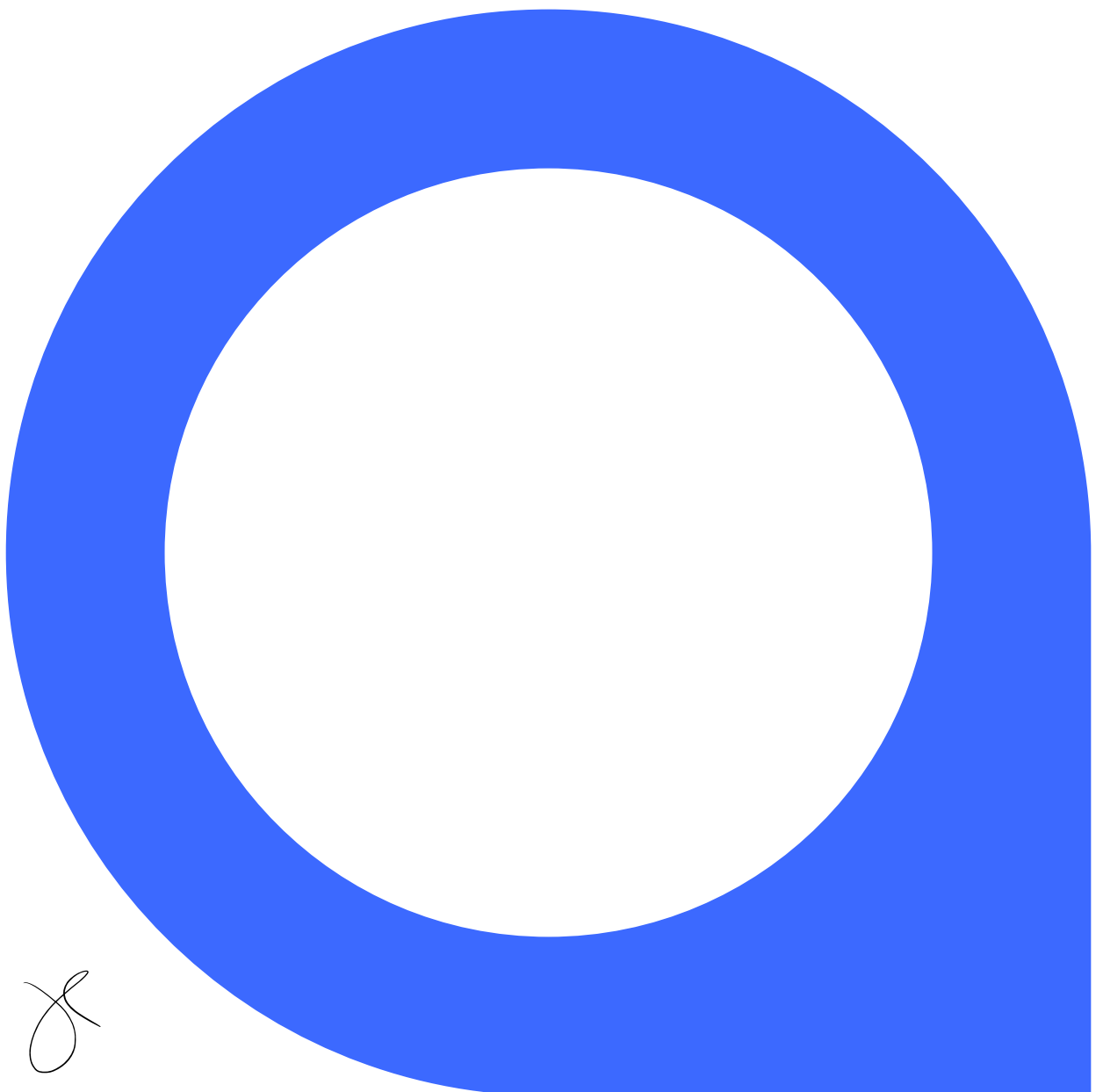


Asset Liability Management

Exam Semester 1 2024



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Subject Title: Asset Liability Management

Date: Friday, 26 April 2024

Time: 15 minutes
(Planning Time)
3 hours
(Examination)

Instructions:

You will have 3 hours and 15 minutes to complete your examination with an additional 10 minutes for submission.

You may commence typing during the planning time and remember to save your work regularly.

