not appreciate that this was a short term measure

only, and that the charges should be adequate to meet the fixed costs after a defined period or when sales reach a certain target;

Very few students recognised that the profit should be calculated based on a variety of new business volumes using the assumed charge structure. The resulting profit should then be compared against the fixed expenses, and the contribution to overheads;

A number of students incorrectly believed that in using marginal expenses, as new business volumes increased, the company would sustain higher losses.

Finally, it is important that the students consider the audience. In this situation, the students were asked to respond to the Product Manager. Most students adopted quite technical actuarial language to explain the relative merits of a marginal versus fully allocated costing basis, which may not be appropriate.

PAPER 2 QUESTION 4
Overall students performed as follows:

Paper Two Question Four	% of total
Strong Pass	6%
Pass	19%
Below Standard	35%
Weak	36%
Serious Lack of Knowledge	0%
Did not attempt	4%

4.a.i This was generally well answered for a straight forward question. It is noted that the question wording referring to "this group" which led some candidates to believe the question was referring to group business rather than individual business.

4.a.ii There were average responses from the candidates, where the focus of answers was often on the individual rather than how concessions could be granted for the group as a whole reflecting characteristics of the group.

Marks were given in 3 main parts - concessions (2 marks), conditions (2 marks) and process (3 marks). The conditions part was poorly answered reflecting the comment above.

4.b.i This was not an easy question, which required the candidates to think carefully about the benefits and risks involved. It contributed a very significant proportion of the marks for the total question.

4.b.ii This question was generally well answered.

PAPER 2 QUESTION 5
The majority of students responded to this question with responses directly from the text and therefore were limited in their ability to demonstrate whether they understood the applications of reinsurance

The results were as follows:

Paper Two Question Five	% of total
Strong Pass	6%
Pass	19%
Below Standard	54%
Weak	17%
Serious Lack of Knowledge	0%
Did not attempt	4%

In order to pass the questions, student were required to answer both elements of the question, showing understanding of the principles of reinsurance as well as demonstrating the required judgement. This resulted in a low level of candidates passing due as noted above to the proportion of students who answered the question directly by reference to the text, with a high proportion of candidates achieving similar marks.

The markers adapted the suggested marking guide to take into account the interpretations of the question adopted by students.

In general, the major comment related to the question was the lack of comment from students about why reinsurance has the impacts that it does for a life insurer, in particular in relation to profit volatility and financing of new business strain.

Other more detailed comments include the following:

Students quoting directly from the text book did not necessarily note that the question related to YRT business. For example, comments in relation to the transfer of investment profits under coinsurance arrangements were clearly not appropriate responses to the question asked.
Very few students made any reference to financial reinsurance
Bonus marks were given for other alternatives that could be adopted or other benefits of reinsurance that were identified by students

PAPER 2 QUESTION 6
Whilst there was significant variety in the quality of the answers, in general students displayed a very narrow understanding of appraisal valuations.

Of concern was that some of the common errors seemed to arise from students applying exactly the same methods that were demonstrated in the solutions to previous exam questions on this topic, without appreciating the differences in the questions.

Overall however students performed relatively well on this question, with results as follows:

Paper Two Question Six	% of total
Strong Pass	19%
Pass	24%
Below Standard	21%
Weak	31%
Serious Lack of Knowledge	0%
Did not attempt	4%

Part (a)
Student's responses to this question seemed to be a good indicator of their understanding of the topic however many of the stronger students seemed to spend too long answering this part. Most students failed to address the specific question, which asked them to "outline your initial plan" instead providing a list of items to consider that did not resemble a coherent plan.

Part (b)
Most students identified the importance of sales growth rate and risk discount rate as key assumptions, however far fewer students provided a good commentary on direct cashflow items such as fees, expenses and commissions. Most believed that investment earnings were a key assumption, however many ignored redemption rates that would typically have a greater effect on volume growth.

Part (c)
This was a simple question in relation to appraisal values, but many students seemed not to believe that it was so simple and added unnecessary complication to their answers. For instance many made ad hoc adjustments to the present values of future profits on the assumption that these were calculated at a MoS net earnings rate. There was nothing in the question to suggest this interpretation. Other common mistakes included adding the current year earnings to either the value of existing business or the net assets and applying the capitalisation factor to the value of existing business.

We note that the question did not state whether or not the values provided included the value of imputation credits and did not penalise students who made appropriate adjustments to include the value of imputation credits.

Part (d)
This was a bookwork question and was well handled by all students that completed the question. It is noted that there was one anomaly in the question, that the capitalisation factor at a 5%pa growth rate was higher than the capitalisation factor at a 10%pa growth rate. The intention of the question was that it didn’t matter which was used as long as a reasonable explanation was made and students were not penalised for misusing this information.

Caroline BENNET
Chief Examiner, Life Insurance
November 2002

Subject 3: General Insurance

Results Summary

78 candidates enrolled for the 2002 exam. Of these, 5 did not present at the exam. It is proposed that 26 candidates be awarded a pass, which implies a pass rate of 36%. This compares with a pass rate of 34% for the 2001 exam (2000: 31%).

In summary

	Number of candidates
Originally enrolled	78
Absent from exam	5
Presented at exam	73
Passed	26
Failed	47

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Amsterdam	1	1	100%
Auckland	1	1	100%
Brisbane	1	1	100%
Canberra	2	1	50%
Hong Kong	4	0	0%
London	1	0	0%
Melbourne	12	4	33%
Seoul	1	0	0%
Singapore	3	0	0%
Stuttgart	1	1	100%
Sydney	43	15	35%
Wakefield	1	1	100%
Wellington	2	1	50%
Total	**73**	**26**	**36%**

Examiners

Examiners for this year were:

Chief Examiner: Stephen Wilson
Assistant Examiner: Geoff Trahair
Assistant Examiner: Adam Driussi

Degree of Difficulty and Course Coverage

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

Degree of Difficulty

Paper 1

Question	Aims Addressed	Unit	Degree of Difficulty	Total Marks
1	17	6	KU	9
2a	17	6	CJ	6
2b	14	5	SJ	12
3a	8	3	KU	5
3b	8	3	KU	5
3c	8	3	SJ	4
4a	17	6	SJ	10
4b	17	6	SJ	5
5a	7	3	CJ	4
5b	7	3	CJ	5
5c	7	3	CJ	8
6a	4	2	SJ	7
6b	17	6	SJ	5
7a	18	6	CJ	10
7b	18	6	CJ	5
Total				**100**

Paper 2

Question	Aims Addressed	Unit	Degree of Difficulty	Total Marks
1a	7	3	SJ	8
1b	7	3	KU	3
1c	1	1	CJ	8
2a	9	4	KU	4
2b	11	4	SJ	6
2c	11	4	SJ	4
2d	8	3	SJ	2
3a-e	5	2	KU	9
3f	5	2	SJ	2
3g	5	2	CJ	4
4a	14	5	SJ	5
4b	14	5	CJ	4
4c	14	5	CJ	6
4d	14	5	CJ	3
5a	10	4	SJ	6
5b	11	4	CJ	3
5c	11	4	CJ	3
6a	16	5	SJ	12
6b	1	1	CJ	8
Total				**100**

Course Coverage

Paper 1	Aims	Unit	Course topic	Marks
1	17	6	Investment Policy	9
2	14, 17	5, 6	Solvency / Capital / Reinsurance	18
3	8	3	Reserving	14
4	17	6	Portfolio Monitoring	15
5	7	3	Reserving	17
6	4, 17	2, 6	Reserving / Profit	12
7	18	6	Appraisal Values	15

Paper 2

1	1, 7	1, 3	General Insurance Industry / Reserving	19
2	8, 9, 11	3, 4	Premium Rating / Reserving	16
3	5	2	Premium Rating / Risk Classification	15
4	14	5	Reinsurance	18
5	10, 11	4	Product Design / Premium Rating	12
6	1, 16	1, 5	General Insurance Industry / Accident Compensation	20

Marks by Unit:

Unit	Marks
1	16
2	22
3	44
4	26
5	42
6	50
Total	200

Overall Performance

This year's paper was designed to focus more on judgemental issues and include less calculation questions. Feedback from scrutineers, markers and candidates would appear to indicate that this was achieved.

