

ASSET LIABILITY MANAGEMENT

ASSIGNMENT SEMESTER 1 2022 -

FEEDBACK FOR STUDENTS



Feedback materials

- Assignment goals;
- Format of the assessment;
- Results summary;
- Overall feedback;
- Learning objectives assessed;
- Feedback by question; and
- Example of Part B submission graded 'Significantly above pass level' (separate from this document)

For the assignment, you should use the general feedback and marking guide to grade the sample assignment and your own submission. This will help you to compare the assignments and identify areas where your submission could have been improved.

Our belief is that this active approach to studying will provide you with a deeper understanding of where you need to improve. This is the best way for you to learn about your areas of strength and weakness in your understanding. We do not provide students with individual feedback on their assessments.

Assignment goals

The main purpose of the assignment from your perspective was to help you develop skills required to pass examinations at Actuary level. These skills are also required by employers. The specific skills that are being developed and assessed in the assignment are:

- acquisition of subject knowledge;
- application of subject material in an unfamiliar context; and
- communication of relevant points in language appropriate to the audience, in a logical and coherent manner.

Material from Module 2 through to 7 was assessed in Part A and Part B.



While the assignment accounts for 20% of the total mark that counts towards the final assessment for the subject, the assignment is also a formative assessment and is used as a teaching tool. Specifically, the assignment allows students to self-reflect on their ability to learn the subject matter, communicate clearly under time pressure and to develop an understanding of the additional effort required to complete their learning and improve their speed of communication before the final examination.

As a guide, the expected standard of communication for the Actuary level subjects is the quality expected from an employee in their first year of work.

Format of the assessment

A time bound online assessment was used to mimic the experience of an online exam and build the student's confidence with this approach, as well as test the capabilities of the LMS system for online quiz style questions.

All students successfully logged in and completed both parts of the assignment in the given time. Several students were concerned that their upload was not successful, but all scripts were received. One student failed to name or format their submission file for Part B correctly and this was penalised by 10% of the available marks for Part B or 1 mark.

Students are reminded again that they must correctly name and format their files for the exam.

Results summary

The chief examiner loads the Part A answers to the LMS and the questions are marked automatically. Results are then downloaded and stored. Part B was marked by independent volunteer markers and results were moderated by the Chief Examiner. Raw marks of Part A and Part B were added to generate a final raw mark out of 20, then any penalty or special consideration adjustments were made to the raw marks. Mark cut offs for each grade were set after assessing the quality of responses and expectations for a student at the Actuary level.



Grade distribution

Grade	Part A	Part B	Overall	S1 2022 %	S2 2021 %
Significantly above pass level	55	114	101	78%	36%
Above pass level	58	12	24	18%	34%
Pass level	15	4	4	3%	19%
Below pass level	2	0	1	1%	11%

Overall feedback

The assessment was a test of knowledge and application. A student with knowledge of the materials only could readily achieve a 50% mark. However evidence of both knowledge and the ability to apply was needed for a higher result. Students had to demonstrate the ability to apply information to a new situation and communicate clearly, in order to pass.

Below Pass level students did poorly on one part and were pass or below on the other part, indicating insufficient knowledge of the materials. **Pass** level students demonstrated either less breadth of knowledge of the materials (Part A) or were weak at supplying sufficient detail in the answers (Part B). **Above Pass** and **Significantly Above Pass** students (the majority of students) showed a good grasp of the materials, provided sufficient detail in their answers and were more consistently able to apply their knowledge in the context given in the question.

The exam assessment will test knowledge, application, and higher order thinking. **Students who only achieved a pass grade in this assessment will have to improve their application and thinking skills to pass the exam.**

Part A questions were largely bookwork and designed to assess if the student had read and understood the materials in modules 2 to 7 and were able to read and interpret questions. This part was generally well done with 128 out of 130 students passing. The average score was 7.58 out of 10.



The Part B questions were designed to assess if the student could apply the materials to specified situations. The stronger responses:

- attempted all the questions
- answered what was asked in the questions
- clearly linked each point being made to the particular situation given, rather than simply restating the learning materials;

The weaker responses:

- did not answer some questions
- gave answers that:
 - failed to answer the question that was asked;
 - were too brief; or
 - were too incoherently written to be well enough understood to gain full marks.

Part A Guidance

Answers to the Part A questions will be discussed in brief at one of the revision tutorials. The specific learning objectives covered and module references are shown in the table.

