Actuaries Institute Australia

LIFE INSURANCE AND RETIREMENT VALUATIONS

ASSIGNMENT SEMESTER 1 2020 – STUDENT FEEDBACK

Education Program
ACTUARIES INSTITUTE

Education that Counts

The Feedback Materials Include:

- Goals of this assignment;
- Learning objectives assessed;
- Assignment marking rubric;
- Mark distribution;
- Feedback overall and by question; and
- A sample paper.

Goals of this Assignment

The specific **skills** that are being developed, and assessed, are:

- Apply subject material in an unfamiliar context;
- Plan a model;
- Build and manipulate a spreadsheet model;
- Determine appropriate assumptions;
- Communicate relevant points in language appropriate to the audience, in a logical and coherent manner;
- Meet business standards for presentation of work, both spreadsheets and written materials.

Learning Objectives Assessed

Question	Syllabus Learning Objective	Page Reference in Course Notes	Marks %
1	2.4, 3.3.3, 3.3.5, 3.3.7, 3.10.1, 3.10.2	2.2.2, 3.1, Module 8 and Module 9	30
2	2.1, 2.4, 3.3.2, 3.3.3, 3.10.1, 3.10.2	10.3.3, Module 8 and Module 9	20
3	3.7.1		10
4	3.2.1, 3.2.2, 3.3.1, 3.6, 3.10.4	4.2.2, 9.3.9	20
5	2.2	3.6.1	20
		Total	100

Rubric

As provided with assignment.

Student Distribution by Grade

Grade	Count
Significantly above pass level	6
Above pass level	23
Pass level	62
Below pass level	21
Significantly below pass level	10
Did not attempt	0
Total	122
Pass or higher	75%

Another 6 students did not submit an assignment.

Sample Assignment

We are providing one of the higher scoring assignments as an example assignment. Note that students approached the modelling and the report in a wide range of ways and this particular assignment was only one of many that passed.

General Comments

The questions offered a good opportunity for students to showcase their understanding of DB valuations and demonstrate how they could apply their knowledge in a practical scenario. The majority of students clearly put in a lot of time and effort in their preparation of the assignment.

Most students demonstrated a good understanding of the theory and applied the necessary modelling skills. The stronger models were easy to follow and audit, and the stronger written answers communicated their understanding clearly and succinctly, while fully answering each question using language tailored to the audience.

There was a tendency to focus on technical matters and highly detailed analysis rather than considering materiality, sense checking the results or selecting language appropriate for the audience. The extra effort made on additional technical work was not always effective in producing high quality assignment.

When reviewing your own work consider these two points of view:

- Would the audience for each question have a clear understanding of the situation, options and/or recommendation at the end of reading the report?
- Is this report presented at a standard an Actuary would accept from an employee with say 1 to 2 years work experience in their team?

The comments from markers that follow for the individual questions highlight the stronger and weaker areas observed across the assignments, to assist you in recognising areas you may wish to focus on improving.

Individual Question Comments

Preparation

Basic preparation sets you up to be more effective and maximise your marks:

- Read the rubric carefully and follow the guide set out there.
- Read the questions carefully and answer what is asked for.
- Manage the size of the assignment, around 15 – 20 well written pages was sufficient to respond to the questions asked and score well. Longer responses did not necessarily score higher.
- On the other hand, it was difficult to score well if the answers were simply too brief and we cannot guess what the student wanted to say.
- There is no need to re-write the question and assumptions given in the assignment in the written question responses.

And we remind you follow to the instructions in terms of the file format and being anonymous in all your submitted materials.

1a Assumptions

The assumptions were usually set in a sensible way and generally this question done well.

Stronger answers had:

- A good discussion on the main financial and demographic assumptions
- A firm basis with supporting data, with solid reasoning as to how they came to set the assumption.

Common weaknesses:

- Only brief comment about why they have selected the assumption.
- Missing assumptions e.g. cash flow timing, investment expenses, promotions, OR
- Overly detailed analysis of many assumptions rather than looking at the bigger picture aspects like whether an assumption is material to the outcome.
- Added complexity unnecessarily, for example assuming age/gender demographic profiles for new entrants rather than choosing a single new entrant.
- Excessively lengthy discussion and inclusion of supporting materials.

1b Flowcharts

Markers were searching for evidence of understanding how to present a flowchart and the benefits of using a flowchart to prepare for building a model. Students showed a range of different approaches, more successful efforts used flowchart symbols, had sufficient details, identified the calculations required and were easy to follow.