Several questions were set to be challenging for students and many students struggled to identify the key issues in some of these questions. This was also supported by the distribution of marks which showed that whilst the average total marks was lower, the relative distribution of marks was similar to last year. The level of marks achieved by the top students this year was considerably lower than last year.

Despite the certain questions being set to challenge students, overall we considered that it should have been easier for students to receive marks in this year's paper. As stated last year, the performance of candidates was disappointing. Many markers commented this upon.

There were several areas of major concern to the examiners. These can be summarised as follows:

The issue of 'Failure to answer the question' continues to be a major theme although I believe students were better at reading the question this year than last. This may have been due to specific instructions given to students at tutorials or perhaps in material provided by the Institute. Students did not tend to produce long shopping lists of points when asked for detailed explanation of points.

However many students did find opportunities to regurgitate sections from their notes even where it was not appropriate, rather than answering the question asked. It may be the case that students take this approach when they do not have the knowledge to answer the question asked. I believe that this year's exam was effective in limiting the availability of marks when students produced long list of points without really understanding the question.

Our major concern from this year's exam is in relation to Paper 1 Question 5 in which very few students mentioned the need to analyse large claims separately for professional indemnity business. The examiners' initial views were that students who did not mention this should fail automatically, however this did not leave many candidates.

Students' understanding of appropriate valuation methods for professional indemnity business was also disappointing.

The GLM question was again poorly answered for a question that was largely bookwork.

It was also disturbing how many students appeared not to be aware of developments in public liability insurance in Australia. It should be stressed to students that they must be aware of developments within the Australian insurance environment and wider community. Whilst many students were aware of significant past under-reserving of public liability business in Australia, many did not indicate any knowledge of the recent significant hardening of rates.

Some encouraging observations include the majority of students mentioning PS300, or where not explicitly mentioning it, clearly showing recognition of its requirements. A reasonable proportion of students also exhibited a good understanding of the changes to the Insurance Act and APRA's Prudential Standards. Students also appeared to have a reasonable understanding of accounting standards.

Question By Question Analysis

PAPER 1 QUESTION 1 (9 MARKS)

Course coverage – Unit 6, Syllabus Aims 17
Mark allocation – Knowledge and Understanding – 9 marks

Question 1 was a relatively straightforward question involving the discounting of outstanding claim liabilities and investment strategy for a general insurer.

Parts (a) through (c) were generally well done, although some candidates did not appear to recognise that linear interpolation would provide a quick answer to part (b).

Part (d) was not answered well, with many candidates only offering a very limited discussion. Consideration of assets other than bonds (e.g. shares) was limited and if inflation-linked bonds were mentioned, consideration was not then given to the issue of superimposed inflation.

The markers' assessments correlated very well (88%) although a number of candidates had their marks adjusted slightly.

Marks were distributed as follows:

Strong Pass (A) – 7 candidates
Pass (B) – 22 candidates
Slightly Below Standard (C) – 13 candidates
Weak (D) – 28 candidates
Showed Little Knowledge (E) – 3 candidates

PAPER 1 QUESTION 2 (18 MARKS)
Course coverage – Units 5 & 6, Syllabus Aims 14 & 17
Mark allocation – Simple judgement – 12 marks, Complex judgement – 6 marks

Question 2 part (a) involved the assessment of the impact of APRA's new MCR on premium rates, investment policy and reinsurance arrangements. Part (b) involved the assessment of maximum event retentions for a range of scenarios, testing the students understanding of accumulation of risks and their ability to quantify these potential accumulations.

The question achieved a good range of marks from candidates with many students producing good answers. As expected part (b) was answered slightly better than part (a). Many students identified important impacts of the introduction of the new MCR including that higher capital charges would require increase profit loadings in premiums and that reduced capital level may lead to a more conservative investment policy. However almost all students missed the trade-off between higher capital charges for riskier assets and higher expected returns. Many students made silly comments part (b) including using past average claim sizes from earthquakes and cyclones to assess MER's for property risks.

The markers' assessments were reasonably correlated (70%) and a significant number of candidates papers were reviewed. One marker was generally more generous with marks than the other but marks tended to be reasonable on average. Around a dozen candidates had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 7 candidates
Pass (B) – 22 candidates
Slightly Below Standard (C) – 29 candidates
Weak (D) – 14 candidates
Showed Little Knowledge (E) – 6 candidates

PAPER 1 QUESTION 3 (14 MARKS)
Course coverage – Unit 3, Syllabus Aim 8
Mark allocation – Knowledge & understanding – 10 marks, Simple judgement – 4 marks

Question 3 was a relatively straightforward question regarding the actuary's responsibility for disclosing uncertainty when performing a valuation of outstanding claims.

Most students went well in part (b) although it was relatively easy to get these marks if students knew the requirements or had a copy of PS300. In (c), again most students wrote good responses. For those who knew what they were doing this was quite easy to get the full 4 marks (given there were actually about 6 marks on offer). Some students listed the points with little or no discussion (which the question did ask for). Other students wrote more about issues with outstanding claims than methods you could use to quantify uncertainty. It was also clear in this part that some students did not know what statistical analysis was.

No students were awarded full marks in part (a). This is quite surprising given that one only had to mention PS300 and four of the points in the answer guide (most of which can be found in PS300) to get full marks. About 45% of students did not even mention PS300 in any form. Some students actually copied points from PS300 but did not mention that the actuary has responsibilities under this standard. A lot of students mentioned a lot of detail about GPS210 and the actuaries responsibilities under it (mostly irrelevant in answering this question), and ended up writing one to two page answer and only getting one or two marks as they hadn't addressed the question.

As expected, this question was relatively easy for students to gain marks. Despite this the question did discriminate reasonably as those who knew about PS300 went reasonably well, and others went poorly.

The markers' assessments were highly correlated (around 90%) and only around 5 candidates had their papers re-examined.

Marks were distributed as follows:

Strong Pass (A) – 10 candidates
Pass (B) – 17 candidates
Slightly Below Standard (C) – 25 candidates
Weak (D) – 10 candidates
Showed Little Knowledge (E) – 11 candidates

PAPER 1 QUESTION 4 (15 MARKS)
Course coverage – Unit 6, Syllabus Aim 17
Mark allocation – Simple judgement – 15 marks

Question 4 was another relatively straightforward question asking students to identify 10 KPIs for a motor and householders portfolio and describe the impact of various changes on the various KPIs.

