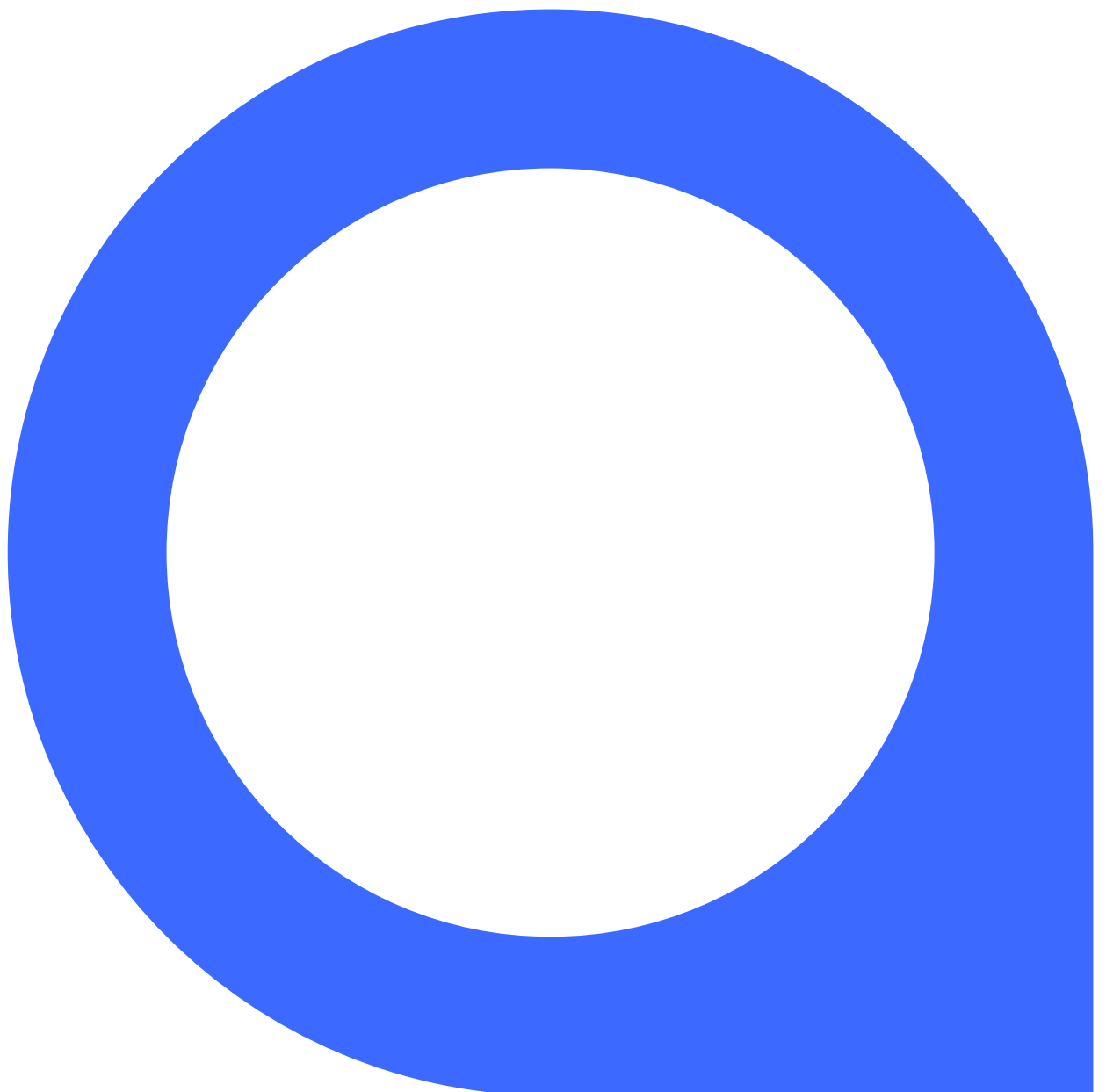


# **Asset Liability Management**

**Exam Semester 2 2025**





**Subject Title:** Asset Liability Management

**Date:** Friday, 10 October 2025

**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	20
3	20
4	20
Total	80

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



## QUESTION 1

(20 Marks)

ActBank, a mid-sized commercial bank with \$5 billion in assets, is reviewing its business model in light of changing monetary conditions. The bank primarily serves small businesses and has traditionally funded loans through customer deposits. Following recent central bank policy changes, the bank is reconsidering its approach to lending and investment activities.

Following recent interest rate cuts, ActBank has experienced a 15% increase in loan demand. The average term of small business loans is 5 years, while 70% of customer deposits can be withdrawn at any time, with the remainder being 1–2-year term deposits.

