



ASSET LIABILITY MANAGEMENT

EXAM SEMESTER 1 2023

JP





Subject Title: Asset Liability Management

Date: Friday, 28 April 2023

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. 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	22
2	22
3	17
4	19
Total	80

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



QUESTION 1

(22 Marks)

A defined contribution retirement savings and pension fund offers a range of four multi-asset class investment options to its members:

Investment option	Recommended minimum investment term
Conservative	3 years
Balanced Growth	7 years
Growth	12 years
High Growth	20 years

The fund competes with other similar funds in the marketplace. The members generally need to achieve long-term returns above inflation, to preserve their purchasing power, but their tolerance of shorter-term volatility of returns is varied.

Each of the investment options has a stated investment objective and an investment strategy that has been formulated by the trustee board of the fund.

Members may contribute to or withdraw from the fund at any time, so the fund maintains daily unit pricing for each of its investment options.

The investment strategy for each investment option has an allocation to unlisted assets such as property and private equity.

- a) Describe the liabilities that are being provided for by the fund. **(4 marks)**
- b) Explain the five steps that the trustee board should have taken in determining the investment strategy for the fund's investment options. **(10 marks)**
- c) Propose an investment return and risk objective for the Balanced Growth investment option, with reference to both:
 - i. the liabilities being funded; and
 - ii. the strategic asset allocation for this investment option. **(4 marks)**
- d) Explain the uncertainties and timing of reporting in the valuation of the unlisted private equity assets and how they may affect the unit pricing of the investment options. **(4 marks)**

END OF QUESTION 1



QUESTION 2

(22 Marks)

A general insurance company operates in a single currency and offers its customers home insurance and motor vehicle insurance policies which are renewed annually. Its policy liabilities are supported by an asset portfolio that includes only domestic money market and domestic 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, including how they vary over time. **(4 marks)**
- c) Explain, with reference to the policy 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 to the returns of the asset portfolio **(2 marks)**
- 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

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QUESTION 3

(17 Marks)

A global equity fund is managed by an active equity fund management firm whose portfolio managers believe that equity market inefficiencies can be exploited. The fund has the investment objective of achieving a total return after fees of at least 3% p.a. above the fund's benchmark, the MSCI World Index with Net Dividends Reinvested, in USD, over rolling five-year periods whilst avoiding significant underperformance in any single year.

- a) Explain the main assumptions that support two major theories of equity investment market behaviour. **(4 marks)**.
- b) Describe the equity risk premium. **(2 marks)**
- c) Explain why the equity risk premium exists and how it may vary over time **(5 marks)**
- d) Propose examples of statements, for inclusion in an investment policy for the fund, that are appropriate to its investment objective, of the following:
 - one statement of the investment philosophy of the active investment management firm: **(2 marks)** and
 - four examples of portfolio risk management limits that improve the probability of meeting the investment objective **(4 marks)**

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END OF QUESTION 3



QUESTION 4

(19 Marks)

Some investment practitioners have claimed that equities and property/real estate have return characteristics that provide a hedge against inflation.

- a) Explain how you would investigate the claim that equities provide a hedge against inflation **(4 marks)**
- b) Explain how inflation can be allowed for in a discounted cash flow valuation method used to value individual listed equity securities **(5 marks)**
- c) Describe six factors that need to be considered in a discounted cash flow valuation of a commercial office property, indicating whether or not they may be affected by inflation or uncertainty in the rate of inflation **(6 marks)**
- d) Analyse four factors that are likely to affect the rate of inflation. **(4 marks)**

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END OF QUESTION 4

END OF EXAMINATION