The question was not answered particularly well as many students did not appear to appreciate the purpose of KPIs and how they are used to monitor the portfolio experience. Several students copied sections word for work from the text book without considering whether they were appropriate.

Part (b) was generally answered poorly with many students not demonstrating an understanding of the changes and their impact on portfolio.

The markers' assessments were reasonably correlated (just under 70%) and around five candidates had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 12 candidates
Pass (B) – 21 candidates
Slightly Below Standard (C) – 33 candidates
Weak (D) – 6 candidates

Showed Little Knowledge (E) – 1 candidates

PAPER 1 QUESTION 5 (17 MARKS)
Course coverage – Unit 3, Syllabus Aim 7
Mark allocation – Complex judgement – 17 marks

Question 5 was a relatively complex question regarding professional indemnity insurance. While the situation described in this question was complex, there were many easy marks on offer. Parts (a) and (b) were reasonably well done, except that many candidates failed to discuss data issues relating to schemes. Very few candidates mentioned the issue of large claims in part (b). This failure was considered to be extremely serious and it appeared that few candidates had considered Table 24.4 on page 367 of the textbook – a somewhat curious oversight given examiners' comments in previous years on the topic of copying out lists from the textbook. The examiners initially considered this to be grounds for awarding a candidate an absolute exam failure, but the prospect of passing only a handful of candidates was viewed with some trepidation.

Part (c) was not well answered. Some candidates talked about a single method without addressing the all the changes in claims management practices. Again both the schemes and large claims were issues that were commonly missed. Few candidates discussed bringing the various analyses together to arrive at a central estimate.

The markers' assessments were reasonably well correlated (just over 80%) and 28 papers had their marks adjusted, although most only minor amounts.

Marks were distributed as follows:

Strong Pass (A) – 6 candidates
Pass (B) – 16 candidates
Slightly Below Standard (C) – 12 candidates
Weak (D) – 16 candidates
Showed Little Knowledge (E) – 23 candidate

PAPER 1 QUESTION 6 (12 MARKS)
Course coverage – Units 2 & 6, Syllabus Aims 4 & 17
Mark allocation – Simple judgement – 12 marks

Question 6 was a partially judgemental question involving the discussion of the differences between risk margins and profit margins and how profit emerges and is released over time. Despite this a significant portion of marks could be achieved with bookwork answers.

Overall this question was answered below the level expected given the amount of marks available for bookwork answers. Many students could not clearly explain the difference between risk margin and profit margin and why they could be different. Most students explained that profit was released as claims were paid.

The markers' assessments were reasonably correlated (around 63%) and around 20 candidates had their papers reviewed.

Marks were distributed as follows:

Strong Pass (A) – 9 candidates
Pass (B) – 17 candidates
Slightly Below Standard (C) – 28 candidates
Weak (D) – 13 candidates
Showed Little Knowledge (E) – 6 candidates

PAPER 1 QUESTION 7 (15 MARKS)
Course coverage – Unit 6, Syllabus Aim 18
Mark allocation – Complex judgement – 15 marks
Question 7 was a reasonably complex judgemental question involving the assessment of company valuation methodology and issues regarding their use.

This was the last question On paper one. Many of the students appeared rushed, whilst others did not complete all parts. Overall the question was a good test of expertise as there were many points which could be made by students.

Part (a) was answered reasonably well. Some students tended to repeat the one point several times, additional marks were not given for repeated statements. A number of students made points about the method's advantages and disadvantages, but did not follow through with statements indicating understanding.

Part (b) was relatively poorly answered. Many students discussed additional ratios such as expense, underwriting etc. Quite a few students mentioned APRA data but did not realise that this data is not available by class level for individual companies.

Disappointingly, few students suggested alternate valuation methods. Few students suggested the use of any type of DCF method.

A number of students commented on the importance of assessing future growth, but did not talk about profitability. Many students produced long lists of advantages and disadvantages of the methods used.

One of the markers was too generous with the marks for part (b). Unfortunately this removed most discrimination from this part of the question. Following a detailed review of many papers it was decided to adopt one marker's results for that part. As a result the adjusted markers' assessments were well correlated (around 85%).

Marks were distributed as follows:

Strong Pass (A) – 4 candidates
Pass (B) – 16 candidates
Slightly Below Standard (C) – 35 candidates
Weak (D) – 16 candidates
Showed Little Knowledge (E) – 7 candidates

PAPER 2 QUESTION 1 (12 MARKS)
Course coverage – Units 1 & 3, Syllabus Aims 1 & 7
Mark allocation – Knowledge & understanding – 3 marks, Simple judgement – 8 marks, Complex judgement – 8 marks

Question 1 was largely a judgemental question involving Public Liability insurance in Australia and current and past developments in the industry.

In the question we specified the number of points that we wanted students to make and stated clearly that they must provided detailed explanation to receive marks. This appeared to work as few students produced long lists of points without explanation.

There was a reasonable spread of marks for this question, including some very good and some very poor answers.

Parts (a) and (c) were generally reasonably answered with most students being able to provide sensible answers. The better answers included more sensible issues with better explanation and description. Some of the better students even talked about tort reform.

Many students stated that under-pricing leads to under-reserving without attempting to explain why this may be so.

Part (b) was disappointing with few students mentioning that public liability rates had hardened in Australia. Many students talked about the impact of under-reserving on loss ratios, although many confused the issues.

The markers' assessments were correlated reasonably well (around 72%) and less than 10 papers had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 9 candidates
Pass (B) – 19 candidates
Slightly Below Standard (C) – 16 candidates
Weak (D) – 19 candidates
Showed Little Knowledge (E) – 10 candidates

PAPER 2 QUESTION 2 (16 MARKS)
Course coverage – Units 3 & 4, Syllabus Aims 8, 9 & 11
Mark allocation – Knowledge & understanding – 4 marks, Simple judgement – 12 marks

Question 2 was a relatively straightforward judgemental question on unearned premiums, unexpired risk and risk margins. Candidates were asked to describe the methodology used to determine claim costs in respect of unexpired risk for householders and liability excess of loss reinsurance and compare and contrast the issues to consider in setting risk margins for outstanding claims and premium liabilities for each of these classes.

The question appeared to be a good discriminator as the students were required to think and explain their approaches and views. A reasonably high proportion of students were marked as Weak of Showed Little Knowledge as they were not able to develop an appropriate approach for the determination of unexpired claim costs or provide reasoning for the relativities of risk margins.
Many students talked about claim frequency and average claim size for liability excess of loss reinsurance and many did not talk about large claims or catastrophes for householders insurance.

The markers' assessments were correlated very well (around 87%) and only 7 papers had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 13 candidates
Pass (B) – 16 candidates
Slightly Below Standard (C) – 12 candidates
Weak (D) – 25 candidates
Showed Little Knowledge (E) – 7 candidates

PAPER 2 QUESTION 3 (15 MARKS)
Course coverage – Unit 2, Syllabus Aim 5
Mark allocation – Knowledge & understanding – 9 marks, Simple judgement – 2 marks, Complex judgement – 4 marks

Question 3 was a relatively straightforward GLM question with the last two pasts requiring simple and complex judgement respectively.

Despite extensive readings in the course material, the GLM component of the course continues to be poorly answered. Part (b) was very poorly answered with less than 25% of candidates correctly making the bias correction, despite the note in the question about the scale parameter. Similarly part (f) was poorly answered, despite this coming directly from the Taylor reading. Part (g) was poorly attempted – few candidates addressed the issue of modelling individual claim types versus modelling all claim types together and the consequence for multiplicativity of the final model.