- a) Describe how issuing a \$2 million loan to a small business causes the creation of money in the financial system. (3 marks)
- b) Discuss why ActBank would need to hold more capital proportionately than other banks, given its risk profile. (2 marks)
- c) Examine small business loans as an asset class from the bank's perspective. (6 marks)

Note: You should consider risk, return, and marketability. Marketability refers to the ability to sell or trade these loans in secondary markets (liquidity), not the ability to market them to customers.

- d) Explain the asset-liability mismatches and risks that arise from funding long-term small business loans with demand deposits (5 marks)
- e) Propose two strategies to manage these mismatches with justification (4 marks)

END OF QUESTION 1



## QUESTION 2

(20 Marks)

An innovative fintech company is launching Australia's first tokenised real estate investment platform, allowing retail investors to buy fractional ownership in commercial properties through blockchain-based tokens. The platform will initially offer tokens in 10 properties, worth a total of \$500 million. The properties include office buildings, retail centres, and industrial warehouses across major Australian cities.

Each property token will be issued to represent \$1,000 investment based on the net asset value of the portfolio. After that, tokens can be traded in fractional units (e.g. 0.1 token = \$100 initial value). Token holders receive monthly distributions of net rental income proportional to their holdings. The platform charges a 0.5% annual management fee and 2% transaction costs for secondary market trades.

- a) Describe how this tokenised market combines characteristics of property and securities markets. (3 marks)
- b) Distinguish between the primary and the secondary market characteristics and functions for the tokenised property. (4 marks)
- c) Analyse, using Kuhn's concept of paradigm shifts, whether tokenised assets represent a new paradigm or merely an evolution within the existing property investment paradigm. (7 marks)
- d) Evaluate how behavioural finance principles should influence:
  - i. how investment options are structured and presented to investors (3 marks)
  - ii. strategies investors should adopt when selecting and allocating these assets (3 marks)

**END OF QUESTION 2**



## QUESTION 3

(20 Marks)

A sovereign wealth fund managing oil revenues is implementing a comprehensive hedging program as the nation transitions to renewable energy. The fund needs to protect against oil price declines while investing in green energy assets. Current assets total \$100 billion, with 40% of this amount linked to oil revenues.

The country produces 3 million barrels of oil daily. Oil currently trades at \$80/barrel, and the fund's oil-linked assets include direct oil reserves (60%) and energy company equities (40%). The government plans to reduce oil dependency by 50% within 10 years.

- a) Describe three characteristics that an oil derivative must have to effectively hedge the fund's exposure in this scenario. *Note that characteristics may include: the underlying asset specification, maturity profile, settlement features, contract size/scalability.* (3 mark)
- b) Discuss two hedging approaches:
- i. Oil futures - monthly rolling of short positions (2 marks)
  - ii. Put options - buying downside protection (2 marks)
- c) Explain how asset-liability modelling techniques would be used to develop a dynamic hedging strategy for the fund's 10-year transition from oil to renewable energy. (6 marks)

The fund's advisor claims: 'By selling oil futures and buying renewable energy stocks, we can create a perfect arbitrage'.

- d) Analyse whether the advisor's strategy represents true arbitrage or a directional investment strategy. *Note that your response should include the definition of arbitrage, whether the suggestion meets that definition or what it actually is.* (4 marks)
- e) Propose an improved hedging strategy for the fund's transition from oil to renewable energy. (3 marks)

END OF QUESTION 3



## QUESTION 4

(20 Marks)

A government scheme provides lifetime support for people with permanent disabilities:

- Annual support payments averaging \$35,000 per participant (expected to increase in line with or above wage inflation)
- One-off equipment/modification grants averaging \$50,000 per participant
- 180,000 current participants; projected to reach 250,000 by 2030

The scheme has \$12 billion in assets against \$18 billion in estimated lifetime obligations, with an average participant age of 35 years. The scheme receives annual government contributions of \$2 billion but faces political pressure to minimise investment risk while addressing the funding gap.

- a) Describe asset-liability matching requirements for disability schemes. (3 marks)
- b) Outline elements of investment governance unique to government social schemes compared to commercial insurers. (3 marks)
- c) Identify two main financial challenges for the scheme based on the information provided. (2 mark)
- d) Analyse risk and return components of at least three asset classes for this scheme (e.g. cash, bonds, equities, properties). *Note that your response may also include commentary on the overall assessment of the scheme context.* (7 marks)
- e) Propose appropriate investment objectives addressing the scheme's context. (5 marks)

END OF QUESTION 4

END OF EXAMINATION