Type your answers using Microsoft Word and ensure that there are no links to spreadsheets.

Candidates are required to answer all questions.

Include your member ID in the header and footer on each page of the Microsoft Word document.

Question	Marks
1	20
2	22
3	23
4	15
Total	80

This paper has **SIX (6)** pages (including the title page).



QUESTION 1

(20 Marks)

It has been claimed that the long-term returns of actively managed equity portfolios are likely to be at or below the relevant equity benchmark index because the equity market is semi-strong form efficient.

- a) Discuss active management as it applies to an equity portfolio. **(2 marks)**
- b) Discuss the implications of a semi-strong form efficient equity market **(2 marks)**
- c) Discuss two other possible explanations for the long-term returns of actively managed equity portfolios not exceeding the relevant equity benchmark index, which could be true even if the equity market is semi-strong form efficient **(4 marks)**
- d) Explain three theories that may support the hypothesis that active management can add value to an equity portfolio. **(12 marks)**

END OF QUESTION 1



QUESTION 2

(22 Marks)

A motor vehicle insurance company offers its customers motor vehicle insurance policies which are renewed annually. Its policy liabilities are provided for by an asset portfolio that comprises only money market and fixed-interest securities, such as floating-rate notes, government bonds and investment-grade corporate bonds.

- a) Explain the key assumptions of three of the theories about the behaviour of the yield curve. **(6 marks)**
- b) Describe the return and risk characteristics of domestic investment-grade corporate bonds and how they vary over time. **(4 marks)**
- c) Explain, with reference to the liabilities being provided for:
- i. Two advantages and two disadvantages of a significant allocation to domestic investment-grade corporate bonds in the asset portfolio supporting the policy liabilities. **(4 marks)**
 - ii. Two restrictions that could be placed on the portfolio of corporate bonds to assist in the management of risk **(2 marks)**
- (Total 6 marks for the question part c)**
- d) Prepare a set of notes for the board of the insurance company on the factors that may affect the returns on a portfolio of corporate bonds in the next year. **(6 marks)**

END OF QUESTION 2



QUESTION 3

(23 Marks)

A Trustee Board manages a \$AUD 30 million single portfolio of investments of a trust. The portfolio is currently invested in an asset portfolio comprising global listed equities (75%), global fixed-interest securities (20%), and Australian cash (5%).

There are three beneficiaries of the trust:

- A seventy-five-year-old woman who is a resident of the United Kingdom, who receives an annual income from the trust which is the greater of \$AUD 200,000 per annum or 40% of the investment income of the Trust for the rest of her life;
- Her fifty-year-old son who is a resident of Australia who will receive 60% of the value of the Trust upon the death of his mother, or 100% if his daughter predeceases him; and
- His twenty-year-old daughter who is a student currently resident in the USA will receive 40% of the value of the Trust upon the death of her grandmother, if her father is still alive, or 100% if he is not then alive. You should assume that the trust does not pay tax on its investment earnings from income or capital gains.

a) Explain the liabilities of the Trust. (4 marks)

b) Propose an investment return objective for the Trust investment portfolio, with clear links to the liabilities of the Trust, setting out your reasons having regard to expected returns from income and capital growth in different asset classes. (5 marks)

An investment advisor to the Trustee has recommended improving the diversification of the investment strategy by investing 25% of the portfolio in an unlisted property fund by reducing global equities by 15% and fixed interest by 10%.

c) Discuss the return and risk characteristics of unlisted property as an asset class. (7 marks)

d) Discuss the implications of accepting the recommendation to invest 25% of the portfolio in unlisted property. (7 marks)

END OF QUESTION 3



QUESTION 4

(15 Marks)

You are an actuary advising the board of a not-for-profit mutual insurance fund that offers its members (policyholders) long-term insurance contracts providing for future aged care accommodation and health care costs, which may commence many years in the future.

The board has asked you to advise on setting the investment objective for the asset portfolio that supports the policy liabilities of the long-term contracts. and likely rates of return on the major liquid asset classes.

- a) Explain the liabilities that are being provided for by the long-term aged care contracts.
(5 marks)
- b) Explain how the characteristics of the liabilities may affect the investment strategy of the fund.
(5 marks)
- c) Propose, with reasons, an investment objective for the asset portfolio that provides for policy liabilities of the long-term aged care contracts.
(5 marks)

END OF QUESTION 4

END OF EXAMINATION