The markers' assessments were highly correlated (just under 90%) although over 20 papers had their marks adjusted slightly following detailed review.

Marks were distributed as follows:

Strong Pass (A) –4 candidates
Pass (B) – 26 candidates
Slightly Below Standard (C) – 11 candidates
Weak (D) – 15 candidates
Showed Little Knowledge (E) – 17 candidates

PAPER 2 QUESTION 4 (18 MARKS)
Course coverage – Unit 5, Syllabus Aim 14
Mark allocation – Simple judgement – 5 marks, Complex judgement – 13 marks

Question 4 was a reasonably complex reinsurance question designed to test students' ability to analyse the situation of an insurer and assess the implications that had for the reinsurance arrangements.

Many candidates answered part (a) in the abstract and did not specifically consider the insurer – its marginal solvency position etc. As a result candidates suggested increased retentions in part (b) (when the insurer had limited capital) and were marked down. Similarly part (c) tended to be answered in the abstract and the specific issues for this insurer that arise because of the new APRA standards tended to be lost in long lists of points. In part (d), few candidates demonstrated a clear understanding of the implications of a swap of business via reinsurance.

The markers' assessments were reasonably correlated (around 70%) and whilst a number of papers were reviewed the marks of only two papers were adjusted.

Marks were distributed as follows:

Strong Pass (A) – 15 candidates
Pass (B) – 19 candidates
Slightly Below Standard (C) – 21 candidates
Weak (D) – 15 candidates
Showed Little Knowledge (E) – 3 candidates

PAPER 2 QUESTION 5 (12 MARKS)
Course coverage – Unit 4, Syllabus Aims 10 & 11
Mark allocation – Simple judgement – 6 marks, Complex judgement – 6 marks

Question 5 was a reasonably difficult question involving the development of a new insurance product, covering issues such as policy design and restrictions, premium determination and commission structure.

Overall this question was reasonably well answered. Many candidates identified the obvious restrictions – revenue and time limits, although fewer were able to address the additional complexities of the third-party offering. Most candidates identified a sensible pricing basis, although some insisted on specifying an overly complex structure, despite the exhortation in the question.

The most poorly answered part was part (c) with few candidates recognising the start-up nature of the venture and reasons why the insurer may not want to offer commission. It seems that when candidates are asked to comment on a proposal they are loath to state that it is a bad idea or that it should be considered very carefully. This is of some concern - in real life the actuary is often seen as the professional naysayer by pointing out the flaws in overly optimistic or generous marketing plans.

The markers' assessments were well correlated (around 83%) and 6 papers had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 7 candidates
Pass (B) – 33 candidates
Slightly Below Standard (C) – 12 candidates
Weak (D) – 19 candidates
Showed Little Knowledge (E) – 7 candidates

PAPER 2 QUESTION 6 (20 MARKS)
Course coverage – Units 1 & 5, Syllabus Aims 1 & 16
Mark allocation – Simple judgement – 12 marks, Complex judgement – 8 marks

Question 6 was another reasonably difficult question involving the assessment of issues surrounding the issue of public liability insurance for community events and two possible alternatives to be partially funded by the Government. The second part of the question asked students to consider the current public liability crisis in Australia and discuss the whether the crisis is due to temporary market conditions or permanent change in the insurance landscape.

The question was a bit of a general knowledge question. One marker suggested that the question was probably well outside the comfort zone of a typical student and indeed that a lot of qualified actuaries would have done it quite poorly. He suggested that any level of performance in this question (no matter how low) should not disqualify a candidate from passing the exam overall. I have taken these comments into account when assessing borderline candidates.

Overall the question was somewhat poorly answered. A large number of candidates did not provide commentary on September 11's impact on reinsurance costs and/or HIH in Part (b). In general candidates showed fairly poor knowledge of the way public liability insurance is managed and underwritten by general insurance companies. This is probably not very surprising.

The markers' assessments were reasonably well correlated (around 73%) and 10 papers had their marks adjusted.

Marks were distributed as follows:

Strong Pass (A) – 5 candidates
Pass (B) – 16 candidates
Slightly Below Standard (C) – 33 candidates
Weak (D) – 13 candidates
Showed Little Knowledge (E) – 6 candidates

Stephen WILSON
Chief Examiner – General Insurance, 2002
November 2002

Subject 4: Superannuation & Other Employee Benefits

Results Summary

28 candidates enrolled for the 2002 exam. Of these, 2 did not present at the exam. It is proposed that 8 candidates be awarded a pass, which implies a pass rate of 31%. This compares with a pass rate of 35% for the 2001 exam (2000: 44%).

In summary:

	Number of candidates
Originally enrolled	28
Absent from exam	2
Presented at exam	26
Passed	8
Failed	18

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Sydney	11	3	27%
Melbourne	10	5	50%
Canberra	1	0	0%
Auckland	1	0	0%
Malaysia	1	0	0%
New York	1	0	0%
Hong Kong	1	0	0%
Total	26	8	31%

Examiners

Examiners for this year were:

Chief Examiner: Jason Marler
Assistant Examiner: David Shade
Assistant Examiner: Phillip Everett

Degree of Difficulty and Course Coverage

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

PAPER 1

Question	Coverage (aims/marks)	Total Marks	Difficulty
P1Q1	2 (5), 16 (10)	15	KU 6 Marks SJ 9 Marks
P1Q2	2 (2), 14 (4), 16 (3), 20 (3)	11	KU 2 Marks SJ 5 Marks CJ 4 Marks
P1Q3	7 (8), 10 (10)	17	KU 8 Marks SJ 9 Marks
P1Q4	13 (17), 19 (4)	23	SJ 6 Marks CJ 17 Marks
P1Q5	8 (8), 12 (8)	16	SJ 8 Marks CJ 8 Marks
P1Q6	1 (5), 4 (2), 18 (11)	18	KU 4 Marks SJ 7 Marks CJ 7 Marks
TOTAL	100	100	

PAPER 2

Question	Coverage (aims/marks)	Total Marks	Difficulty
P2Q1	4 (3), 5 (3), 6 (4), 9 (2), 15 (3)	15	KU 8 Marks SJ 7 Marks
P2Q2	10 (2), 15 (7)	9	SJ 4 Marks CJ 5 Marks
P2Q3	11 (17)	17	SJ 5 Marks CJ 12 Marks
P2Q4	17 (12)	12	KU 3 Marks SJ 9 Marks
P2Q5	4 (13), 19 (4)	17	SJ 8 Marks CJ 9 Marks
P2Q6	18 (3), 19 (12)	15	SJ 7 Marks CJ 8 Marks
P2Q7	3 (4), 18 (7), 21 (4)	15	KU 4 Marks SJ 6 Marks CJ 5 Marks
TOTAL	100	100	

DIFFICULTY

	KU	SJ	CJ
Target	15% – 25%	35% – 45%	35% – 45%
Paper 1	20	44	36
Paper 2	15	46	39
Total Marks	35	90	75
Total %	17.5%	45.0%	37.5%

Question by Question Analysis

The number and percentage of candidates that passed each individual question is set out in the following table:

Question	Number of Passes (Grade of A or B)	Percentage Pass Rate
P1Q1	15	58%
P1Q2	13	50%
P1Q3	14	54%
P1Q4	10	39%
P1Q5	10	39%
P1Q6	15	58%
P2Q1	10	39%
P2Q2	13	50%
P2Q3	8	31%
P2Q4	17	65%
P2Q5	14	54%
P2Q6	14	54%
P2Q7	13	50%
OVERALL	8	31%

Below is a question-by-question breakdown of the markers' comments for each individual question, highlighting how the question was handled, whether the question was a good discriminator and areas of strengths and weaknesses.