#	Learning Objective	Module
1.1	Explain, in general, actuarial models as part of actuarial advice, their inputs and outputs, and how they are affected by professionalism and the external environment	2
1.2	Recognise the qualitative aspects of providing actuarial advice	2
1.3	Outline the elements of effective investment governance	2
1.4	Understand and apply the complexity of competing investment theories through describing Kuhn's philosophy, the roles of exemplars, distinguishing between causation and correlation, and the Duhem-Quine thesis	2
2.1	Discuss the role of government monetary and fiscal policy	3
2.4	List and describe the main characteristics of the main capital markets	4



#	Learning Objective	Module
2.5	Explain the principal economic influences on investment markets	4
2.7	Describe the construction and uses of market indices	4
3.1	Describe the characteristics of the three principal asset classes	5, 6, 7
3.2	Discuss the components and drivers of the three principal asset classes' risk and return	5, 6, 7
3.3	Apply and critique valuation methods including discussing assumptions and evaluating limitations	5, 6, 7

Part B Guidance

For each question, we have provided the learning objective, module references, comments on the approach to marking and a sample answer. Note there are other answers that would have obtained full marks. The specific learning objectives covered are shown in the table.

#	Learning Objective	Module	Question in Part B
3.1	Describe the characteristics of the three principal asset classes	5, 6, 7	Q1 (Equities), Q2 (Property, Debt)
3.3	Apply and critique valuation methods including discussing assumptions and evaluating limitations	5, 6, 7	Q2 (Property)



Feedback by question

Sample answers and marking guide for Part B

1. A trustee is managing a \$2m trust fund for a 5-year-old beneficiary. The entire proceeds will be released to the beneficiary when she turns 30. The trustee is placing 50% of the portfolio into government bonds and 50% into equities via a reputable investment manager. The trustee's initial thought is to invest only in domestic listed equities.

Examine the arguments for and against the inclusion of overseas listed equities for this trust fund. **(4 marks)**

Sample Answer

Arguments for inclusion of overseas listed equities:

- There may be a situation where the risk and return characteristics of the overseas equities are more aligned to the investment objective of the trustee in comparison with the domestic market. **(0.5 mark)**
- Exposure to much greater range/diversity of stocks and increased diversification **(0.5 mark)** expected to correspond to higher risk adjusted returns over the **long term (0.5 mark)**, and **we have a 25-year term to consider (0.5 mark)**
- Access additional return opportunities by benefiting from exposure to developing economies, new or specialised industries not available locally **(0.5 mark)** that may be growing faster than the domestic economy and industries **(0.5 mark)**
- Remove 'home bias' in portfolio, taking a global portfolio stance and only give domestic shares their relative weighting compared to global markets. **(0.5 mark)** This reduces the impact of domestic markets underperforming global markets over the long term. **(0.5 mark)**
- An argument for their inclusion would be the diversification benefits stemming from imperfect correlation of price movements between markets as different markets experience different stages of the economic cycle at different times. **(0.5 mark)** This makes reasonable sense as the funds will be released when the 5-year-old beneficiary turns 30, and there exists the possibility that the domestic economy could then be undergoing a recession or downturn. **(0.5 mark)**



- The inclusion of overseas listed equities would provide exposure to industries that do not exist domestically. **(0.5 mark)** This argument would also be particularly valid in certain economies, as we do not know where this scenario is set, and their domestic economy may be centred around very few industries. **(0.5 mark)**

Arguments against inclusion of overseas listed equities:

- As using investment manager then fees likely higher **(0.5 mark)** for overseas than domestic portfolio and may outweigh any higher returns achieved **(0.5 mark)**
- Additional costs of managing currency **(0.5 mark)** if any hedging required detracts from returns **(0.5 mark)**
- Additional costs could result from the need for a custodian for overseas investments, **(0.5 mark)** the cost of handling foreign country taxes, **(0.5 mark)** and potentially higher management fees due to the additional knowledge and skills required to invest in overseas listed equities. **(0.5 mark)** This should undoubtedly be considered for the trust fund as it could impact overall returns. **(0.5 mark)**
- The increasingly connected nature of the global economy may mean that the returns on overseas equities may have become more correlated with the returns on domestic equities, so that the diversification benefit may not be as significant as indicated by historical data.
- Overseas investments may not have the same tax advantages as local investments **(0.5 mark)**, or incur additional taxes (withholding taxes or double tax) **(0.5 mark)** **particularly for a trust fund which may be low/no income tax (0.5 mark);** and/or
- Overseas may introduce additional management complexity **(0.5 mark)** to deal with international tax regimes, different regulatory structures, again adding to cost **(0.5 mark)**
- Any net gain in returns after additional taxes and costs may be immaterial to overall results **(0.5 mark)** given less than \$1m will be invested overseas **(0.5 mark)**
- **Beneficiary is local resident (0.5 mark)** and by age 30 not likely to have any overseas liabilities i.e., any use of the money on release likely to be in local currency **(0.5 mark)**. So, no need to hold investments in other jurisdictions or currencies **(0.5 mark)** as no liabilities in those jurisdictions to match – keep the portfolio simple as possible
- Avoid currency exchange risks **(0.5 mark)**, noting likely to have to pay out **beneficiary in local currency** eventually – protect local value by investing in local investments **(0.5 mark)**



Marking guide comments

1 mark per correct complete point, that is relevant to the situation, whether a pro or con. Not all of these above are required. 0.5 mark for relevant statement about the particular trust fund features.