Common weaknesses:

- Not formatted as a flowchart. Many presented a list of steps, with no element of probability pathways or decisions.
- Unstructured.
- Too high level or simplistic and did not sufficiently describe the calculation logic.
- Missing details altogether, OR
- Way too much information (including detailed formulae, actuarial notations). As a result, they read like a technical operation manual rather than a flowchart.
- Extremely detailed charts were not necessarily the most effective.
- Excessive commentary which defeated the purpose of producing a chart in the first place.

1c PUC/EAN SCR and 2 Projections (Excel Modelling)

Students who generally did well with Question 1c generally carried through to this question 2 and vice versa. Comments for both follow. The focus of markers was on spreadsheeting skill rather than the absolute results for the SCRs and funding positions.

A variety of approaches were taken in setting up the model for the initial contribution rate and subsequent projection scenarios. Some students made use of macros or array formulas which was fine but added an extra layer of complexity for marking. The spreadsheet models were variable in terms of readability and a logical flow of calculations. Quite complex models were prepared and possibly an overinvestment of time for the given marks.

Most students derived reasonable SCRs, made adjustments to their spreadsheet model in order to create the requested projection scenarios and were able to get changes in the funding position which made sense directionally. However, the funding positions were frequently not presented or explained well.

Spreadsheet models with good design and structure generally scored better than others that didn't. Students who scored better marks had several of these features:

- Set out their spreadsheet model in a clear and concise manner.
- Sufficient level of instructions outlining the flow of the spreadsheet.
- A good explanation either in the spreadsheet model or in the word document which made it easier for the marker to understand what they did and how they did it.
- Different scenarios were clearly labelled in individual tabs, or there were very clear instructions on how to adjust the model to reproduce them.
- A good level of reasonableness checks of calculations and overall results in their response.
- An explanation of the SCRs they produced in relation to the accrual rates, the methodology and assumptions used.
- Discussion of the gap between salary inflation and the discount rate.
- Tested and commented on the results from the different scenarios.

Common weaknesses:

- Overly complex modelling and/or insufficient guidance to user.
- Little or no explanation.

- Formulas crossing multiple tabs made it very difficult to follow the logic of the calculation.
- Extremely complicated formulae or excessive numbers of columns/ tabs as these cannot be debugged easily.
- Limited or no sense checks.
- No evidence of setting key assumptions to 0 to test outcomes.
- Funding position not presented as a % or ratio.
- Technical matters not well understood, notably not understanding that one entry age is used to determine the EAN SCR, some tried to determine an EAN SCR for every member.

3 Scenarios

Students who scored better marks tended to describe plausible scenarios, weaker responses simply listed 10 variations on the individual assumptions.

The key differentiator between students was the ability to explain the impact to scheme (funding and contributions). The better students stated what the impacts of each scenario might be for the scheme and/or stakeholders whereas average students either put very little explanation or simply left it.

4 Funding and Conflicts Memo to Trustees

Most made a good attempt at addressing the contrast in funding methods and different stakeholder perspectives in their memo. The main conflicts of interests between stakeholders were usually identified correctly.

The better students paid special attention to the language, formatting and structure of the content of the memo whereas average students tended to state what they already had in previous parts.

Quite often a long memo scored lower marks than a short and concise memo with succinct explanations.

Common weaknesses:

- Question not actually answered.
- Either too much information restating or explaining work previously completed (rather than drawing a conclusion from it) OR no reference at all to previous work to support discussion and conclusion.
- Discussion of other matters not pertinent, unnecessary waffle OR too short/brief.
- Language used not appropriate for audience; technical terms used with no explanation.
- In a few cases, the student talked about the trustees in a way which suggested they did not realise the memo was being addressed to the trustees.

5 Member Communications

Most students appreciated the audience were likely to be blue collar workers so a good mix of visual and text with simple work example was used in designing the article. Better students stood out by:

- Creatively mixing layman wording with interesting visual content.
- Easy to read and understand.
- Plain English.
- Focused on what mattered for the employees (as opposed to employer contributions, actuarial reserving, etc.).

Common weaknesses:

- Correct content but presented in a less than appealing format.
- Too technical for audience, for example attempting to explain how contribution rates are determined by the actuary.
- Incorrect or confused content or worked benefit examples.

Contacts

Actuarial Educator, Life Insurance and Retirement Valuations
Georgina Hemmings
0415 853 033
Georgina.Hemmings@actuaries.asn.au

Janice Jones
0407 086 494
Janice.Jones@actuaries.asn.au

Head of Education Development and Delivery
Michael Callan
0449 914 135
Michael.Callan@actuaries.asn.au

Education Manager and Team Leader
Eleanor Mazando
(02) 9239 6117
Eleanor.Mazando@actuaries.asn.au