PAPER 1 QUESTION 1

In Part (a), most students did not note that there are different measures of the solvency of a fund, which was the key point of this question (the Trustee Director asking the question was using one measure, a lot of students ignored this and went on to explain technical solvency).

In Part (b), better students mentioned that the existing funding level of a plan was important in framing a contribution strategy in the actuarial valuation, but that this was not taken into account in surcharge calculations at all.

Part (c) was the best answered of this question. Better students were able to clearly explain the purpose of each tax certificate or piece of advice they chose, and why the fund was entitled to a tax deduction. Some students considered things such as deductible contributions for the employer, which clearly is not a tax deduction for the fund.

PAPER 1 QUESTION 2

Overall this question was a simple case of a fund moving into unsatisfactory financial position (any quick reasonableness check would have confirmed this) for very obvious reasons. In this context, the majority of candidates answered the question poorly.

In general students were too quick to dismiss the current asset allocation and crediting policy of the fund as causes of the unsatisfactory position and recommended changing them. The main reason for unsatisfactory financial position was not enough reserves held back from prior years (or company assuming this was "surplus" rather than investment reserves held back). In the end, all the 5-year crediting policy is doing is distributing actual earnings of the fund over the next 5 years!

For Part (a), most students were able to do the roll-forward calculations but many omitted an allowance for employer contribution tax, and some used the wrong rates to update assets and liabilities.

For Part (b) there was far too little emphasis on the regulatory requirements of Unsatisfactory Financial Position. Very few students mentioned the FSC and when a review of the crediting rate policy was suggested the flow-on effects of this were not raised – communications with members, equity, and deed requirements. Most students overlooked the reserving issue.

PAPER 1 QUESTION 3

Part (a) was essentially a bookwork question, and in general responses were not all that impressive. Quite a few students did not show a clear understanding of the funding methods they chose, with the most problematic being the new entrant method. Many students didn't answer the question – to describe two methods the way they would be described in an actuarial report – a lot used formulas and symbols that were not well defined, and used language that was not easy to understand. Many students also started comparing the pace of different funding methods in their answer – clearly this was not asked for in the question (would you really do this in an actuarial report?). This demonstrated that students were copying from their notes rather than understanding the concepts and what was being asked.

Part (b) was well answered, with most students scoring well – it is suspected that many students had prepared answers or copied information from a similar source.

For Part (c), some students did not address the "amount of surplus" issue (ie how to measure surplus and the fact that the report referred to was 2 years ago). Most

students regurgitated SIS S117 to set out the steps for removing surplus and scored well on that part of the answer. The main judgement part of the question was implications of taking surplus, which many students did not answer and this was the best differentiator.

PAPER 1 QUESTION 4

Part (a) was the best answered part of the question, although it was surprising how many students did not list as information to be provided to the insurer basic things such as sums insured to allow the insurer to calculate the premium! Not many students specified the premium quotation basis (pooled/non-pooled, commission or net of commission etc), which is surprising given it was in the second part of the question. Again it appeared as though many students copied from pre-prepared lists of information that were not all that comprehensive and tailored to this specific situation.

Part (b) was in general one of the most poorly answered questions on the paper. No student successfully compared the cost that was being charged to members versus what was being charged to the fund under each potential insurance policy, and then commented on relative magnitudes (ie whether the fund was making money out of what it was passing on to members or whether it was subsidising members' insurance costs).

Not many students put the pooled/non-pooled contracts in the context of an accumulation fund where experience would impact directly on the crediting rate (this was stressed in the question). Not many students commented on the fact that recent experience suggested that there was not a large benefit from pooled contracts, and hence for this fund the non-pooled contract provided future stability without impacting on the crediting rate, even though it may have been slightly more expensive based on historical bonus payments of some insurers (of the order of 1 or 2 percent only).

Students that noted that the difference in quoted premiums was a direct result of the insurers including different part-timers (due to the hour restrictions) scored best marks. This was surprisingly few.

For the final part of the question, many students just noted which of the insurers was best for each additional feature and reproduced what was given in the question, rather than picking up and focussing on things that were important, and highlighting with reasons those that were not for this fund. For example, the AAL was not all that important for this fund because take-up of voluntary insurance had been low.

PAPER 1 QUESTION 5

This was a straightforward question requiring general knowledge of the asset-liability modelling process (ALM process). Responses to this question were on the whole disappointing. Many students missed the following key points:

1. The stochastic approach is based on carrying out a large number of simulations; and
2. The focus of the project was on determining a strategic asset allocation, and so therefore a variety of asset allocations needed to be tested through the model. Many students focussed on funding ratios, crediting strategies and the like without mentioning varying the asset allocation, how many portfolios would be

considered, what allocations to growth assets would need to be looked at and the like.

Many students focussed on the asset/investment side, while ignoring the liability side and contribution rates (or specified fixed contribution rates).
The answers for Part (b), (c) and (d) required students to apply knowledge and understanding and were very disappointing, with few comprehensive answers. In part (b) for example many students did not address how they would show the spread/volatility of their results and simulations, thus missing the main point of the question.

A common misconception among students was that for a given contribution rate the probability of insolvency or unsatisfactory financial position would increase as the asset allocation became more aggressive. While the volatility of the financial position would increase, the probability of insolvency may actually be higher or lower with a more aggressive asset allocation. For example, for a given contribution rate, a 100% cash allocation may actually guarantee insolvency, whereas the probability may be acceptably low with a more aggressive allocation.

PAPER 1 QUESTION 6
This question proved to be one of the best discriminators of students on the papers. Students that provided the best answers to this question were highly correlated with those that scored a pass overall.
The average response to this question was quite good. The area most students fell down was in addressing the key concerns for DebonAir (the company), and providing sufficiently detailed discussion around these issues. This was after all the purpose of the draft paper – it was being provided to the Company so it could consider the issue. Students fell down in comparing the current structure (and what was outsourced currently) with possible alternatives, with many not considering what the current situation was.

Many students went into too much detail on alternative products, without first giving due consideration (or more consideration) to the actual issue of whether to outsource a function in the first place.

PAPER 2 QUESTION 1
For Part (a), most students did not cover enough different issues. Many concentrated on calculating the cost of a defined benefit or defining TEC and going into too much detail, rather than saying it was a difficult concept and suggesting appropriate alternatives.
For Part (b), most students did not write their answer in the form of a prepared response to the HR director. Only a handful of students recognised that Black Scholes is not necessarily wrong – the options need to be considered along with the impact of any performance hurdles to consider how appropriate or otherwise Black Scholes results would be!

For Part (c), students put too much emphasis on the difference in valuing the benefits rather than comparing the benefits themselves. Many referred to accounting standards and reporting in company accounts for "provisioning", rather than addressing the simple difference that a company had to set up a separate trust for superannuation

liabilities, but could simply provision for LSL liabilities on the balance sheet and fund them from emerging cash flow.