Expecting 2 solid reasons in each direction 4 altogether.

4 marks max

Liquidity is not an argument for this trust fund to invest overseas, it is relatively small and will be able to readily liquidate listed equity investments domestically. No marks.

Application/Higher order

LO 3.1 M6 P 51

2. The trustee learns that long term (10 year plus) government indexed bonds are currently yielding less than 2% per annum (real). Inflation is currently 1.5% per annum. An alternative for the \$1m available is to purchase a residential property and rent it out. The trustee is advised properties are priced on a capitalisation rate of 5% per annum and cautioned that annual outgoings will be \$12,000 per annum.

- a. Determine the minimum gross rent per week to charge the tenant to justify the purchase at \$1 million with a capitalisation rate of 5% per annum. **(1 mark)**
- b. The advised \$12,000 annual outgoings include rates, insurance and managing agent fees. Identify six assumptions required for a discounted cash flow valuation in addition to these current annual outgoings. **(3 marks)**
- c. Contrast the risk characteristics of a portfolio of long-term government bonds to a single residential property. **(2 marks)**

Sample Answer

- a. **Determine the minimum gross rent per week to charge the tenant.**

Property value = maintainable net income / capitalization rate

1,000,000 = [gross income – expenses] / capitalization rate

1,000,000 = [gross income – 12,000] / 0.05

gross income = 62,000 pa or \$1,192 per week.



Marking guide comments

1 mark for correct gross weekly rent

0.5 mark if incorrect answer but showed correct formula or gave annual rather than weekly given

0 mark if incorrect answer and nothing to indicate workings

max 1 mark

Application

LO 3.3 M7 p32

b. The advised \$12,000 annual outgoings include rates, insurance and managing agent fees. Identify six assumptions required for a Discounted Cash Flow valuation in addition to these items. (Only the first six assumptions you provide will be marked)

- discount rate (allows for risks)
- inflation or rate of increase in the gross rent
- inflation rate for annual outgoings
- expected future vacancy rate (may say based on outlook for the property, location, suburb or city as available)
- re-leasing costs
- need for, timing and cost of refurbishment and/or major repairs
- taxation rate
- period of valuation
- future growth in property prices in that location; or
- capitalisation rate to determine terminal value.



Marking guide comments

0.5 mark per DISTINCT item

max 6 items 3 marks

No marks for nominating current gross rent which is a fact and not an assumption.

Only mark the first 6 items they identify (that is, the spray gun answers)

no marks for something irrelevant to a residential property or a trustee investor

Knowledge

LO 3.3 M7 p33-36

c. Contrast the risk characteristics of a portfolio of long-term government indexed bonds to those of a single residential property.

Sample Answers

- The key risk of property investment is the uncertainty of actual future cashflows, both the amount and the timing **(0.5 mark)**. This compares to government bonds where the actual future cash flows are known (coupon payments and return of principal) **(0.5 mark)**
- Properties face physical risks such as storm damage (which may be insurable) and unexpected repair/maintenance costs (that may not be insurable), that is, uncertain future expense cash flows and/or loss of rental income **(0.5 mark)**, unlike bonds where there are no physical risks that could affect cash flows **(0.5 mark)**. ***This is an example of the broader point made above – don't pay both. Similarly, unexpected vacancies; government caps on rent increases are examples of uncertainty of future cash flows.***
- The key risk of government bonds (when not held to maturity) is that the market yields change over time (e.g., increase) so that the bonds are revalued (e.g., downwards) however this is avoided if the bonds are held to maturity as is likely for this portfolio **(0.5 mark)**. Properties may also be revalued downwards if yields are increasing as the discount rates used for valuation will be increased. **(0.5 mark)**



- Property expected yields (capitalisation rates) may change for reasons other than a change in government bond yields or inflation rates **(0.5 mark)** so additional risks **(0.5 mark)**.
- Government bonds have a low (or virtually no) risk of default (loss of capital). **(0.5 mark)** Residential properties generally have a low risk of loss of capital (provided building is structurally sound) **(0.5 mark)** although prices are exposed to economic conditions [such as unemployment] and local property market demand/supply. **(0.5 mark)**

Marking guide comments

Any sensible point that selects a risk characteristic and correctly describes for both assets 1 mark as per the examples above

If only one asset mentioned in the point, then max 0.5 mark

max 2 marks

Knowledge

LO 3.1 M7 p12 M5 p 39-4