Many students copied a similar table for comparing defined benefits with LSL liabilities, with this table not addressing some of the key differences. The question specifically asked students to explain "IN YOUR OWN WORDS" – clearly bullet points in table form offered little explanation and these students showed little understanding.

PAPER 2 QUESTION 2

Overall it was expected that students would have done slightly better on this question than they did. However, the question was quite open and some students therefore spent some effort describing how to determine the expense or accrued benefits, for which no marks were allocated. A few students repeated points in their answer and some concentrated on more theoretical implications and missed some of the easier practical implications such as extra times and cost involved in doing 2 types of valuation.

PAPER 2 QUESTION 3

This was the most poorly answered question on the papers, with very few students able to discuss the funding/financial position aspects and general aspects such as whether the White Knight fund was a defined benefit fund in part (b). A lot of students tried to display knowledge of funding methods or calculation of actuarial reserves without considering the key issues involved and general fund management issues in this question.

This question showed that many candidates struggled to combine various aspects of the course and put together a holistic answer combining ideas from separate units that addressed the question.

In Part (b), very few students understood the successor fund concept and the fact that member entitlements remained unchanged (many talked about surplus distributions implying the members would get these rather than the receiving fund under a share of assets approach).

Few students drew the clear distinction between parts (a) and (b) of the question, one involving a termination of an entire fund (people were talking about transfers to another fund!) and (b) involving the transfer out of a subset of members with the fund remaining open to members staying behind. Clearly very different issues need to be discussed.

In many cases, students used abbreviations without defining them properly (PVAB, TV, DARB etc), or used the term "value" in place of "present value"

Many students did not consider it an option to ask the employer to make up any funding deficit, and very few students considered WHY the fund was being terminated in part (a), which would have a large impact on the answer and raised a lot of other questions around retrenchment benefits.

PAPER 2 QUESTION 4

There were a lot of average answers to this question, with the main problem being that students did not focus on some of the key differences in design.

Many missed mentioning a key difference that contributions were compulsory under the old design and optional under the new design, which may be of particular concern to a 25 year old who is paying off a mortgage for instance.

Most students missed the point in relation to contributions tax – that it would be subtracted out of the employer's SG contribution rate, but the employer had to pay it on top of the 20% defined benefit accrual. In general, comparison of the general quantum of benefits was done poorly.

Some students concentrated on advantages of DB/DC benefits, as they would have had lists of these in their course notes. This showed little understanding and little ability to adapt and use that knowledge to pick up on the most important aspects in answering this question for each specific sample member (who were deliberately selected to have different issues to consider).

PAPER 2 QUESTION 5

In this question, the areas in which flexibility could be introduced that were considered by students were surprisingly few, with many concentrating solely on contribution flexibility, voluntary insurance and member investment choice only. Many students did not consider the options they did discuss in anywhere near enough detail (eg voluntary insurance, member investment choice).
A lot of students said that the Trustee would need to get rid of the current smoothing policy to introduce member investment choice, without recognising that the current allocation and smoothing policy could actually be one of the options or the default option (few students even mentioned the idea of a default option or what it might be).

In Part (b), there was far too much focus from students on the actual communication material to be used and not enough emphasis on overall strategy – for example, timing of introducing the changes and the required education prior to introducing a chance such as member investment choice. A lot of students did not consider the language barriers for people with non-English speaking backgrounds that was highlighted in the question. This was disappointing.

PAPER 2 QUESTION 6

Part (a) was on average done reasonably well, with most students getting an answer close to the loss of $20k in the first year. However, most students did not correctly calculate the average drawdown amounts properly – most averaged the factors before calculating the average amount rather than averaging the amounts after applying factors to determine the drawdown amount at each age. Many students misunderstood that the 4% initial amount charged to policyholders should flow through to the calculation of starting value of assets and the annual drawdown calculations.

Part (b) was the discriminating section of the question, with many students only able to make a handful of points. It may have been that students did not manage time properly as this was one of the last "difficult" questions on the paper (with the last question being relatively easier to pick up marks).

The sub-part asking for additional information was in particular done quite poorly. Many students included points which were more appropriate under "further modelling", only a handful of students picked up more than a few points (only one

student mentioned contribution to company overheads). Very few students questioned whether development costs, administrative and set-up costs, and marketing costs were included in the assumed costs presented by the marketing department. Some students seemed to display a lack of understanding in suggesting that to improve profit we could simply change the assumptions or cut costs – this is a task much easier said than done!

Many students commented that the product was likely to be profitable in year 2 and beyond because there were no further one-off initial costs. While possibly correct, very few were able to put this "profit" in the context of the company's expected profit, required return on capital and cost of capital. Simply making a "profit" may not be enough to justify selling the product if it doesn't meet these criteria or some other strategic reason to loss-lead or support or cross-subsidise other products.
Many students expressed the need to do further modelling over a longer-term time horizon and some sensitivity testing on "key product parameters". However, it was disappointing that very few students showed much knowledge about what these key parameters were and the different types of sensitivity testing that could be done and how these might be applied to this situation. Very few students considered other approaches for testing long-term profitability such as NPV, IRR, Discounted Payback Period, the time you would have to hold a policy before it was profitable since inception (and churn rates), and company cost of capital requirements.
The marks for this question were quite low, reflecting the lower overall quality of answers than expected.

PAPER 2 QUESTION 7
Strong candidates were able to provide a good answer to this question by focussing on key aspects of the current Australian environment for their US colleagues. Far too many students simply regurgitated sections of their notes, which considered such things as weaknesses of the current system, lack of integration of the three pillars and the like (the US would not be interested in this!) Some students detailed the IAAust report focussing on shortcomings of the current system. Other candidates gave historical accounts of how and why the current system exists, again probably giving their US colleagues a lot of useless information for them. These candidates scored poorly and need to focus on answering the question at hand!

This question tested a student's ability to balance too much detail with not enough, and focussing on the issues that would be important for someone that is coming from having zero knowledge and needs a "5 minute walk-through" of the current environment and trends. Students that were able to do this scored well.

OVERALL PERFORMANCE
Overall I was surprised at the low number of answers that were "slightly below standard". Generally students gave an answer that was quite strong or very weak. This is demonstrated in the relatively low number of C grades as opposed to A and B grades, and combined D and E grades. This resulted in a lot of candidates bunched in the middle of the final results, who had shown reasonable knowledge in about half the questions but also had a significant number of very weak answers.

The examiners would like to reiterate some of the same comments that are made by examiners every year. The major areas for concern were:
An open book exam mentality – it would appear that many candidates continue to concentrate on preparing detailed filing systems for course notes and lists of points and pre-prepared responses rather than UNDERSTANDING CONCEPTS.

Examiners are NOT looking for students to copy out lists of points or tables or text from their course notes or readings, as this shows little understanding. The exam questions are specifically tailored to situations to test whether students understand what is important and can apply them to the case at hand – students often copied a long list of points which included points that were fundamentally wrong or clearly irrelevant to the question being asked. When grading borderline candidates it is those that show understanding that will pass and not those with the longest list that matches what is in the notes.

- Students not answering the question asked! This is related to the above point and was a common reason for students giving weak answers. Related to this is understanding the question and the key focus of the question. For the question on asset-liability modelling few students thought about the reason they were doing the work and the party they were doing it for. It was to examine asset allocations for the Trustee (not contribution rates for the company and the whole host of other things that students seemed to spend the majority of time on). The same could be said about the questions on communication strategy and profit testing.
- Many students demonstrated good knowledge of the course in a few units, but were very weak in others. I can only recommend that students ensure they have a thorough understanding across all of the course units and do not think they will get by having sketchy knowledge of some of the units.
- Students in general demonstrated a reasonably narrow ability to apply a broad knowledge and understanding of the environment to answer questions. The profit testing question (Paper 2 Question 6) was perhaps the best example of this, where students did not consider in anywhere near enough depth the question of how to measure profitability and whether to sell a product, over what time period the product was to be profitable and company's required return on capital.

Jason MARLER
Chief Examiner, Superannuation & Other Employee Benefits
November 2002

Subject 5: Finance

Results Summary

82 candidates enrolled for the 2002 exam. Of these, 14 did not present at the exam. It is proposed that 21 candidates be awarded a pass, which implies a pass rate of 31%. This compares with a pass rate of 38% for the 2001 exam (2000: 31%).

In summary

	Number of candidates
Originally enrolled	82
Absent from exam	14
Presented at exam	68
Passed	21
Failed	47

The analysis by examination centre is as follows:

Centre	Presented	Passed	Pass Rate
Sydney	28	10	36%
Melbourne	23	6	26%
Canberra	1	1	100%
Hong Kong	3	1	33%
London	6	1	17%
Malaysia	1	0	0%
New York	1	1	100%
Peterborough UK	1	0	0%
Singapore	2	0	0%
Reigate UK	1	0	0%
Wellington	1	1	100%
Total	68	21	31%

Examiners

Examiners for this year were:
Chief Examiners: Peter Worcester & Richard Hitchens

Degree of Difficulty & Course Coverage

Questions were split into their parts covering three categories:

KU. Interpreting bookwork to the application of familiar and unfamiliar circumstances. This group is aimed at testing the candidates' knowledge and understanding.

SJ. Problem solving requiring simple judgement

CJ. Problem solving requiring complex judgement

The following table sets out the proportions of each question split between these three categories. It also lists the parts of the syllabus covered by each question (The syllabus has 14 parts).

Paper	Question	Section	Total Marks	KU	SJ	CJ	Total Marks
1	1	**10**	**16**	7	9		**16**
1	2	**6**	**15**	9	3	3	**15**
1	3	**12**	**18**		13	5	**18**
1	4	**2,4,14**	**29**	7.5	11.5	10	**29**
1	5	**11**	**22**		4	18	**22**
			100	**23.5**	**40.5**	**36**	**100**
2	1	**7**	**14**	2	7	5	**14**
2	2	**8**	**23**	2	13	8	**23**
2	3	**5**	**20**	5	6	9	**20**
2	4	**1**	**22**		12	10	**22**
2	5	**13**	**21**		12	9	**21**
			100	**9**	**50**	**41**	**100**
Combined			**200**	**32.5**	**90.5**	**77**	**200**

Question by Question Analysis

PAPER 1 QUESTION 1

This was a fairly straightforward question on the general approach to valuation. Parts (a) and (c) were largely bookwork, with part (b) being the discriminating part requiring understanding.

This was not meant to be a hard question – 7 KU, 9 SJ, 0 CJ. Despite this, the average unscaled mark was 11.7 out of 32 marks, or 37%.

The markers would be reluctant to pass a candidate who got no marks in part (b). It was possible to get part (a) completely right without necessarily understanding what was going on.

Using Raw Marks, CV = 57%, Discriminating Power = Strong, Pass Rate = 34%

PAPER 1 QUESTION 2
This was a fairly straightforward question on swaps. Parts (a) & (b), 9 out of 15 marks was largely bookwork. Part (d) required judgement.

This was not meant to be a hard question – 9 KU, 3 SJ, 3 CJ. Despite this, the average unscaled mark was 13.7 out of 30 marks, or 46%.

As a general comment, the markers were disappointed with the quality of the answers. While most candidates got (a) correct (the average score for this part was about (4), a surprising number got (b) wrong (average score about 1). A few candidates wrote out the equation of value for (b) and subsequently obtained the correct answer. Most candidates incorrectly calculated forward rates for 1 - 2 yrs, 2 - 3 yrs, etc. instead of 1 - 5 yrs, 2 - 5 yrs etc. Some explicitly did this, not having read the question properly, while others didn't understand that this was what they were doing. As the answers for 4 - 5 years coincide, most candidates scored at least one mark.

Part (c) was not handled well either. This also requires an equation of value. A few candidates got answers that obviously were unreasonable and made no comment. Candidates need to learn to do sanity checks on what they are doing.

Part (d), which sought understanding, was not handled well.

The surprising thing is that the candidates who did well on (b) were not generally those who did well on (c) and those who did well on (d) were generally different again.

Using Raw Marks, CV = 46%, Discriminating Power = Moderate, Pass Rate = 38%

PAPER 1 QUESTION 3
This was a moderate to hard question on Interest Rate Derivative Securities. This question's mark allocation was 13 SJ, 5 CJ.

Students generally did very well, or very badly.

The response to part (a) indicates that either the student knew the answer or had no idea, around 30 students (out of 68) receiving 9 marks out of 13 or above and 19 students receiving 3 marks or below. For those students who were on the right track (the majority), marks were generally lost for calculation errors, misunderstanding in the coupon rate or discount rate.

It does not appear that the question distinguished the high quality candidates and the average candidate. The question tested candidates' ability to apply the formula and the majority did well on that front.

All students performed poorly in part (b) of the question. The problem seems to be that the question did not provide sufficient hints on candidates on what was expected of them, ie apply the concepts in part (a). However, it is also an indicator that candidates generally lacked the analytical skills (maybe due to lack of finance experience). Most candidates realised the price of the callable and non-callable bonds

were different and then simply proceeded to conjure up a list of reasons for the difference.

Overall, students passed because of their ability to recall and apply the formula.

Using Raw Marks, CV = 65%, Discriminating Power = High, Pass Rate = 47%

PAPER 1 QUESTION 4

This was a moderate to hard question on Corporate Structures and related issues. This question's mark allocation was 7.5 KU, 11.5 SJ, 10 CJ.

Overall, students poorly handled the question. Few students could cope with both the numeric and written parts of the question. The level of core corporate finance concepts shown in general by students was very concerning and at quite an unacceptable standard. There is an implication that students concentrate on the option and derivative components of the course to the detriment of their wider understanding of finance.

4 (a) (i) to (iv) acceptably answered, however some students provided cost of equity rather than return on equity for (iv). (v) WACC appallingly answered, common mistakes being to use ROE instead of cost of equity, excluding tax effect on cost of debt and not determining gearing on market value of equity nor understanding the difference between debt and total liabilities. In short, few students demonstrated a grasp of balance sheets.

4 (b) OK but an easy question. Some students neglected to include the 12% first year enhancement. Students typically commented that a 12% synergy enhancement was at the high end and that the market would have difficulty accepting such a quantum– this showed a lack of appreciation, commonly accepted market enhancements are of the order 20 to 30%.

4 (c) Poorly answered due to lack of overall perspective by students. Many concentrated on equity funding to the exclusion of other major forms, getting distracted by detail. This lack of consideration given to debt and hybrids was all the more significant in light of present market and interest rate conditions. Very few commented on the particular nuances of regulated businesses (life & banking).
It appeared that students went to bookwork without considered the specific question being asked.

4 (d) Very poorly answered. The question was looking for a basic understanding of a key tenant of corporate finance and that in theory the value of a firm is independent of its capital structure. However, in practice tax and other frictional costs mean that there is in fact an optimal capital structure for a firm.

The second key concept being examined was that how an acquirer funds an acquisition does not impact on the valuation of the target.

4 (e) OK but a straight forward question on a rarely examined part of the course. Some student's showed an inability to read a balance sheet and couldn't

calculate Capital correctly. Few realised that Tier 2 Capital is limited to Tier 1. There was a tendency not to explain calculations or not to show all calculations.

In (ii) some students neglected to say what impact the floating interest rate swap would have, and others were too vague in what they said – it was apparent that they understood but if it is not stated when specifically requested then no marks can be awarded.

Interesting in (iii) most students got either one of the two points being examined but few got both. Some student's did correctly comment that such funding could not be sought by LOB until after its acquisition and bridging finance would be required [a bonus mark] (however, some said that the debt funding wasn't possible by LOB for this reason and did not receive the bonus).

Using Raw Marks, CV = 33%, Discriminating Power = Low, Pass Rate = 34%

PAPER 1 QUESTION 5

This was a hard question on Exotic Options and Numerical Procedures. The question's mark allocation was 4 SJ, 18 CJ.

The question was good in discriminating between good and bad students. Students should easily have got almost full marks for part (b) and part (c) (which totalled 11 marks).

Some (about 4) students clearly misunderstood part (b) of the question as they did not even attempt to calculate the option price even though they showed their quality in part (a).

Many students do not understand how to value the exchange option in part (a), and instead make the question easier by using part (b) approach. Some students were able to calculate the "stock ratio" tree, but clearly do not understand what it is and how to use it.

Using Raw Marks, CV = 56%, Discriminating Power = High, Pass Rate = 41%

PAPER 2 QUESTION 1

This was an average standard question on Options. The question's mark allocation was 2 KU, 7 SJ, 5 CJ.

The markers generally thought the standard was pretty good with many students losing marks from forgetting to label some values on their payoff diagram rather than lack of knowledge.

The average score of the 68 who attempted was 18.2 out of 28.

a) The question was well answered overall. Most students included the right strategy and calculated the values at the 4 points correctly. The main error of most students was to not label the profit and loss values on the strategy diagram, even though they calculated the values correctly in answering a ii). If a student got the strategy wrong, it

was impossible for them to pass. Too many marks were lost for this. If strategy is wrong at best we could give 5-6 / 14.

b) Most students knew the difference between American and European call options, although some could explain more clearly than others why they were worth the same without dividends. Only about 3 students provided the algebraic proof suggested in the marking guide. Most provided a logical solution for why the American call is never worth more than a European call which was reasonable. Only a couple of students made the financial error of wanting to exercise a call option on an overpriced stock.

Using Raw Marks, CV = 26%, Discriminating Power = Low, Pass Rate = 75%

PAPER 2 QUESTION 2
This was designed as quite a difficult question on Black Scholes and Other Options models. The question'mark allocation was 2 KU, 13 SJ, 8 CJ.

The markers had the following comments:

Part (b) confused students by not giving them the volatility and giving them a strike price which was not consistent with the conversion ratio. The markers used a solution which ignored the strike price and simply used the strike implicit in the conversion ratio (ie $10).

In terms of the quality of the students responses - part (a) was generally not answered particularly well. Common problems were poor grammar/spelling, missing the point, rambling about irrelevant details and un-commercial responses. The distribution of marks for this question was quite bunched up whereas part (b) differentiated between the students a little better. Part (c) was a reasonable question and was generally pretty well answered.

Using Raw Marks, CV = 27%, Discriminating Power = Low, Pass Rate = 54%

PAPER 2 QUESTION 3
This was designed as a moderate to difficult question on Valuation and Analysis of Fixed Interest Securities. The question's mark allocation was 5 KU, 6 SJ, 9 CJ.

Parts (ii) and (iii) required some thought, and are discriminating parts of the question.

Part (a)
Almost no one used the correct number of days in valuing the bills. It would appear that the wording in the question may have led to this as there is reference to exactly half a year (or something to that effect)

Several students assumed there was an annual coupon of 7% rather than 2 half yearly coupons of 3.5%. Once again it would appear that students incorrectly interpreted the reference to an annual coupon rate

In both of the above, the same mistake would appear to have been made.

No student recognised that a simple interest approach was used for valuing a bond with less than 6 months remaining.

Part (b)
Most students listed what appeared to be a standard list of similar issues such as transaction costs and liquidity, but this did not get to the heart of what the question was looking for. A few recognised that risk and return was relevant and a small handful recognised that bank's capital requirements and exposure limits as being an issue. Nobody stated bank capital adequacy ratios/rules.

Part (c) This was answered with a little more success. Some students identified the majority of the key points in the sample solution.

Overall very few students did well in both the numerical and written elements of the question, with most doing better in one or the other.

Overall, students poorly handled the question. The level of core fixed interest concepts shown in general by students was very concerning and at quite an unacceptable standard, especially as they would have completed the Compound Interest subject in Part I. Again, there is an implication that students concentrate on the option and derivative components of the course to the detriment of their wider understanding of finance.

While this question required some critical thought, it was not hard.

Using Raw Marks, CV = 33%, Discriminating Power = Low to Medium, Pass Rate = 40%

PAPER 2 QUESTION 4
This was designed as a difficult question on Investment Evaluation, Capital Budgeting and Structured Finance.

The question's mark allocation was 12 SJ, 10 CJ.

Part (a)(iii) asked candidates to comment on the applicability of three different formulae. However, candidates had already been asked in (i) to comment on the applicability of the first of these formulae. The result was that a number of candidates who had given the answer in part (i) did not repeat it in part (iii).

For borderline candidates, their performance in part (iii) is a good indicator of whether they are merely a bookwork reproducer or actually have some initiative

Using Raw Marks, CV = 39%, Discriminating Power = Low to Medium, Pass Rate = 19%

PAPER 2 QUESTION 5
This was designed as a difficult question on Exotic Options.

The question's mark allocation was 12 SJ, 9 CJ.

Part 1 of the question was about put call parity for compound options. The key to the question was recognising that put call parity for European options will hold regardless of what the underlying asset is. Here, the underlying asset was a plain vanilla call or put option. For those who recognised this, it was an easy question. Some made heavy work of deriving the result by using the formula in hull which involves the cumulative bivariate normal distribution.

Part 2 was about put call parity for barrier options. It was an easy question and most who attempted it could do it.

Part 3 was a bit harder and was about barrier options. Many students in answering the question about the boundary conditions ignored the fact it was a barrier option and wrote an answer that looked at the boundary conditions satisfied by a plain old call option instead.

The last part (deriving the delta) was basically straight out calculus, using the chain rule and product rule. It should have been "do-able" by students who were properly prepared. However it seems like a lot of students ran out of time or got confused.

Using Raw Marks, CV = 47%, Discriminating Power = High, Pass Rate = 51%

Peter WORCESTER
Chief Examiner, Finance
November 2002